



APM Connect

Data Loaders V1.6.2, EAM MAX V1.1.0, EAM SAP V1.6.2, EAM SAP Cloud V1.0.1, EAM SAP PI V1.2.0



APM Connect

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About This Document

This file is provided so that you can easily print this section of the GE Digital APM Help system.

You should, however, use the Help system instead of a printed document. This is because the Help system provides hyperlinks that will assist you in easily locating the related instructions that you need. Such links are not available in a print document format.

The GE Digital APM Help system can be accessed within GE Digital APM itself or via the GE Digital APM Documentation Website (<https://www.meridium.com/documentation/WebHelp/WebHelpMaster.htm>).


 **Note:** If you do not have access to the GE Digital APM Documentation Website, contact [Meridium Global Support Services](#).

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APM Connect Help

System Requirements

Find hardware, software, and license requirements for [APM Connect](#).

Installation and Upgrade Help

Find help for installing and upgrading [APM Connect](#).

End User Help

Find Help for [SAP Adapters](#) and [Maximo Adapters](#).

Administrative User Help

Find Help for [APM Connect Configuration](#).

Other Help Systems

Find Help for Meridium Enterprise APM: End User Help, Administrative User Help, Installation And Upgrade, and System Requirements.

APM Connect System Requirements

License Requirements

APM Connect has a three-tier license system which enables the APM Connect Framework. One of the following license types is required to take advantage of APM Connect functionality:

- APM Connect Basic
- APM Connect Plus
- APM Connect Studio

Additional Licensing

The following additional licenses may also be required to take advantage of the SAP Adapters:


- **SAP Integration Interfaces:** Enables the SAP Equipment, Functional Location, Work History, and Notification Creation Adapters.
- **SAP Technical Characteristics:** Enables the SAP Technical Characteristics Adapter.
- **SAP Work Management:** Enables the SAP Work Management Adapter

The following additional licenses may also be required to take advantage of the SAP PI Adapters:

- **SAP Process Integration:** Enables the SAP PI Adapters.

The following additional license may also be required to take advantage of the Maximo Adapters:

- **Maximo Interfaces:** Enables the Maximo Equipment, Functional Location, Work History, Service Request, and Work Order Generation Adapters.


 **Note:** There is no additional license required to take advantage of the Data Loader functionality.

Additional Components Required

In addition to the basic Meridium Enterprise APM system architecture, your system must also contain the following components:

Minimum Software Requirements


- Windows Server 2008 R2
- Windows Server 2012
- Windows XP Professional
- [Java Version 1.7 JDK](#)
- The third-party components listed in the following grid.

 **Note:** For assistance with accessing these file, contact the Meridium, Inc. Professional Services department.

| Third-Party File Name | Version | Where You Can Obtain It |
|-------------------------|-------------------|---|
| edtfpj.jar | Version: 2.0.5 | http://enterprisedt.com/products/edtfpj/ |
| ftp4j-1.5.1.jar | Version: 1.5.1 | http://www.sauronsoftware.it/projects/ftp4j/ |
| jboss-serialization.jar | Version: 1.0.3.GA | http://serialization.jboss.org/downloads |
| trove.jar | Version: 1.0.2 | http://trove4j.sourceforge.net/ |
| xom-1.2.7.jar | Version: 1.2.7 | http://www.xom.nu/ |

Recommended Software

- Windows Server 2012 R2
- Windows 7 64-bit OS

 **Note:** Windows 8 operating system is not supported.

Browser Requirements


| Web Browser | Recommended or Supported |
|--------------------------------|--------------------------|
| Microsoft Internet Explorer 11 | Recommended |
| Mozilla Firefox 13 to 28 | Recommended |
| Microsoft Internet Explorer 10 | Supported |
| Apple Safari 5 to 7 | Supported |
| Google Chrome 22 to 34 | Supported |

Minimum Hardware Requirements

- Four Processor Core, 2.0 GHz
- 8 GB RAM
- 100 GB Free Disk
- 100 MB Network Interface
- 10,000 RPM SATA - NAS/SAN fabric 1G interfaces

Recommended Hardware

- I6 Processor, 2.0 + GHz
- 32 GB RAM
- 300 GB Free Disk
- 1 GB Network Interface
- 10,000 RPM SAS - NAS/SAN fabric 10G interfaces

 **Hint:** APM Connect is input and output intensive, and requires a lot of storage space. Faster storage is the best way to improve performance.

Depending upon how your system is configured, these requirements may not be sufficient. Parameters that affect the hardware requirements include the number of users, modules purchased, database size, and other factors that can vary from one customer to another. For help refining your specific system requirements, contact Meridium, Inc.

SAP System Requirements

- **SAP Backend System:** An SAP server machine with an ECC system. The following versions are supported:
 - SAP ECC 6.0 (Enhancement Packs [EhP] 1 and above)
- **SAP Database:** A database that contains the SAP data model and data.
- **SAP Internet Transaction Server (ITS):** Version 6.20 or higher.
- [SAP Java Connector Files](#) download from the SAP marketplace.
 - sapjco.dll
 - sapjco3.dll
 - sapjco3.jar

SAP PI System Requirements

- **SAP Backend System:** An SAP server machine with an ECC system. The following versions are supported:
 - SAP ECC 6.0 (Enhancement Packs [EhP] 1 and above)
- **SAP PI:** An SAP PI system 7.00 and above, up to SAP PI 7.40.

Maximo System Requirements

APM Connect supports Maximo versions above 7.1.1.6.

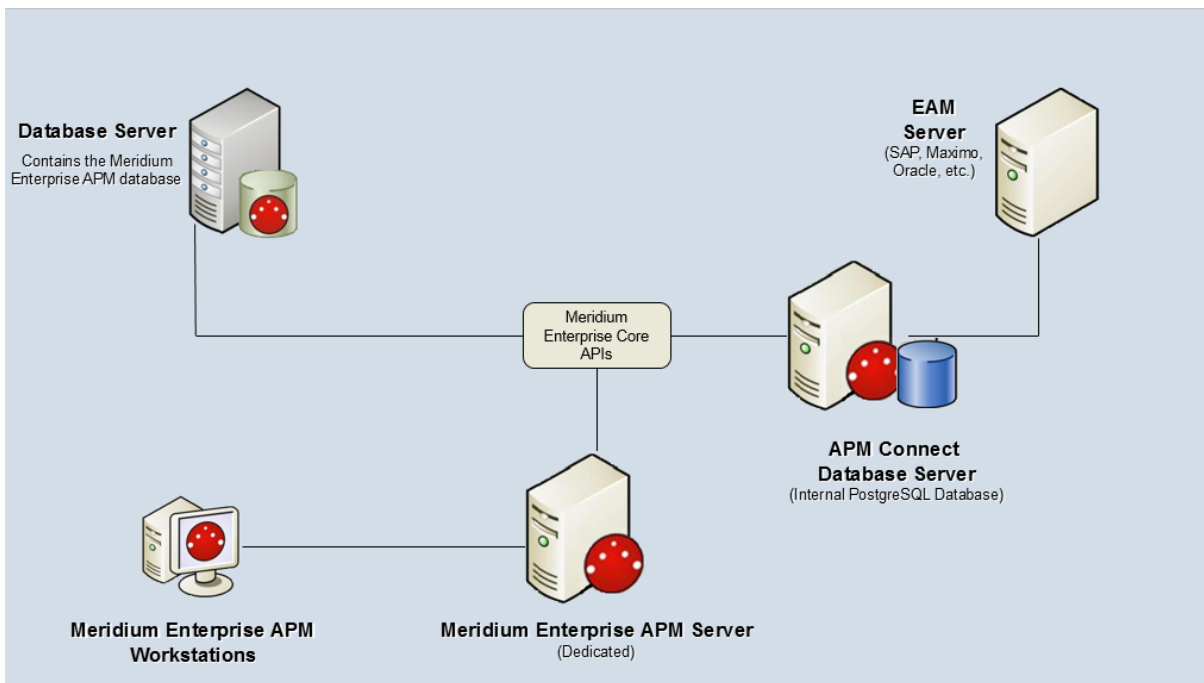
- **Maximo Application Server:** A Maximo Application Server machine that houses the Maximo Web Services and is running version 7.1, 7.5, or 7.6.
- **Maximo Database Server:** A database that houses the Maximo data model and data and is running a version that is supported by the Maximo Application Server. For details on requirements of the Maximo Database Server, see the Maximo documentation.

- **Maximo Client Workstation:** A computer that is used to access the Maximo application. For details on the requirements of the Maximo Client workstation, see the Maximo documentation.
- **Maximo Administrative Workstation:** A computer that contains the Maximo application. For details on the requirements of the Maximo Administrative workstation, see the Maximo documentation.

System Architecture for EAM Adapters

Single Server Configuration (Recommended)

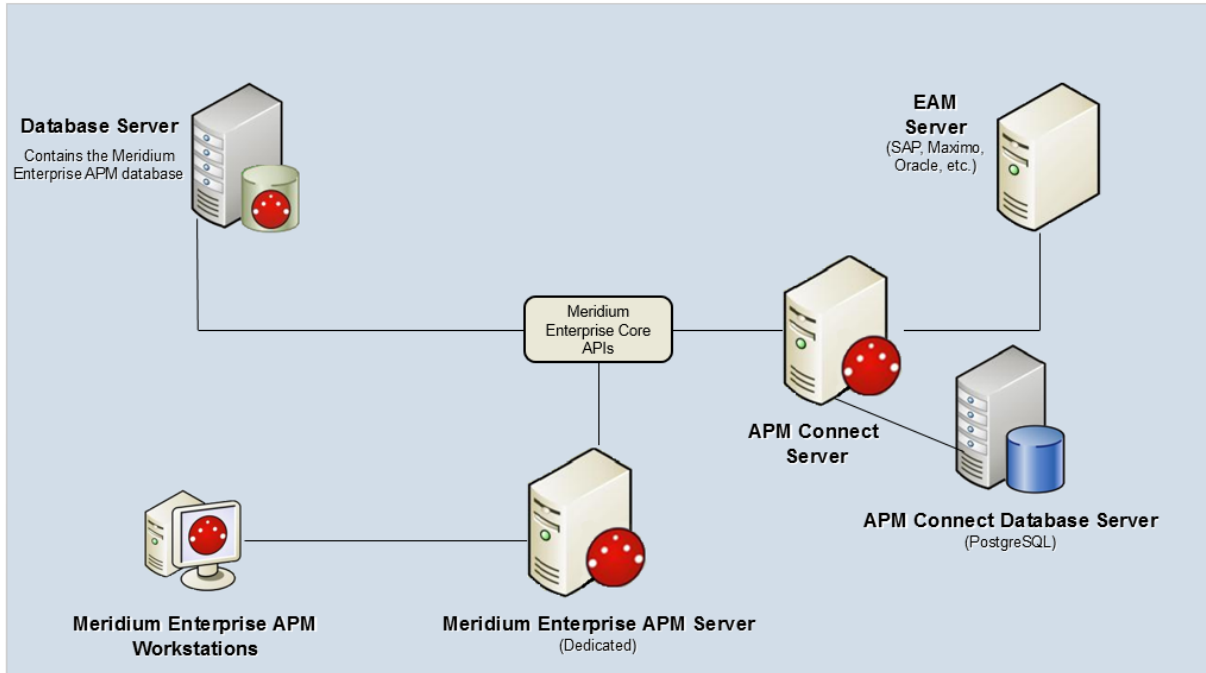
The single server configuration is the simplest way to configure APM Connect. However, it does include an embedded database. The following image depicts this configuration:



External Database Configuration

Many organizations choose to separate their databases. It is possible to install the intermediate repository database on an external server, and keep APM Connect Systems database on a different server. The following image depicts this configuration:

Note: The external configuration will affect performance. The single server configuration results in faster performance.



Deploying APM Connect

After you have installed and configured the basic Meridium Enterprise APM system architecture, you will need to perform some [configuration steps specifically for APM Connect](#).

Deploy APM Connect

The checklists in this section of the documentation contain all the steps necessary for deploying and configuring this module whether you are deploying the module for the first time or upgrading from a previous module.

Deploy the APM Connect Base

The checklists in this section of the documentation contain all the steps necessary for deploying and configuring this module whether you are deploying the module for the first time or upgrading from a previous module.

Deploy the APM Connect Base for the First Time

The following table outlines the steps that you must complete to deploy and configure this module for the first time. These instructions assume that you have completed the steps for deploying the basic Meridium Enterprise APM system architecture.

These tasks may be completed by multiple people in your organization. We recommend, however, that the tasks be completed in the order in which they are listed.

| Step | Task | Notes |
|------|--|--|
| 1 | On your APM Connect Server, access and the APM Connect installation package. | This step is required. |
| 2 | Ensure that you meet the software and hardware system requirements for APM Connect. | This step is required. |
| 3 | On your APM Connect Server, run the APM Connect installer . | This step is required. |
| 4 | On the APM Connect server, install the Meridium web services . | This step is required only if you are completing an on-premises deployment. |
| 5 | On your APM Connect Server, set Java environment variables . | This step is required. |
| 6 | On you APM Connect server, install and start the Runtime Container . | This step is required. |
| 7 | On your APM Connect server, enable Internet Explorer for APM Connect . | This step is required only if you are using Internet Explorer to access the APM Connect Administration Center. |
| 8 | On you APM Connect server, run the third-party software batch file . | This step is required |
| 9 | On you APM Connect sever, access the APM Connect Administration Center web application. | This step is required. |
| 10 | On your APM Connect Server, validate the APM Connect Administration Center license . | This step is required only if your APM Connect Administration Center license it not automatically validated. |
| 11 | In the APM Connect Administration Center, configure the APM Connect Administration Center web application. | This step is required. |
| 12 | In the APM Connect Administration Center, set user permissions . | This step is required. |

| Step | Task | Notes |
|---|--|---|
| 13 | In the APM Connect Administration Center, create projects . | This step is required. |
| 14 | In the APM Connect Administration Center, authorize users for projects . | This step is required. |
| 15 | In the APM Connect Administration Center, configure the Execution server . | This step is required. |
| 16 | In the APM Connect Administration Center, import adapter jobs . | This step is required. |
| 17 | In Meridium Enterprise APM, establish the connection from Meridium Enterprise APM to APM Connect . | This step is required only if you are completing an on-premises deployment. |
| <p>⚠ Important: Each of the following tasks may be required depending on the license that you have purchased and the APM Connect component that you are deploying.</p> | | |
| 18 | On the APM Connect server, test and install APM Connect CommandLine . | This step is required only if you have the APM Connect <i>Studio</i> license. |
| 19 | On the APM Connect server, start APM Connect CommandLine as a service. | This step is required only if you have the APM Connect <i>Studio</i> license. |
| 20 | Configure the APM Connect Administration Center for the Studio . | This step is required only if you have the APM Connect <i>Studio</i> license. |
| 21 | On the APM Connect server, install the Studio . | This step is required only if you have the APM Connect <i>Studio</i> license. |
| 22 | Deploy the Data Loaders . | This step is required only if you are deploying the Data Loaders. |
| 23 | Deploy the Maximo Adapters . | This step is required only if you are deploying the Maximo Adapters. |
| 24 | Deploy the SAP Adapters . | This step is required only if you are deploying the SAP Adapters. |

Related Information

Run the APM Connect Installer

The APM Connect installer completes many tasks, including installing Java, installing APM Connect Windows services, installing the intermediate repository (PostgreSQL), and installing the SVN sever (CollabNet). This topic describes how to run the installer.

⚠ IMPORTANT: Each of the following steps may be required depending on the license that you have purchased and the APM Connect component that you are deploying.

Before You Begin

Before you can run the APM Connect Installer, you must:

- Access the APM Connect Installation package.
- Ensure that your system meets the APM Connect [system requirements](#).

Steps: Run the Installer for an On- Premise Deployment of APM Connect

1. On the APM Connect server, access the APM Connect installation package, and then navigate to and open the *Installer* folder.

2. Double-click the file **setup.exe**.

A message appears, asking if you want to allow the installer to make changes to your machine.

3. Select **Yes**.

The **Setup-APM Connect** window appears.

4. Select **Next**.

The **License Agreement** screen appears.

5. Read the License Agreement, and then, if you agree to the terms, select the **I accept the agreement** check box. Then, select **Next**.

The **Select Destination Location** screen appears.

6. By default, APM Connect will be installed to the following folder: **C:\APMConnect**. If you are satisfied with the default location where the software will be installed, select **Next**.

-or-

If you want to change the location where the software will be installed, select **Browse...**, and then navigate to the location where you want to install APM Connect. The folder path that you select will be displayed in place of the default folder path. When you are satisfied with the installation location, select **Next**.

The **Select Components** screen appears.

7. If you want to install all components, select **Next**.

-or-

As needed, clear the check boxes based on your APM Connect license and the APM Connect component(s) you are deploying:

- **Install Oracle Java JDK 1.7:** If Java JDK 1.7 is already installed on your machine, clear the check box.
- **Install CollabNet SVN Server:** If you are installing APM Connect with a Basic or Plus License, clear the check box.
- **Install PostgreSQL:** If you are using an external database configuration, clear the check box.

8. Select **Next**.

The **Select Additional Tasks** screen appears.


9. If you want perform all additional tasks, select **Next**.

-or-

As needed, clear the check boxes based on your APM Connect license and the APM Connect component(s) you are deploying:

- **Set JAVA_HOME environment variable:** If Java is already installed, and an environment variable does not need to be created, clear the check box.
- **Setup Encrypted SVN user file:** If users do not need to be created for the SVN, clear the check box.
- **APMConnect Services:** If the APM Connect Services do not need to be installed, clear the check box.

- **Tomcat Windows service:** If the Tomcat Windows service does not need to be created, clear the check box.

 **Note:** If on the previous screen the **Install Oracle Java JDK 1.7** check box was cleared, the **Set JAVA_HOME environment variable** check box will not appear. Similarly, if on the previous screen the **Install CollabNet SVN Server** check box was cleared, the **Setup Encrypted SVN user file** check box will not appear.

10. Select **Next**.

The **Ready to Install** screen appears.

11. Review the items to be installed, and then select **Install**.

The **Installing** screen appears, displaying an installation progress bar.

Once the progress bar indicates that the APM Connect installer is **Finishing installation...**, the **Java SE Development Kit 7 Update 71 (64-bit)-Setup** window appears, displaying the **Welcome to the Installation Wizard for Java SE Development Kit 7 Update 71** screen.


12. Select **Next**.

The **Select optional features to install** screen appears.

13. Select **Next**.

The Java installation **Status:** progress bar appears. Once the **Status** progress bar indicates that the process is complete, the **Install to:** screen appears.

14. Select **Next** to install Java in the default location.


 **Important:** These instructions assume that Java is installed in the default location.

The **Status:** screen reappears, displaying the progress bar. Once the **Status** progress bar indicates that the installation is complete, the **Successfully Installed Java SE Development Kit 7 Update 71 (64-bit)** screen appears.

15. Select **Close**.

Java is installed.

The Command Prompt opens, prompting you to press any key to continue.

 **Hint:** If an error appears in the Command Prompt, refer to creating Java environment variables.

16. Press any key.


The Command Prompt closes, then the **Installing** screen reappears briefly, and then the **Setup - PostgreSQLWizard** screen appears.

17. Select **Next**.

The **Installation Directory** screen appears, prompting you to select the location where PostgreSQL for APM Connect will be installed.

18. By default, PostgreSQL will be saved to the following folder: **C:\Program Files\PostgreSQL9.3**. If you are satisfied with the default location, select **Next**.

-or-


If you want to change the location where the software will be installed, select the  button, then navigate to the location where you want to install PostgreSQL for APM Connect, and then select **Next**.

The **Data Directory** screen appears.

19. Select **Next**.

The **Password** screen appears.


20. In the **Password** box, and in the **Retype password** box, enter a password.

 **Hint:** This password will be used as a service account for PostgreSQL, and is needed in later configuration. Be sure to record it. Additionally, this documentation assumes *admin* as the password, and uses it in subsequent default configurations.

21. Select **Next**.

The **Port** screen appears.

22. If you are satisfied with the default port, select **Next**.

 **Hint:** The port number is needed in later configuration. Be sure to record it. Additionally, these instructions and all subsequent instructions assume that the default port 5432 is used.

-or-

In the **Port** box, enter the port on which you prefer the server to listen, and select **Next**.

The **Advanced Options** screen appears.

23. Select **Next**.

The **Ready to Install** screen appears.


24. Select **Next**.

The **Installing** screen appears, displaying an installation progress bar. After the installation bar indicates that the installation is complete, the **Completing the PostgreSQL Setup Wizard** screen appears.

25. Clear the **Stack Builder may be used to download and install additional tools, drivers and applications to complement your PostgreSQL installation** check box.

26. Select **Finish**.

PostgreSQL server is installed, then the **Installing** screen reappears briefly, and then the **CollabNet Subversion Server 1.6.0 Setup** window appears.

 **Note:** If you are not installing SVN for the APM Connect Studio license, CollabNet will not be installed, and you can proceed to Step 43.

27. Select **Next**.

The **View Latest Readme** window appears.

28. Select **Next**.

The **Choose Components** pane appears.

The **SVNSERVE** check box and the **Apache(MOD_DAV_SVN)** check box should be selected.

29. Select **Next**.

The **svnserve Configuration** pane appears.

30. Select **Next**.

The **Apache Configuration** pane appears.

31. Select **Next**.

The **Choose Install Location** pane appears.

32. Select **Install**.

The **Installing** screen appears, displaying an installation progress bar.

Once the progress indicates that installation is complete, the **Completing the CollabNet Subversion Server 1.6.0 Setup Wizard** window appears.

33. Clear the **Launch OpenCollabNet** check box.


34. Select **Finish**.

The **C:\\Window\\system32\\cmd.exe** Command Prompt appears, prompting you to create a service account.

35. Enter a service account User ID.

36. Enter a service account password.

37. Reenter the service account password.


 **Note:** You will use the service account in later configuration. For example purposes, these instructions, and all subsequent configuration instructions, assume the user name to be *APM* and the password to be *Connect*.

The following prompt appears: *Do you want to add more users (Y/N)*.


38. If you want to add additional users, enter *Y*.

-or-

If you do not want to add additional users, enter *N*, and then proceed to step 44.

 **Note:** It is recommended to enter a user ID and password for each user that will use APM Connect Studio (only used with the Studio license).

39. Enter a user ID for an APM Connect Studio user.
40. Enter a password for an APM Connect Studio user.
41. Reenter the password.
42. Repeat steps 39-42 for each user that will use APM Connect Studio.

 **Hint:** Be sure to record the user names and passwords. Since they are encrypted, there is no way to look them up once they have been created. If they are forgotten, they will need to be recreated manually.

When you are finished adding additional users, and you have entered *N* in step 38, the **Completing the APM Connect Setup Wizard** appears.

The **Yes, restart the computer now** check box should be selected.

43. Select **Finish**.

APM Connect installer is complete.

The machine should restart automatically.

44. If it does not automatically, restart your machine.

Steps: Run the Installer for an APM Now Deployment of APM Connect

1. On the APM Connect server, access the APM Connect installation package, and then navigate to and open the *Installer* folder.
2. Double-click the file **setup.exe**.

A message appears, asking if you want to allow the installer to make changes to your machine.

3. Select **Yes**.

The **Setup-APM Connect** window appears.

4. Select **Next**.

The **License Agreement** screen appears.

5. Read the License Agreement, and then, if you agree to the terms, select the **I accept the agreement** check box. Then, select **Next**.

The **Select Destination Location** screen appears.

6. By default, APM Connect will be installed to the following folder: **C:\APMConnect**. If you are satisfied with the default location where the software will be installed, select **Next**.

-or-

If you want to change the location where the software will be installed, select **Browse...**, and then navigate to the location where you want to install APM Connect. The folder path that you select will be displayed in place of the default folder path. When you are satisfied with the installation location, select **Next**.

The **Select Components** screen appears.

7. If you want to install all components, select **Next**.

-or-

As needed, clear the check boxes based on your APM Connect license and the APM Connect component(s) you are deploying:

- **Install Oracle Java JDK 1.7:** If Java JDK 1.7 is already installed on your machine, clear the check box.
- **Install PostgreSQL:** If you are using an external database configuration, clear the check box.

8. Select **Next**.

The **Select Additional Tasks** screen appears.

9. If you want perform all additional tasks, select **Next**.

-or-

As needed, clear the check boxes based on your APM Connect license and the APM Connect component(s) you are deploying:

- **Set JAVA_HOME environment variable:** If Java is already installed, and an environment variable does not need to be created, clear the check box.
- **APMConnect Services:** If the APM Connect Services do not need to be installed, clear the check box.
- **Tomcat Windows service:** If the Tomcat Windows service does not need to be created, clear the check box.

 **Note:** If on the previous screen the **Install Oracle Java JDK 1.7** check box was cleared, the **Set JAVA_HOME environment variable** check box will not appear.

10. Select **Next**.

The **Ready to Install** screen appears.

11. Review the items to be installed, and then select **Install**.

The **Installing** screen appears, displaying an installation progress bar.

Once the progress bar indicates that the APM Connect installer is **Finishing installation...**, the **Java SE Development Kit 7 Update 71 (64-bit)-Setup** window appears, displaying the **Welcome to the Installation Wizard for Java SE Development Kit 7 Update 71** screen.


12. Select **Next**.

The **Select optional features to install** screen appears.

13. Select **Next**.

The Java installation **Status:** progress bar appears. Once the **Status** progress bar indicates that the process is complete, the **Install to:** screen appears.

14. Select **Next** to install Java in the default location.


 **Important:** These instructions assume that Java is installed in the default location.

The **Status:** screen reappears, displaying the progress bar. Once the **Status** progress bar indicates that the installation is complete, the **Successfully Installed Java SE Development Kit 7 Update 71 (64-bit)** screen appears.

15. Select **Close**.

Java is installed.

The Command Prompt opens, prompting you to press any key to continue.

 **Hint:** If an error appears in the Command Prompt, refer to creating Java environment variables.

16. Press any key.


The Command Prompt closes, then the **Installing** screen reappears briefly, and then the **Setup - PostgreSQLWizard** screen appears.

17. Select **Next**.

The **Installation Directory** screen appears, prompting you to select the location where PostgreSQL for APM Connect will be installed.

18. By default, PostgreSQL will be saved to the following folder: **C:\Program Files\PostgreSQL9.3**. If you are satisfied with the default location, select **Next**.

-or-

If you want to change the location where the software will be installed, select the  button, then navigate to the location where you want to install PostgreSQL for APM Connect, and then select **Next**.

The **Data Directory** screen appears.

19. Select **Next**.

The **Password** screen appears.

20. In the **Password** box, and in the **Retype password** box, enter a password.

Hint: This password will be used as a service account for PostgreSQL, and is needed in later configuration. Be sure to record it. Additionally, this documentation assumes *admin* as the password, and uses it in subsequent default configurations.

21. Select **Next**.

The **Port** screen appears.

22. If you are satisfied with the default port, select **Next**.

Hint: The port number is needed in later configuration. Be sure to record it. Additionally, these instructions and all subsequent instructions assume that the default port 5432 is used.

-or-

In the **Port** box, enter the port on which you prefer the server to listen, and select **Next**.

The **Advanced Options** screen appears.

23. Select **Next**.

The **Ready to Install** screen appears.

24. Select **Next**.

The **Installing** screen appears, displaying an installation progress bar. After the installation bar indicates that the installation is complete, the **Completing the PostgreSQL Setup Wizard** screen appears.

25. Clear the **Stack Builder may be used to download and install additional tools, drivers and applications to complement your PostgreSQL installation** check box.

26. Select **Finish**.

PostgreSQL server is installed. Then the **Completing the APM Connect Setup Wizard** appears, and the **Yes, restart the computer now** check box should be selected.

27. Select **Finish**.

APM Connect installer is complete.

The machine should restart automatically.

28. If it does not automatically, restart your machine.

What's Next?

Set Java environment variables.

Set Java Environment Variables

Steps

1. On the APM Connect server, navigate to **Control Panel\System and Security\System** to open Window's system properties for the machine.

The **View basic information about your computer** screen appears.

2. In the **Control Panel Home** pane, select **Advanced systems setting**.

The **System Properties** window appears, displaying the **Advanced** tab.

3. Select **Environment Variables**.

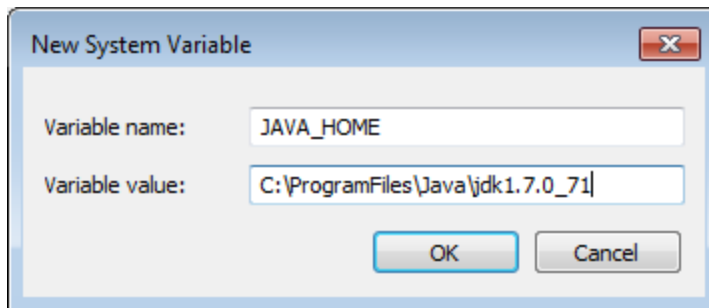
The **Environment Variables** window appears.

4. In the **Systems variables** section, select **New....**

The **New System Variable** window appears.

5. Enter the following in the **Variable name** box: `JAVA_HOME`.

6. Enter the following in the **Variable value** box: `C:\Program Files\Java\jdk1.7.0_71`.



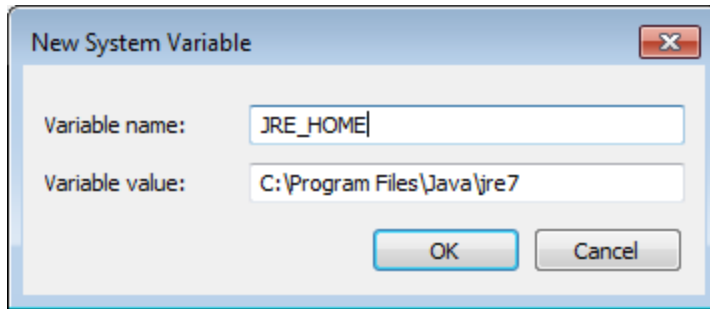
7. Select **OK**.

8. In the **Systems variables** section, select **New....**

The **New System Variable** window appears.

9. Enter following in the **Variable name** box: `JRE_HOME`.

10. Enter the following in the **Variable value** box: `C:\Program Files\Java\jre7`.



11. Select **OK**, and then close the properties screens.

The Java environment variables are created.

What's Next?

[Install the Meridium Web Service](#)

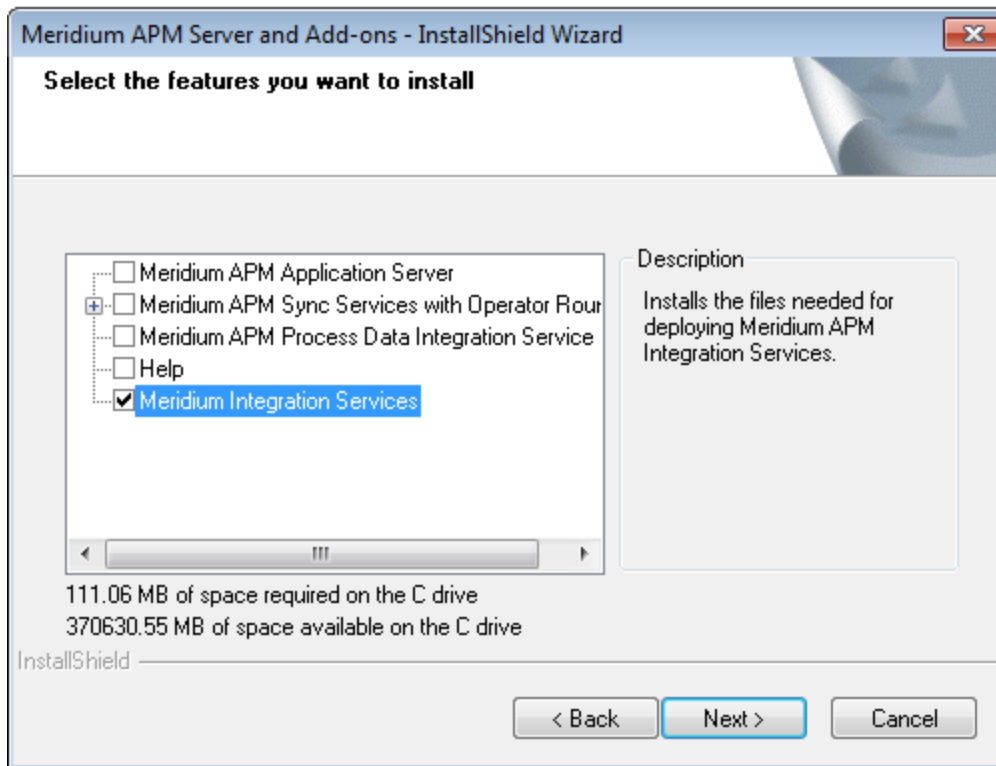
Install the Meridium Web Service

⚠ IMPORTANT: This step is required only if you are deploying APM Connect on-premise. If you are deploying in APM Now, you can skip this procedure, and proceed to the next step, [Install and Start the APM Runtime Container](#) in the [Deploy the APM Connect Base for the First Time](#)

Steps

1. On the APM Connect server, access the Meridium Enterprise APM distribution package, and then navigate to the folder **\\Setup\Meridium Enterprise APM Server and Add-ons**.
2. Double-click the file **Setup.exe**.
The **Welcome** screen appears.
3. Select **Next**.
The **License Agreement** screen appears.
4. Read the License Agreement and, if you agree, select the **I accept the terms of the license agreement** check box. Then, select **Next**.
The **Select Installation Location** screen appears.
5. Select **Next** to accept the default location.
The **Select the features you want to install** screen appears.
6. Select the **Meridium Integration Services** option.

Note: While additional options are available for selection, these options are not meant to be installed on with the APM Connect server. These instructions assume that you want to install only Meridium Integration Services.



7. Select **Next**.

The **Websites** screen appears.

8. Select **Next**.

The Complete the Installation screen appears.

9. Select **Install**.

The **Setup Status** screen appears, displaying a progress bar. Once the installation is complete, the **Installation is complete** screen appears.

10. Select **Finish**.

The **Meridium Integration Services** installation is complete

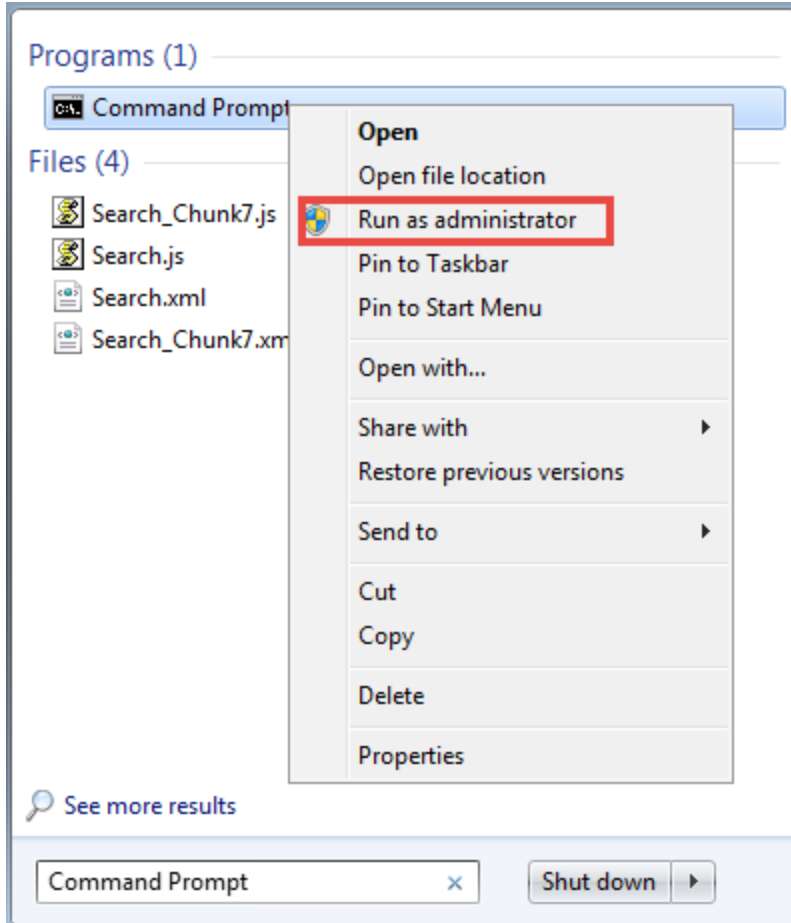
What's Next?

[Install and Start the APM Runtime Container](#)

Install and Start the APM Runtime Container

Steps

1. On the APM Connect server, locate *Command Prompt*
2. Right-click on **Command Prompt**, and then select **Run as administrator**.



The **Administrator: Command Prompt** window appears.

3. Change the directory to: `C:\APMConnect\Utilities\runtime\bin`.
4. In the **Command Prompt**, after the new directory path, enter: `trun`.

A message appears in the Command Prompt, and another `karaf@trun>` prefix appears.

Note: When you first start Karaf, it takes a few minutes to load all of the commands. So, if you attempt to enter the `features:install` command in Step 5 and receive an error message in the Command Prompt, try the command again in a few minutes.

```

Administrator: Karaf
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Windows\system32>cd C:\APMConnect\Utilities\runtime\bin
C:\APMConnect\Utilities\runtime\bin>trun

  TRUN
  (version 5.4.1)

Hit '<tab>' for a list of available commands
and '<cmd> --help' for help on a specific command.
Hit '<ctrl-d>' or 'osgi:shutdown' to shutdown the TRUN.

karaf@trun> _
  
```

5. In the Command Prompt, after `karaf@trun>`, enter `features:install wrapper`.

Another `karaf@trun>` prefix appears.

6. After `karaf@trun>`, enter `wrapper:install -s AUTO_START -n APM-CONTAINER -d APM-Container -D "APM Container Service"`.

A service wrapper feature is now installed into the Runtime Container, and a batch file is created in your local APM folder.

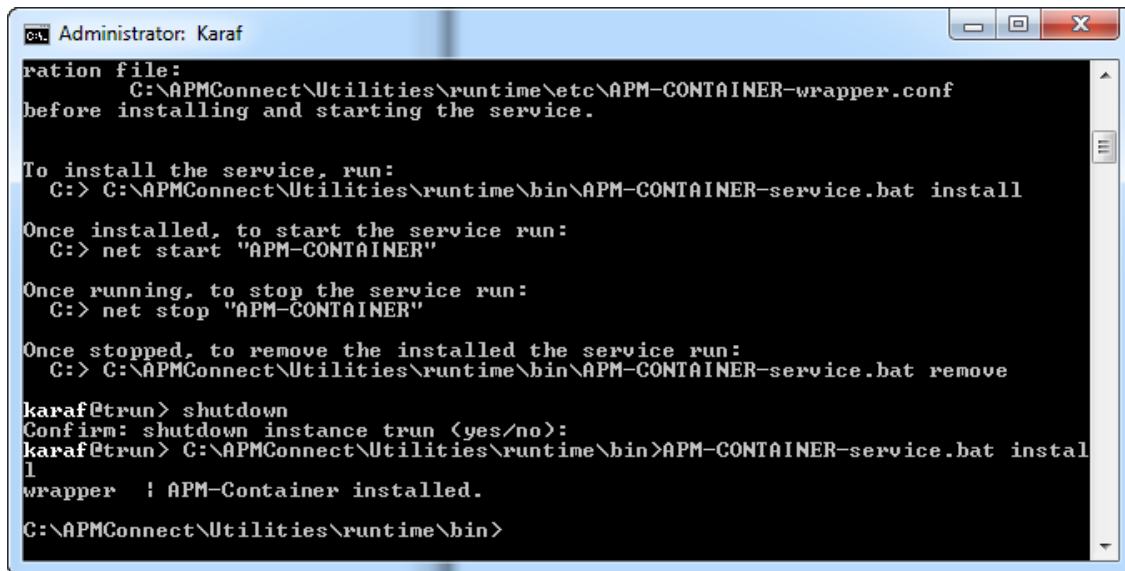
Hint: On your local computer, navigate to your APM Connect folder: `C:\APMConnect\Utilities\runtime\bin`. Notice that your local APM Connect folder now contains two new items: `APM-CONTAINER-service.bat` and `APM-CONTAINER-wrapper.exe`.

Another `karaf@trun>` prefix appears.

7. After the `karaf@trun>`, enter `shutdown`, and then enter `yes` to confirm you want to shut down karaf.

Karaf is shut down, and another `karaf@trun>` prefix appears and the directory is changed to: `c:\APMConnect\Utilities\runtime\bin`

8. After `c:\APMConnect\Utilities\runtime\bin>`, enter `APM-CONTAINER-service.bat install`.



```
Administrator: Karaf
ration file:
  C:\APMConnect\Utilities\runtime\etc\APM-CONTAINER-wrapper.conf
before installing and starting the service.

To install the service, run:
C:> C:\APMConnect\Utilities\runtime\bin\APM-CONTAINER-service.bat install

Once installed, to start the service run:
C:> net start "APM-CONTAINER"

Once running, to stop the service run:
C:> net stop "APM-CONTAINER"

Once stopped, to remove the installed the service run:
C:> C:\APMConnect\Utilities\runtime\bin\APM-CONTAINER-service.bat remove

karaf@trun> shutdown
Confirm: shutdown instance trun (yes/no):
karaf@trun> C:\APMConnect\Utilities\runtime\bin>APM-CONTAINER-service.bat instal
l
wrapper ! APM-Container installed.
C:\APMConnect\Utilities\runtime\bin>
```

The APM Container is installed, and a message appears indicating as such.

9. To start the APM Container, restart your machine.

What's Next?

[Enable Internet Explorer for APM Connect](#)

Enable Internet Explorer for APM Connect

⚠,IMPORTANT: This step is required only if you are using Internet Explorer to access the APM Connect Administration Center. If you are not using Internet Explorer, you can skip this procedure, and proceed to the next step, in the [Deploy the APM Connect Base for the First Time](#)

Steps

1. On the APM Connect server, access **Control Panel\Network and Internet**, and then select **Internet Options**.

The **Internet Properties** screen appears

2. Select the **Security** tab, then, in the **Select a zone to view or change security settings** section, select **Local intranet**, and then select **Custom level...**

The **Security Settings -Intranet Zone** screen appears.

3. In the **Settings** section, access the **Include local directory path when uploading files to a server**, and select **Disable**.

4. Select **OK**.

The **Security Settings -Intranet Zone** screen closes.

5. On the **Internet Properties** screen, select **Apply**.

Internet Explorer is configured accommodate APM Connect.

What's Next?

[Run the Third-Party Software Batch File](#)

Run the Third-Party Software Batch File

APM Connect requires [third party software files](#) for FTP capabilities and improved Java performance. This topic describes how to incorporate these components into the jobs.

Steps


1. On your APM Connect server, access your APM Connect installation package, and then navigate to the **Jobs** folder.
2. Right-click on the folder **ApplyThirdPartySoftware_0.1.zip**, and then select **Extract All**.
The **Extract Compressed (Zipped) Folders** window appears.

3. Select **Extract**.

The files are extracted, and the folder **ApplyThirdPartySoftware_0.1** appears in the same directory.

4. Download the [third party software files](#), and then create a directory on the APM Connect server containing those files.
5. Open a command prompt, and navigate, to <root>ApplyThirdPartySoftware_0.1\ApplyThirdPartySoftware.
6. Enter the command following command: *ApplyThirdPartySoftware_run.bat --context_param JOBS_DIR=<JOB PACKAGE DIR> --context_param THIRD_PARTY_SOFTWARE_DIR=<YOUR THIRD_PARTY_SOFTWARE_DIR>*.

- **<JOB PACKAGE DIR>**: Replace with the filepath to the directory that contains the job zip files (e.g., C:/APMConnect/Jobs).
- **<YOUR THIRD_PARTY_SOFTWARE_DIR>**: Replace with the filepath for the directory that you created in step 4 (e.g., C:/APMConnect/ThirdPartySoftware).

 **Hint:** When entering a directory in a command prompt window, the file path must use the forward slashes.

7. Execute the command by pressing Enter.

The adapter jobs are updated with the third-party software component, and a message appears on the command prompt window, indicating that the update is complete. Additionally, a new folder is created: **updated_jobs**.

 **Note:** The jobs contained in the **updated_jobs** folder are the jobs that will be used to facilitate the data transfer from the source to Meridium Enterprise APM.

Deploy APM Connect

| Name | Date modified | Type | Size |
|---------------------------------|--------------------|---------------------|----------|
| ApplyThirdPartySoftware_0.1 | 7/21/2016 9:39 AM | File folder | |
| Jobs | 7/21/2016 9:49 AM | File folder | |
| ThirdPartySoftware | 7/21/2016 11:40 AM | File folder | |
| updated_jobs | 7/21/2016 11:56 AM | File folder | |
| ApplyThirdPartySoftware_0.1.zip | 7/20/2016 4:50 PM | Compressed (zipp... | 5,282 KB |

What's Next?

[Access the APM Connect Administration Center](#)

Access the APM Connect Administration Center

The APM Connect Administration Center allows you to execute extraction and load jobs. Before you can begin executing jobs, you must set up the APM Connect Administration Center. This topic explains how to access and deploy the APM Connect Administration Center for the first time.

Steps

1. Open a web browser, and then enter the following URL into your web browser: `http://localhost:8080/apmconnect/`.
2. If prompted, on the **Login** window, enter the password `boxadmin`.
3. Select **OK**.

The **Login** window disappears, and a check is performed by the APM Connect Administration Center.

The screenshot displays the configuration interface for APM Connect. It is divided into two main sections: "Database parameters" and "Check".

Database parameters:

- Database type: H2 Local
- Driver: org.h2.Driver
- Url: jdbc:h2:C:\APMConnect\Utilities\Tomcat\webapps\tac\WEB-INF
- Username: tisadmin
- Password: [masked]

Buttons below the parameters: Save, Reload from file, Import parameters.

Check:

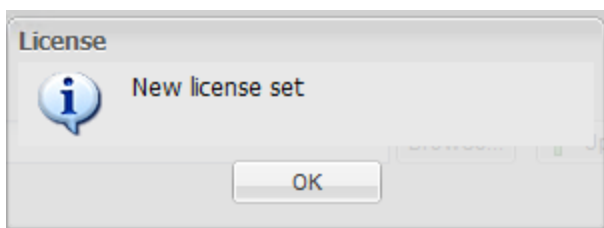
- Driver: OK
- Url: OK
- Connection: OK
- Version: OK
- License: No license available, please input your valid license

Buttons below the check results: Check, Set new license, Validate your license manually.

Bottom right button: Go to login page.

4. Select **Set new License**.
5. Select **Browse**.
6. Navigate to the license file that you received with your APM Connect installation package, and then open it.
7. Select **Upload**.

The **License** window appears.



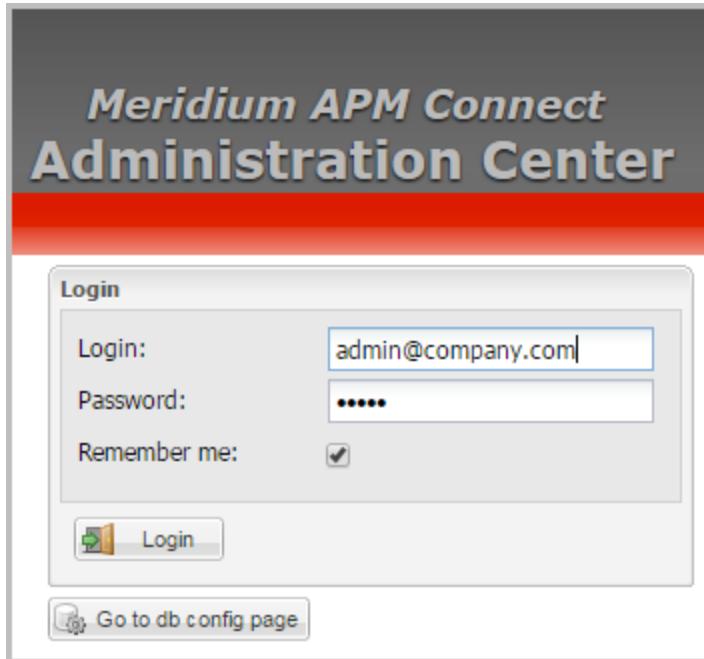
8. Select **OK**.

⚠ Important: If your license does not validate, you can [validate your license manually](#).

9. Select **Go to login page**.

The **Login** page appears.

10. In the **Login** box, enter the default username: *admin@company.com*.
11. In the **Password** box, enter the default password: *admin*.



The screenshot shows the 'Meridium APM Connect Administration Center' login interface. It features a title bar with the text 'Meridium APM Connect Administration Center' in a bold, sans-serif font. Below the title bar is a red horizontal bar. The main content area is a light gray box with a 'Login' title. Inside this box, there are three input fields: 'Login:' with the text 'admin@company.com', 'Password:' with six dots, and 'Remember me:' with a checked checkbox. Below these fields are two buttons: a 'Login' button with a green arrow icon and a 'Go to db config page' button with a gear icon.

12. Select **Login**.

The APM Connect Administration Center is successfully deployed, and the APM Connect Administration Center **Welcome** page appears.

What's Next?

[Validate the APM Connect Administration Center license.](#)

Validate the APM Connect Administration Center License

△ Important: This step is required only if your license was *not* validated automatically when you [accessed APM Connect Administration Center](#). If you did not receive the *No token set* error when accessing the APM Connect Administration Center, you can skip this procedure, and proceed to the next step, [Configure the APM Connect Administration Center](#), in the [APM Connect Base deployment workflow](#).

In order to use the APM Connect Administration Center, you must validate your Administration Center license. Typically, validation is done automatically. However, user specific environment configuration, such as firewalls, may require manual validation. This topic describes how to manually validate your APM Connect Administration Center license.

Steps

1. If you receive the *No token set* error when accessing the APM Connect Administration Center, as shown in the following image, select **Validate your license manually**.

Database parameters

Database type:

Driver:

Url:

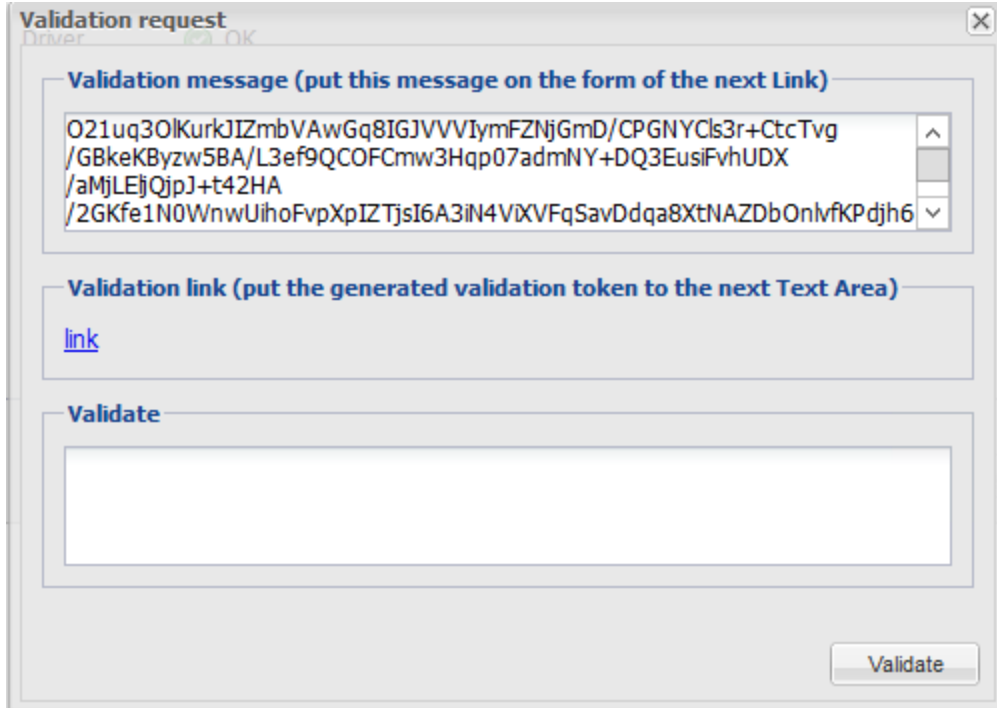
Username:

Password:

Check

| | |
|------------|----------------|
| Driver | ✓ OK |
| Url | ✓ OK |
| Connection | ✓ OK |
| Version | ✓ OK |
| License | ✗ No token set |

The **Validation request** screen appears.



2. In the **Validation message (put this message on the form of the next Link)** box, copy the text.
3. In the **Validation link (put the generated validation token to the next text Area)** section, select **link**.

If a browser opens, displaying the **Enter your validation request** page, skip to step 6.

-or-

If a browser does not open, proceed to the next step.

4. Right-click **link**, and then select **copy link text**.
5. Via email or chat, send the link to a machine with internet access that is not behind the fire-wall, and then, on that machine, paste the link into a browser.

The **Enter your validation request** page appears in your browser.

6. Paste or enter the text from the **Validation message (put this message on the form of the next Link)** box into the box in the browser.

Enter your validation request

```
021uq30lKurkJIZmbVAwGq8IGJVVViymFZNjGmD/CPGNYC1s3r+CtcTvg/G8keKByzw5BA/L3ef9QC0FCmw3Hqp07admNY+DQ3EusiFvhUDX
/aMjLElJQjpJ+t42HA/2GKfe1N0NnwUihoFvpXpIZTjsI6A3iN4ViXVFqSavDdqa8XtNAZDbOnlvfKpdjh6Wj3Fnn4XrgZPdY//chdvxcVPe
InGeY6AR0gNq7BzFTBQFc9SR6xYAg7cmZhVDS002KPtet4D0KyEJ7rxNZDj7pZMwu/r55hGjHF0fsyFDEVfco5E/WQb6VliQpYv9NaIKcwGK
w4VG1siZP4jcduhY1FzgLRDM20L5k1Wem1IPTz0L3Q0PJE1B5EnVDyzpqZ36XdAt34iaIBHo4RwReLJLOL3H9xzw+owMbx5Wc4C0N8R7g19
4ZZnG2gVBnvK63NRtaVr4HcusrbgaM1R1jihq5dbvY78sbIo1DEvpz1Jrn1sWI5fN08KrzgkUjx1rdYry25Vgji85h59W8ynNbvAxey58iAj
ViGXvYwD1nfulj3yQuINrGPCL9566uSEiYfnv28QiMoqLAYjleYccQvhvA263sqLDSt1CaNVEIuR7v8X1EVF5r61phej6RCbnFzTNg3f0cbu
AyTp3+hY2Kz5eWc/h4IL58v1geIsk/uh+Ye1J61xPkwfPpiCOVfASKEL5/F69HkhlnqqawfCnIf2TTVE1G1ZzNdDIrXDz6X0054QH3Z08ZBd
updLI9QuAfr9p8K5Ce4Kzx1VT9bjXFFZnm61Pknu7eQM0DuBYx0Lnexls9gYgW4uGF15iIzfPFkA7YzrcLvISrpUj5xQzS231Abb6ucMaIG7
p5C4quPvvL1/6M4Dz1omQCmXEYM9+PIoDpSXmtNSqS0WucEykjjvAvyWny3jDtKxt4/7/b4Ems4Ba1w8K06FIy6jzOmHnRESFLSElpm5/15
YbjG+3o0ewx7AFPPmIKg|
```

7. Select **Get your validation token**.

The **Copy your validation token** screen appears.

8. Copy the text in the box.
9. Return to the APM Connect Administration Center.
10. Paste the token text into the **Validate** box.
11. Select **Validate**.

The license is validated manually.

What's Next?

[Configure the APM Connect Administration Center.](#)

Configure the APM Connect Administration Center

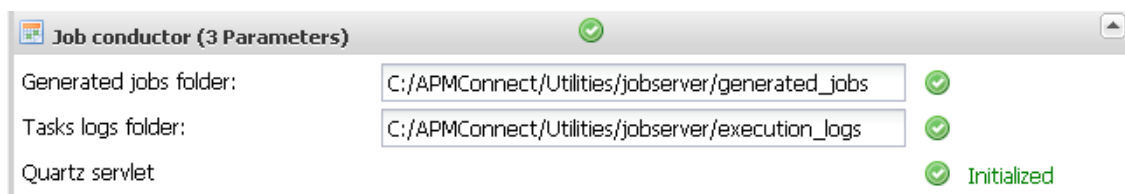
Depending on whether you are using the EAM Adapters (SAP Adapters and Maximo Adapters) or the Data Loaders, configuring the APM Connect Administration Center requires defining parameters for some or all of the following components: SVN, Commandline, Job conductor, Monitoring, and Log4j. This topic describes how to configure these parameters in the APM Connect Administration Center.

Steps

1. If you are not already, access the the APM Connect Administration Center via <http://localhost:8080/apmconnect/>.
1. If prompted, log in to the APM Connect Administration Center.
2. In the **Menu** pane, in the **Settings** section, select the **Configuration** tab.
The **Configuration** pane appears.
5. Select the **Job conductor (3 Parameters)** group to expand the workspace.
6. According the following table, enter the recommended parameters.

| Parameter | Description | Recommended or Default Value |
|------------------------------|---|--|
| Generated jobs folder | The path to the folder with the Job execution archives. | C:\APMConnect\Utilities\jobserver\generated_jobs |
| Tasks logs folder | The path to the folder with the Job execution logs. | C:\APMConnect\Utilities\jobserver\execution_logs |
| Quartz ser- vlet | Shows the status of the Job Conductor. | The value will be <i>Initialized</i> or <i>Not Initialized</i> |

The default parameters are configured as shown in the following image.



7. Select the **Monitoring (2 Parameters)** group to expand the workspace.

Note: Configuring this parameter is optional.

8. According to the following table, enter the necessary parameters.

| Parameter | Description | Recommended or Default Value |
|-------------------|--|--|
| Kibana URL | The URL address of the Kibana application. | <p>http://<DNS name>/kibana</p> <div style="border: 1px solid yellow; padding: 5px;"> <p>Note: The Kibana URL cannot contain <i>localhost</i>.</p> </div> |

9. Select the **Log4j (4 Parameters)** group to expand the workspace.
10. According following table, enter the necessary parameters.

| Parameter | Description | Recommended or Default Value |
|------------------------------------|--|---|
| Technical file appender | The path to the technical log file of the APM Connect Administration Center. | C:/APMConnect/Utilities/Tomcat/logs/technical.log |
| Technical log threshold | The level of logs you want to append. | WARN |
| Business log file path | The path to the business log file of the APM Connect Administration Center. | C:/APMConnect/Utilities/Tomcat/logs/business.log |
| Technical logstash appender | The host and port corresponding to the Logstash instance. | localhost:8050 |

The default parameters are configured as shown in the following image.

The screenshot shows a configuration window titled "Log4j (4 Parameters)" with a green checkmark icon. It contains four rows of configuration items:

- Technical file appender:** C:/APMConnect/Utilities/Tomcat/logs/technical.log (with a green checkmark)
- Technical log threshold:** WARN (with a dropdown arrow and a green checkmark)
- Business log file path:** C:/APMConnect/Utilities/Tomcat/logs/business.log (with a green checkmark)
- Technical logstash appender:** localhost:8050 (with a green checkmark)

The APM Connect Administration Center parameters are configured.

What's Next?

Deploy APM Connect

[Set user permissions.](#)

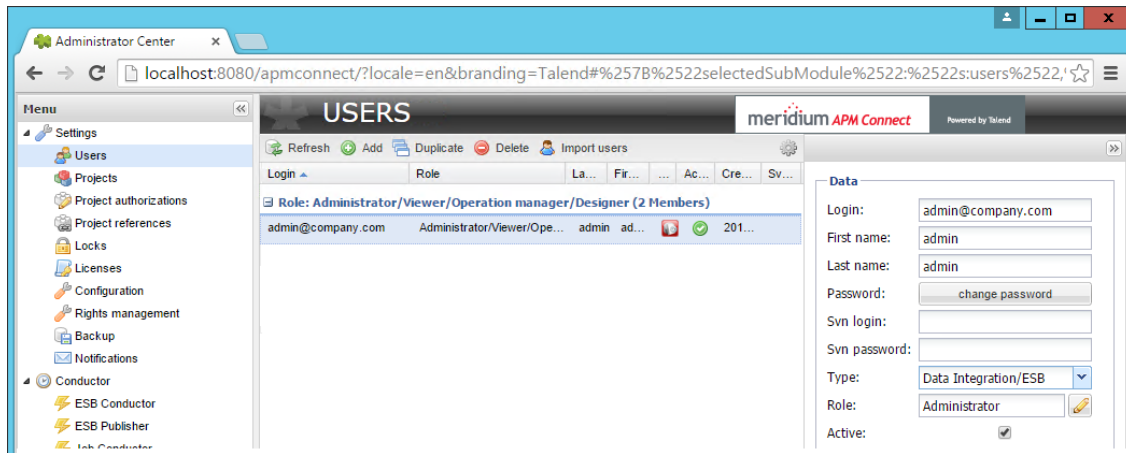
Set User Permissions


To begin using the APM Connect Administration Center to run data extractions, or Jobs, you must first give the admin user all of the user roles.

Steps

1. In the **Menu** pane, in the **Settings** section, select the **Users** tab.
2. Select the admin@company.com user.

The **Data** pane is activated.



3. In the **Role** box, select .


The **Role Selection** window appears.


4. Select each check box to assign the user all roles .

The Roles are defined in the following table:

| Role | Read Permissions by Module | Write Permissions by Module |
|--------------------|---|---|
| Administrator | | License, Configuration, Users, Projects, Rights Management, Backup, Notifications, Software Updates |
| Operations Manager | Projects, EBS Publisher, Service Activity Monitoring, Authorization, Service Registry, Studio, Repository Browser | Configuration, Lock, Notifications, Servers, Job Conductor , ESB Conductor, Execution Plan, Monitoring Audit BRMS (Drools), Service Locator |

| | | |
|----------|--|---|
| Designer | Configuration, Projects, Servers, Job Conductor, EBS Conductor, EBS Conductor, EBS Publisher, Execution Plan, Monitoring | Execution Plan, Audit, BRMS (Drools), Service Locator |
| Viewer | Servers, Job Conductor, Execution Plan, Audit, Studio, Repository | |

 **Important:** You must designate at least one user the role of Operation Manager in order to access the Job Conductor.

 **Note:** No matter their assigned roles or rights, [a user must be authorized for a project](#) before they can view or change sections associated with a project.

5. Select **Validate**.
6. Select **Save**.

The user permissions are set.

What's Next?

[Create projects.](#)

Create Projects

The APM Connect Administration Center organizes functions such as data integration jobs, routines, and extractions into larger structures called projects.

Steps

1. In the APM Connect Administration Center, in the **Menu** pane, in the **Settings** section, select the **Projects** tab.

2. Select **Add**.

The **Projects** pane appears.

3. As needed, enter the project information into the empty fields according to the following table.

| Parameter | Description | Recommended Value for SAP Adapters | Recommended Value for Data Loaders |
|---------------------|--|---|---|
| Label | Project name. | Must match the release project name. | The project name corresponds to the directory name containing the job in your installation package. |
| Active | Activates or deactivates the current project. | Must select the check box. | Must select the check box. |
| Reference | Adds or removes the selected project as reference. | Value not required. | Value not required. |
| Description | Description of the project. | Value not required. | Value not required. |
| Author | First and last name of the user who created the project. | Value not required. | admin admin |
| Project Type | Type of project according to the license type. | Data Integration/ESB | Data Integration/ESB |
| Storage | The applicable storage type to your project. | Select None . If using the Studio license, select SVN . | Select None . |

| | | | |
|-------------------------|---|---|---------------------|
| Advanced Setting | Activates the advanced settings. | Value not required for non- Studio license users. | Value not required. |
| URL | The subversion server URL. | Value not required for non- Studio license users. | Value not required. |
| Login | The SVN user name. | Value not required for non- Studio license users. | Value not required. |
| Password | The SVN password. | Value not required for non- Studio license users. | Value not required. |
| Svn commit mode | <p>Determines how to submit the latest change made to the project and the repository. Changes are committed via the following methods.</p> <ul style="list-style-type: none"> • Automatic: The Administration Center will automatically commit changes. This is the default setting. • Unlocked items: The Administration Center will commit changes made on certain items when the items are unlocked. | Value not required for non- Studio license users. | Value not required. |

| | | | |
|-----------------------------|--|--|----------------------------|
| <p>Svn lock mode</p> | <p>Determines the SVN lock type. The following lock types can be applied.</p> <ul style="list-style-type: none"> • Automatic: Items are automatically locked/unlocked when a user wants to edit them. • Ask user: The user is prompted to lock-/unlock items when necessary. • Manual: The user needs to manually use the Lock/Unlock option in the contextual menu. | <p>Value not required for non- Studio license users.</p> | <p>Value not required.</p> |
| <p>Svn User log</p> | <p>If selected, the user will be prompted to enter their own commit log for each commit.</p> | <p>Value not required for non- Studio license users.</p> | <p>Value not required.</p> |

4. Select **Save**.

The project is created, and appears in the projects list.

What's Next?

[Authorize users for projects.](#)

Authorize Users for Projects

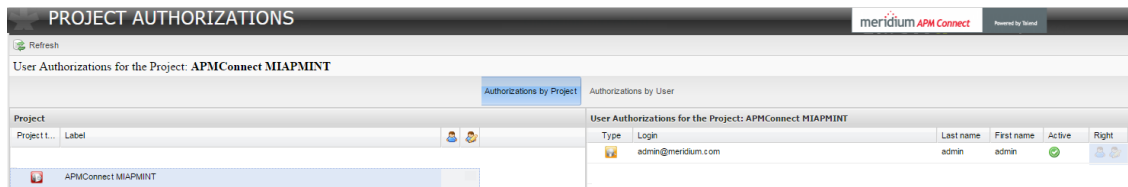
Before a user can begin work on a specific project, that user must be authorized to work on that project. Each project can have multiple users with differing roles. Users can also be authorized for multiple projects. This topic explains how to authorize a user for a project.

Steps



1. In the **Menu** pane, in the **Settings** section, select **Project authorizations**.

The **Project Authorizations** workspace appears.

2. From the **Project** list, select the project to which you want to add a user.



The **Project** section lists all the projects to which you can add users. The **User Authorizations for the Project: <name>** section lists all users that can be added to the project.

3. To give a user *read* rights only, select the  icon in the column labeled **Right** next to the user you want to add.
4. To give a user *read* and *write* permissions, select the  icon in the column labeled **Right** next to the user you want to add.

Hint: The icons in the **Right** column will be grayed-out if the user is not authorized for a specific action, and be colored if the user has the required permissions.

The user is now authorized for the project.

What's Next?

[Configure the execution server.](#)

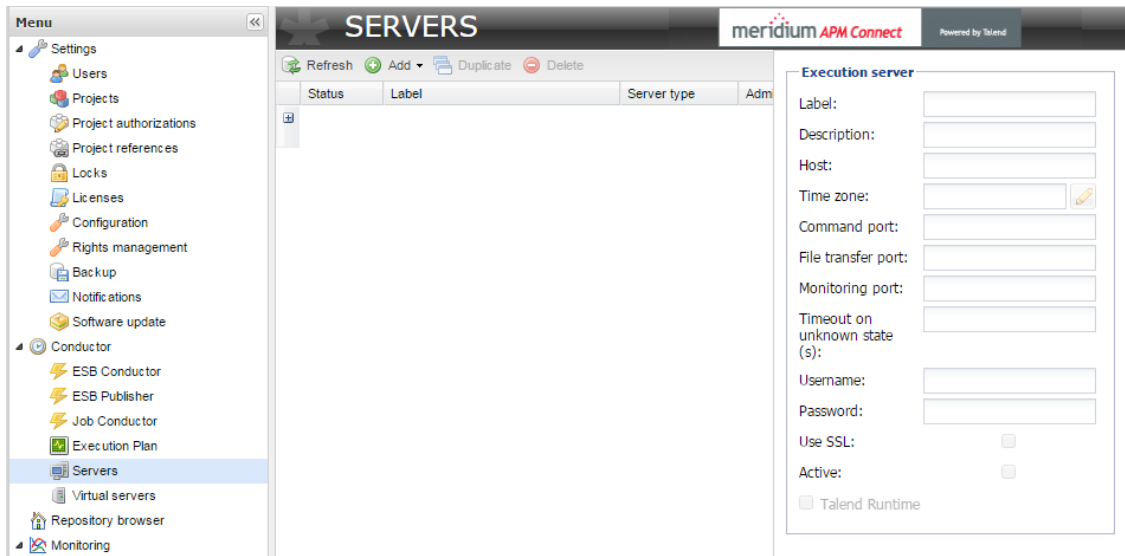
Configure the Execution Server

Steps

1. In the **Menu** pane, in the **Conductor** section, select the **Servers** tab.

Note: In order to access the **Conductor** section, the user must have [Operation Manger permissions](#).

The **Servers** workspace appears.



2. Select the **Add** drop-down menu, and then select **Add server**.

The **Execution server** pane is activated.

3. As needed, enter the server information in the following list.

| Value | Task | Recommended or Default Value | Required |
|--------------------|---|---|----------|
| Label | Enter the name of the server. | Value is unique to the user, and can be any name. | Y |
| Description | Enter a description as necessary. | Value is unique to the user. | Y |
| Host | Enter the IP addresses or DNS name of the server. | localhost | Y |

| | | | |
|--------------------------------------|---|---|---|
| Time zone | Select the time zone of the server. | Value is unique to the user. | Y |
| Command port | Enter the server port. | Default value is 8000 | Y |
| File transfer port | Enter the port for file transfer. | Default value is 8001 | Y |
| Monitoring port | Enter the port for monitoring. | Default 8888 | Y |
| Timeout on unknown state (s): | Enter the predetermined period of time (in seconds) after which a specific action is to be taken on the selected task, in the event of unknown Job status due to an unavailable Job server. | 120 | Y |
| Username | Optionally, enter the user name for a user authentication to access the Jobserver. | Value is unique to the user. | N |
| Password | Optionally, enter the password for the user's authentication to access the Jobserver. | Value is unique to the user. | N |
| Use SSL | Select the check box to use your own SSL Keystore in order to encrypt data prior to transmission. | Value is unique to the user. | N |
| Active | Select or clear the check box to activate or deactivate server. | Select the box | N |
| Talend Runtime | Select this check box to activate the runtime container. Additionally, leave the default values. | Select the box, and leave the populated default values. | Y |

4. Select **Save**.

A new Jobserver will appear in the **Servers** workspace, and the server has been configured.


What's Next?

[Import the Adapter Jobs](#)

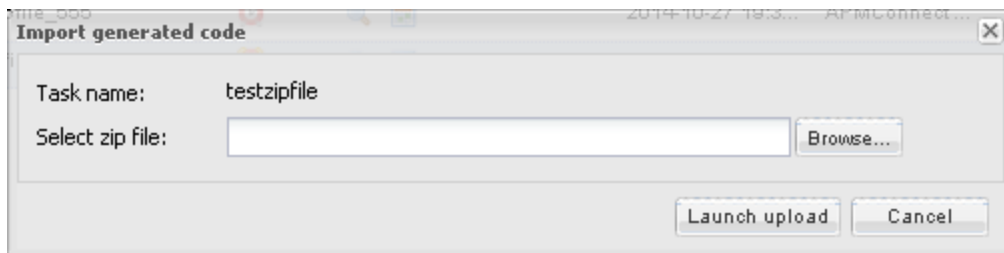
Import Adapter Jobs

A job is used to extract information from the source and push it into Meridium Enterprise APM. Before you can initiate a job using the APM Connect Administration Center, you must first load the jobs into the APM Connect Administration Center. This is accomplished by importing the jobs from a .zip file. This topic describes how to import jobs into the APM Connect Administration Center.


Steps

1. In the **Menu** pane, in the **Conductor** section, select the **Job Conductor** tab.
2. On the **Job Conductor** toolbar, select **Add**.
The **Execution task** pane is activated.
3. In the **Execution task** pane, in the **Label** box, enter a label for the job.
4. In the **Description** box, enter a description for the Job.
5. Select the **Active** check box.
6. In the **Job** section, select .

The **Import generated code** window appears.




7. Select **Browse** to navigate to the folder containing [the updated_jobs package](#).
8. Depending on the type of deployment, select the files that contains the job based on the following table.

 **Note:** You must import every Job in the table for the respective deployment.

Data Loader Jobs

| Job Name | Description |
|----------|-------------|
|----------|-------------|


| | |
|---|---|
| <p>create_dinoloader_db.zip</p> <div style="border: 1px solid yellow; padding: 5px; margin-top: 10px;"> <p> Note: This job must be executed before you can initiate any data imports using the data loaders.</p> </div> | <p>Creates Intermediate Repository database for DinoLoader.</p> |
|---|---|

Maximo Adapter Jobs


| Job Name | Description |
|----------------------------------|---|
| CreateIntermediateRepository.zip | Creates the IR database. |
| Maximo_Assets.zip | Loads Asset records to Meridium Enterprise APM as Equipment records. |
| Maximo_Location.zip | Loads Location records to Meridium Enterprise APM as Functional Location records. |
| Maximo_Master_Interface.zip | Wrapper job for all Maximo Adapters allowing easy configuration of multiple Maximo Adapters jobs. |
| Maximo_WorkHistory.zip | Loads Maximo Service Request and Work Order records records to Meridium Enterprise APM as Work History records. |

SAP Adapter Jobs

| Job Name | Description |
|----------------------------------|---|
| CreateIntermediateRepository.zip | Creates IR database. |
| CreateStaticData.zip | Loads lookup tables. |
| EncryptString.zip | Used to encrypt passwords. |
| IR_Equipment_APM_load.zip | Restarts failed Equipment load from point of failure. |
| IR_Equipment_TC_APM_load.zip | Restarts failed Technical Characteristics load from point of failure. |

| | |
|---|--|
| IR_FLOC_APM_Load.zip | Restarts failed Functional Location load from point of failure. |
| IR_FLOC_TC_APM_Load.zip | Restarts failed Technical Characteristics load from point of failure. |
| IR_Task_APM_load.zip | Restarts failed Notification Management load from point of failure. |
| IR_WorkHistory_To_APM_load.zip | Restarts failed Work History load from point of failure. |
| Load_ID_List.zip | Allows large amounts of Asset IDs to be loaded into Meridium Enterprise APM. |
| SAP_Equipment.zip | Loads Equipment records to Meridium Enterprise APM. |
| SAP_Equipment_TechCharacters.zip | Loads Equipment Technical Characteristics records to Meridium Enterprise APM. |
| SAP_FunctionalLocation.zip | Loads Functional Location records to Meridium Enterprise APM. |
| SAP_FunctionalLocation_TechCharacters.zip | Loads Functional Location Technical Characteristics records to Meridium Enterprise APM. |
| SAP_Master_Interface.zip | <p>Wrapper job for all SAP Adapters allowing easy configuration of multiple SAP jobs.</p> <div style="border: 1px solid yellow; padding: 5px;"> <p> Note: This job can be used to run all of the Adapter jobs. It is recommended to use this job solely. Additionally, if you are using Multiple SAP systems you must use this job.</p> </div> |
| SAP_WorkHistory.zip | Loads Work History records to Meridium Enterprise APM. |
| SAP_WorkManagement.zip | Loads Work Management records to Meridium Enterprise APM. |

SAP Cloud Adapter Jobs

| Job Name | Description |
|---|--|
| Client_Queue_Listener.zip | Enables the connection to the queue. |
| CreateIntermediateRepository_Client.zip | Creates Intermediate Repository data-base. |
| Email_notification.zip | Allows for an email notification to be sent when a job or extraction fails. This report, the Failure Details report, provides the reason for why a record did not load. |
| EncryptString.zip | Used to encrypt passwords. |
| Extraction_Wrapper.zip | <p>Wrapper job for all SAP Adapters allowing easy configuration of multiple SAP jobs.</p> <div style="border: 1px solid yellow; padding: 5px;"> <p> Note: This job can be used to run all of the Adapter jobs. It is recommended to use this job solely. Additionally, if you are using multiple SAP systems you must use this job.</p> </div> |
| SAP_NotificationManagement.zip | Create SAP Notification from Meridium General Recommendations. |

SAP PI Adapter Jobs

| SAP PI Jobs | Description |
|----------------------------------|---|
| CreateIntermediateRepository.zip | Creates IR database. |
| EncryptString.zip | Used to encrypt passwords. |
| IR_Equipment_APM_load.zip | Restarts failed Equipment load from point of failure. |
| IR_FLOC_APM_Load.zip | Restarts failed Functional Location load from point of failure. |

| | |
|--|---|
| IR_WorkHistory_To_APM_load.zip | Restarts failed Work History load from point of failure. |
| Load_ID_List.zip | Allows large amounts of Asset IDs to be loaded into Meridium Enterprise APM. |
| SAP_PI_CreateStaticData.zip | Loads look up tables. |
| SAP_PI_Equipment.zip | Loads Equipment records to Meridium Enterprise APM. |
| SAP_PI_Equipment_TechCharacters.zip | Loads Equipment Technical Characteristics records to Meridium Enterprise APM. |
| SAP_PI_FunctionalLocation.zip | Loads Functional Location records to Meridium Enterprise APM. |
| SAP_PI_FunctionalLocation_TechCharacters.zip | Loads Functional Location Technical Characteristics records to Meridium Enterprise APM. |
| SAP_PI_Maseter_Interface.zip | Wrapper job for all SAP PI Adapters interfaces allowing easy configuration of multiple SAP. |
| SAP_PI_NotificationManagement.zip | Load Notification Management data into Meridium Enterprise APM. |
| SAP_PI_WorkHistory | Loads Work History records to Meridium Enterprise APM. |
| SAP_PI_WorkManagement.zip | Loads Work Management records to Meridium Enterprise APM. |

9. On the **Import generated code** window, select **Launch upload**.

The **Project**, **Branch**, **Name**, **Version**, and **Context** boxes are automatically populated with appropriate values.

10. In the **Execution Server** list, select the server on which the task should be executed.

11. Select **Save**.

The Adapter Job is imported into the APM Connect Administration Center.

12. Repeat steps 2-12 for every job.

Each Job is automatically categorized into the correct project.

What's Next?

Return to the [APM Connect base first-time deployment workflow](#).

Test and Install APM Connect CommandLine

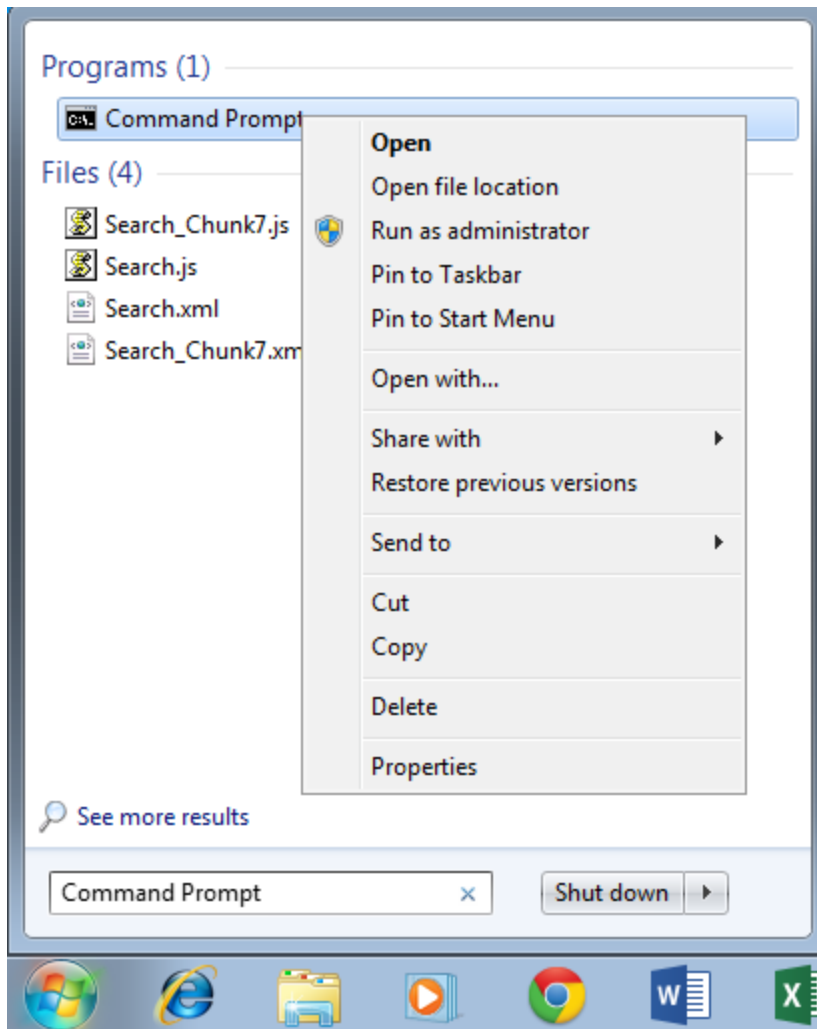
⚠ Important: This step is required only if you have the APM Connect Studio license. If you are deploying APM Connect Base with a Basic or Plus License, skip this procedure and proceed to the next step in the [APM Connect Base deployment workflow](#).

The APM Connect CommandLine is used to generate and compile adapter jobs. This topic describes how to test and install APM Connect CommandLine.

Steps

To test and install APM Connect CommandLine:

1. From your desktop, select the Windows Start button to open the Windows Start Menu.
2. In the **Search programs and files** box, enter: *Command Prompt*.
Command Prompt appears in the **Programs** list.
3. Right-click on **Command Prompt**, and then select **Run as administrator**.



The **Administrator: Command Prompt** window appears.

4. Change the directory to: <root:>\APMConnect\Utilities\cmdline.
5. Execute the following command: `jsl_static64.exe -debug`.

The following message appears: *Fetch License From Administrator! Enter User Login:*.

6. Enter the APM Connect Administration Center default user login: `admin@company.com`.

The following message appears: *Enter password:*.

7. Enter the APM Connect Administration Center default password: `admin`.

Hint: The password text will not be displayed when you enter the text.

The following message appears: *Enter Administrator URL:*.

8. Enter the APM Connect Administration Center URL: `http://localhost:8080/apmconnect/`.

The messages shown in the following image appear:

A screenshot of a Windows Command Prompt window. The title bar shows the path `C:\Windows\system32\cmd.exe - jsl_static64.exe -debug`. The command prompt displays the following text:

```
Fetch License From Administrator?  
Enter User Login:admin@company.com  
Enter Password:  
Enter Administrator URL:http://localhost:8080/apmconnect/  
Fetching License ...  
Fetch License From Administrator Success!
```

9. Execute the following command: `jsl_static64.exe -install`.

A confirmation message appears indicating, that the APM Connect Commandline installed as a Windows service.

10. Exit the Command Prompt.

The CommandLine is tested and installed.

What's Next?

[Start APM Connect CommandLine](#) as a service.

Start APM Connect CommandLine

⚠ Important: This step is required only if you have the APM Connect Studio license. If you are deploying APM Connect Base with a Basic or Plus License, skip this procedure and proceed to the next step in the [APM Connect Base deployment workflow](#).

To begin using the APM Connect Administration Center, you must first start APM Connect CommandLine as a Windows service. This topic describes how to start Windows services for CommandLine.

Before You Begin

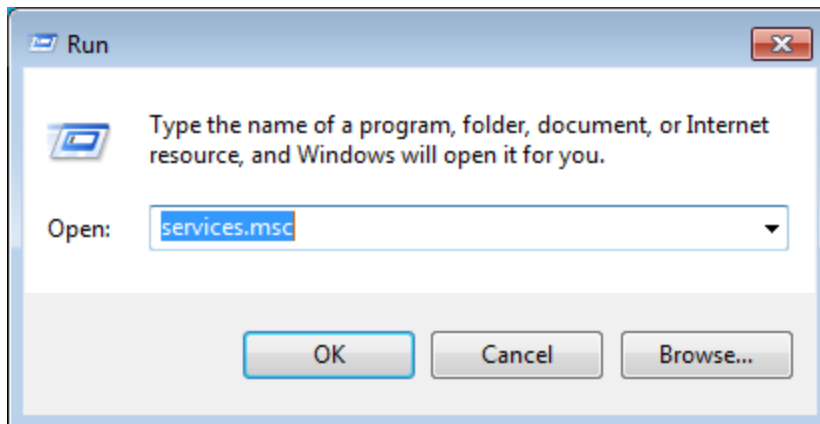
Before you can start CommandLine as a Windows service, you must complete the following:

- [Test and install APM Connect CommandLine](#).

Steps

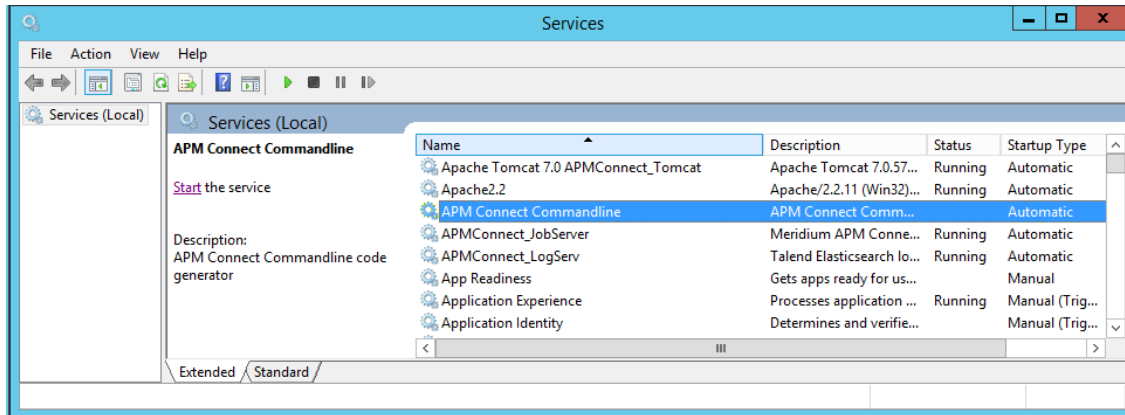
To start APM Connect CommandLine as a Windows service:

1. From your desktop, select the Windows Start button to open Windows Start Menu.
2. In the **Search programs and files** box, search for *Run*.
Run appears in the **Programs** list.
3. Open **Run**.
The **Run** dialog box appears.
4. In the **Open** box, enter: **services.msc**.



5. Select **OK**.
The **Services** window appears.

Deploy APM Connect



6. In the **Name** list, select APMConnect CommandLine.

7. Select the **Start** link.

8. Close the **Services** window.

APM Connect CommandLine is started as a Windows service.

What's Next?

[Install the Studio.](#)

Configure the APM Connect Administration Center for the Studio

⚠ Important: This step is required only if you have the APM Connect Studio license. If you are deploying APM Connect Base with a Basic or Plus License, skip this procedure and proceed to the next step in the [APM Connect Base deployment workflow](#).

Steps

1. Open a web browser.

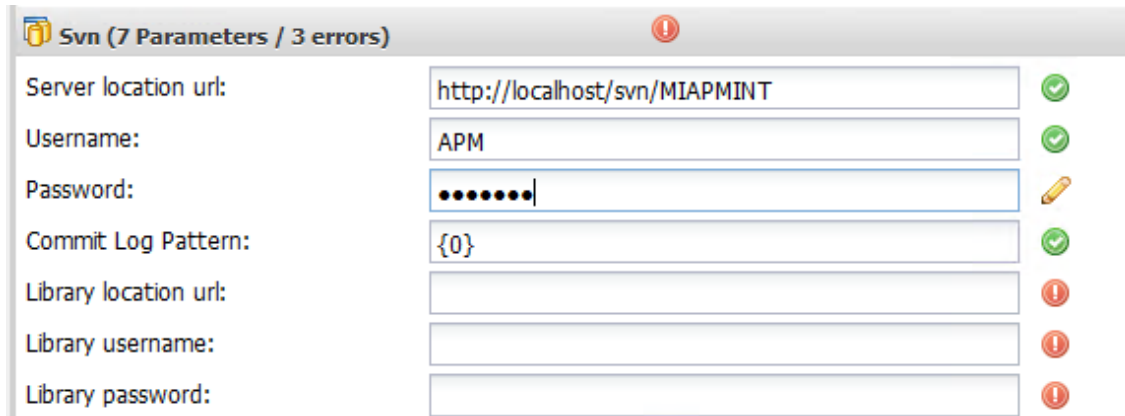
ℹ Hint: APM Connect is most compatible with Google Chrome or Mozilla Firefox web browsers. It is not recommend using Internet Explorer to access the APM Connect Administration Center.

2. Enter the following URL into your web browser: `http://localhost:8080/apmconnect/`.
3. If prompted, log in to the APM Connect Administration Center.
4. In the **Menu** pane, in the **Settings** section, select the **Configuration** tab.
The **Configuration** pane appears.
5. Select the **Svn (7 Parameters)** group to expand the workspace.
6. According to the following table, enter the necessary parameters.

| Parameter | Description | Recommended or Default Value |
|---------------------|---|--|
| Server location URL | URL location of the SVN server. | <code>http://localhost/svn/MIAPMINT</code> |
| Username | SVN user name created to use in the APM Connect Administration Center when installing the SVN server. | APM |
| Password | SVN password created to use in the APM Connect Administration Center when installing the SVN server. | Connect |
| Commit Log Pattern | SVN commit log according to your log format convention. | {0} |

| | | |
|----------------------|--|--------------|
| Library location URL | URL location of the SVN external libraries directory downloaded with the Studio. | Not Required |
| Library user-name | User name of the SVN user that has access to the libraries directory. | Not Required |
| Library password | Password of the SVN user that has access to the libraries directory. | Not Required |

The default parameters are configured as shown in the following image.

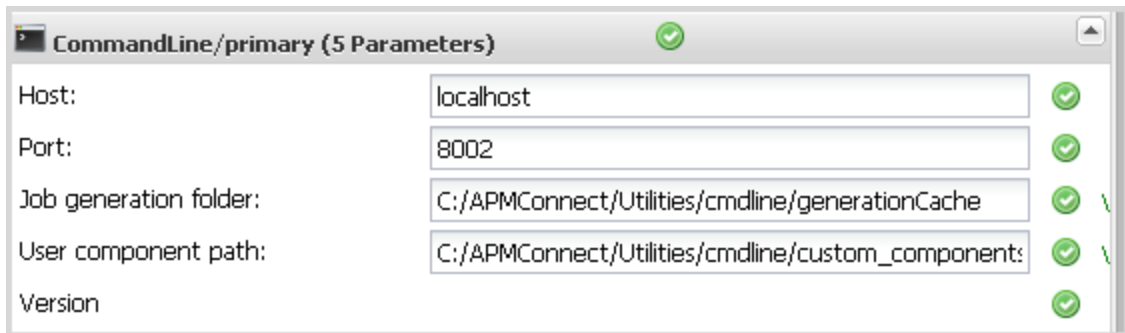


7. Select the **CommandLine/primary (5 Parameters)** group to expand the workspace.
8. According to the information in the following table, enter the necessary parameters.

| Parameter | Description | Recommend or Default Value |
|-------------|--|----------------------------|
| Host | The IP address of the CommandLine. | localhost |
| Port | The port number on which the CommandLine is queried. | 8002 |

| | | |
|------------------------------|--|--|
| Job generation folder | The path to the folder where Jobs are generated. | <root:>\APMConnect\Utilities\cmdline\generationCache |
| User component path | The path to the folder where user components are stored. | <root:>\APMConnect\Utilities\cmdline\custom_components |

The default parameters are configured as shown in the following image.



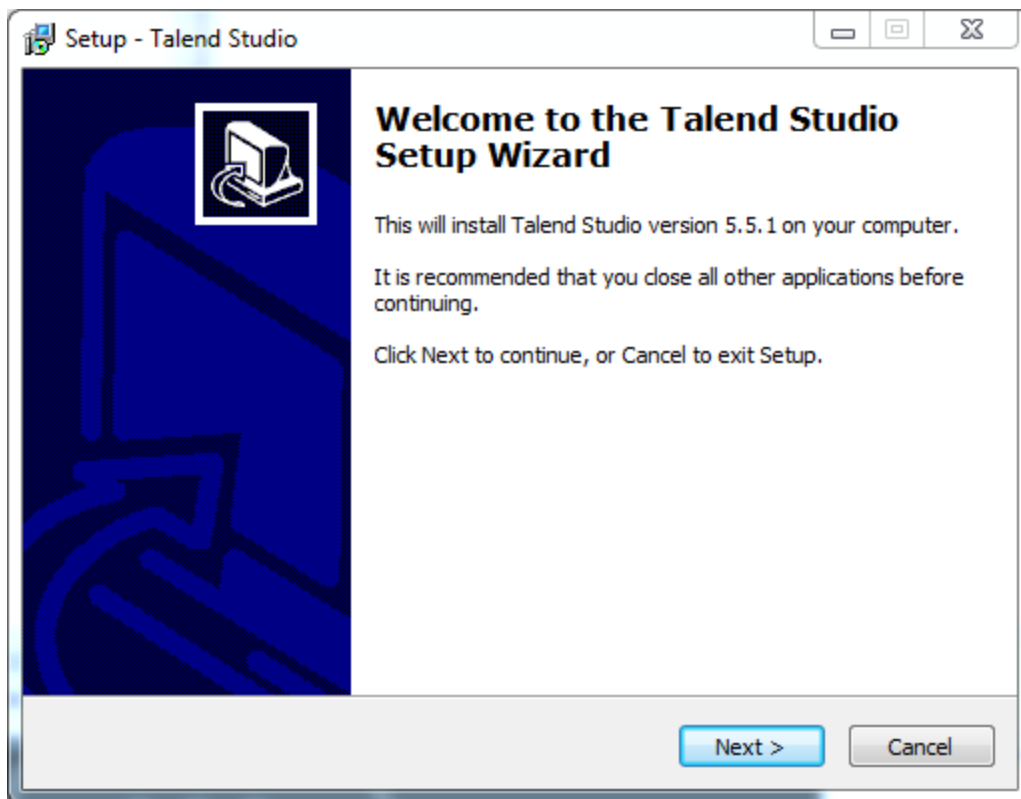
Install the Studio

⚠ Important: This step is required only if you have the APM Connect Studio license. If you are deploying APM Connect Base with a Basic or Plus License, skip this procedure and proceed to the next step in the [APM Connect Base deployment workflow](#).

Steps

1. On the machine on which you installed APM Connect, access the Talend Studio installation package.
2. Open the file **TalendStudioInstall.exe**.

The **Setup-Talend Studio** window opens.



3. Select **Next**.

The **License Agreement** screen appears.

4. Read the entire license agreement, and then select one of the following options:
 - **I accept the agreement:** If you agree to the terms of the license agreement and want to continue. These instructions assume that you want to continue.

- **I do not accept the agreement:** This option is selected by default. If you do not agree to the terms of the license agreement and do not want to continue, select **Cancel** to exit the installer.

Next is enabled.

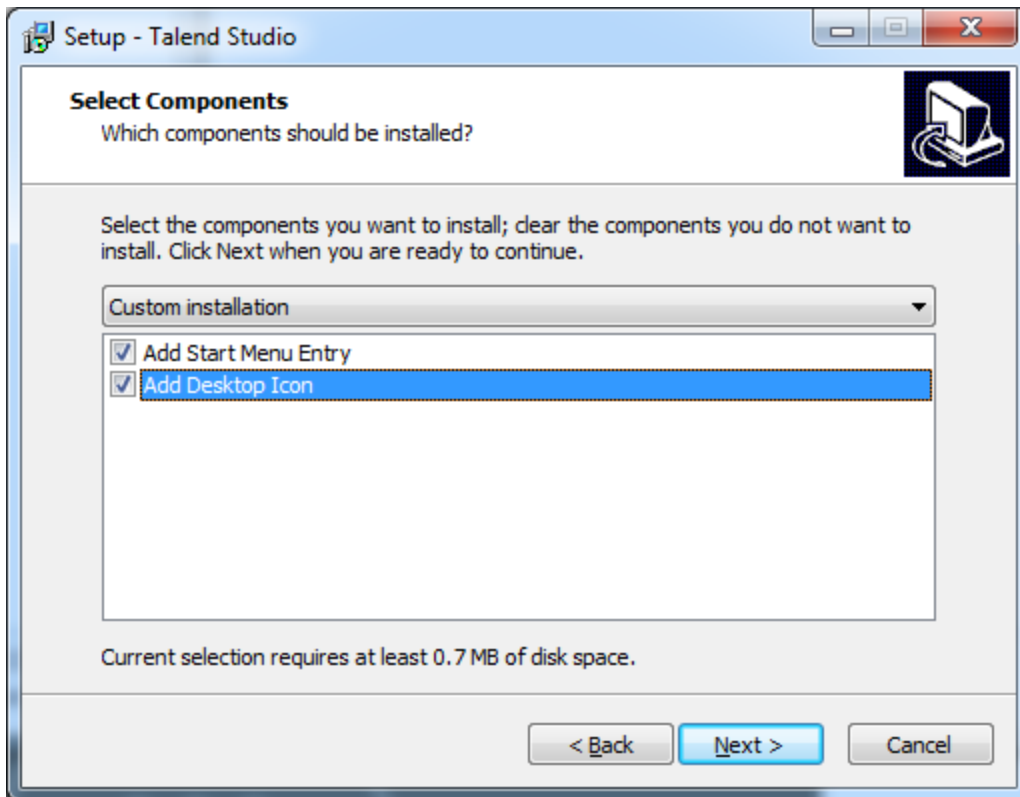
5. Select **Next**.

The **Select Destination Location** screen appears.

6. Select **Next**.

The **Select Components** screen appears.

7. Select the **Add Start Menu Entry** box, and then select the **Add Desktop Icon** box.



8. Select **Next**.

The **Select Start Menu Folder** screen appears.

9. Select **Next**.


The **Ready to Install** screen appears.

10. Select **Install**.

The **Installing** screen appears, displaying an installation progress bar. Once the installation is complete, the **Completing the Talend Studio Setup Wizard** screen appears.

11. Select **Finish**.

The installation is complete, and Talend Studio desktop icon is available.

 **Note:** Per the APM Connect systems requirements, you must install Talend Studio on a 64 bit machine. If you do not, the **missing shortcut** message will appear.

Deploy ASI for SAP

The checklists in this section of the documentation contain all the steps necessary for deploying and configuring this module whether you are deploying the module for the first time or upgrading from a previous module.

Deploy ASI for SAP for the First Time

The following table outlines the steps that you must complete to deploy and configure this module for the first time. These instructions assume that you have completed the steps for deploying the basic Meridium Enterprise APM system architecture.

These tasks may be completed by multiple people in your organization. We recommend, however, that the tasks be completed in the order in which they are listed.

| Step | Task | Notes |
|------|--|--|
| 1 | Install the ASI for ABAP add-on. | This step is required. If you are installing the add-on for the first time, be sure to select the installation files, not the upgrade files. |
| 2 | Configure SAP for external numbering. | This step is required. |
| 3 | Configure SAP permissions. | This step is required. |
| 4 | Follow the remaining ASI deployment steps in the ASI module. | This step is required. |

Upgrade or Update ASI for SAP to V4.2.0.2.0

The following table outlines the steps that you must complete to upgrade this module to V4.2.0.2.0. These instructions assume that you have completed the steps for upgrading the basic Meridium Enterprise APM system architecture.
(missing or bad snippet)

Update from version V4.2.0.0 through V4.2.0.1.0

This module will be updated to 4.2.0.2.0 automatically when you update the components in the basic Meridium Enterprise APM system architecture. No additional steps are required.

Upgrade from any version V4.1.0.0 through V4.1.7.1.0

| Step | Installation and Configuration Procedures | Notes |
|------|--|---|
| 1 | Install the ASI for ABAP add-on. | When upgrading the add-on, be sure to select the upgrade files, not the installation files. |
| 2 | Follow the remaining ASI deployment steps in the ASI module. | None |

Upgrade from any version V4.0.0.0 through V4.0.1.0

| Step | Installation and Configuration Procedures | Notes |
|------|--|---|
| 1 | Install the ASI for ABAP add-on. | When upgrading the add-on, be sure to select the upgrade files, not the installation files. |
| 2 | Follow the remaining ASI deployment steps in the ASI module. | None |

Upgrade from any version V3.6.0.0.0 through V3.6.0.12.1

| Step | Installation and Configuration Procedures | Notes |
|------|--|---|
| 1 | Install the ASI for ABAP add-on. | When upgrading the add-on, be sure to select the upgrade files, not the installation files. |

| | | |
|---|--|------|
| 2 | Follow the remaining ASI deployment steps in the ASI module. | None |
|---|--|------|

Upgrade from any version V3.5.1 through V3.5.1.12.0

| Step | Installation and Configuration Procedures | Notes |
|------|--|---|
| 1 | Install the ASI for ABAP add-on. | When upgrading the add-on, be sure to select the upgrade files, not the installation files. |
| 2 | Follow the remaining ASI deployment steps in the ASI module. | None |

Upgrade from any version V3.5.0 SP1 LP through V3.5.0.1.8.0

| Step | Installation and Configuration Procedures | Notes |
|------|--|---|
| 1 | Install the ASI for ABAP add-on. | When upgrading the add-on, be sure to select the upgrade files, not the installation files. |
| 2 | Follow the remaining ASI deployment steps in the ASI module. | None |

Upgrade from any version V3.5.0 through V3.5.0.0.7.1

| Step | Installation and Configuration Procedures | Notes |
|------|--|---|
| 1 | Install the ASI for ABAP add-on. | When upgrading the add-on, be sure to select the upgrade files, not the installation files. |
| 2 | Follow the remaining ASI deployment steps in the ASI module. | None |

Upgrade from any version V3.4.5 through V3.4.5.0.1.4

| Step | Installation and Configuration Procedures | Notes |
|------|---|-------|
|------|---|-------|

Deploy APM Connect

| | | |
|---|--|---|
| 1 | Install the ASI for ABAP add-on. | When upgrading the add-on, be sure to select the upgrade files, not the installation files. |
| 2 | Follow the remaining ASI deployment steps in the ASI module. | None |

Install or Upgrade the ASI ABAP Add-On on the SAP System

Note: To complete the following instructions successfully, you must use SAP client 000.

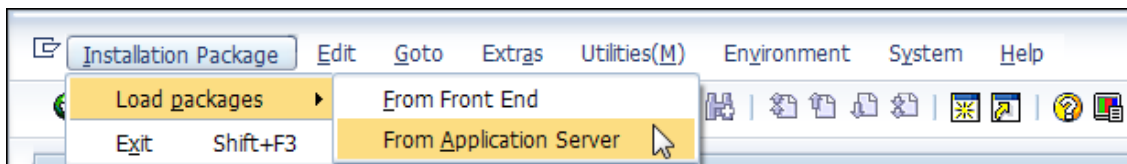
Steps

1. On a machine from which you can access the SAP Server, insert the *ASI for SAP ABAP Add-on* DVD.
2. Navigate to one of the following folder:
 - **Exchange Upgrade:** To upgrade the ASI ABAP Add-on when upgrading to a new SAP version.
 - **Installation:** To install the ASI ABAP Add-on for the first time.
 - **Upgrade:** To upgrade the ASI ABAP Add-on.
3. Navigate to the subfolder **ECC6**, and copy the .PAT file(s).
4. On the SAP Server, paste the copied file(s) into the folder `usr\sap\trans\eps\in`.
5. Log in to the SAP system as a user with:
 - `SCTSIMPSGL` and `S_CTS_ADMIN` authorizations.
 - or-
 - `SAP_ALL` authorization

6. Run the `SAINT` transaction.

The **Add-On Installation Tool** screen appears.

7. On the tool bar, select **Installation Package** menu, select **Load Packages**, and then select **From Application Server**.



A message appears, asking if you want to upload OCS packages from the ECS inbox.

8. Select **Yes**.

The **SAINT: Uploading Packages from the File System** screen appears. In the **Message Text** column, on the row corresponding the uploaded .pat file, the message **Uploaded successfully** is displayed.

9. Select the .PAT file(s) that you copied in step 3 of these instructions.

10. Select .

The **Add-On Installation Tool** screen appears again.

11. Select **Start**.


A new grid appears. *MIAPM* appears in the list of add-on packages that can be installed.

12. Select the row containing the text *MIAPM* in the first column, and then select **Continue**.

The **Support Package selection** tab appears.

13. Select **Continue**.

14. Select **Continue** again.

 **Note:** During the installation, the **Add Modification Adjustment Transports to the Queue** dialog box might appear. If it does, select **No**.

An indicator appears at the bottom of the screen to indicate the installation progress.

15. When the progress indicator disappears, a message appears, indicating that the add-on package will be installed.

16. Select .

The status is updated to indicate that the add-on package will now be imported, and the installation process continues.

When the installation process is complete, the status is updated to indicate that the add-on package was imported successfully.

17. Select **Finish**.

The *MIAPM* add-on package appears in the list of installed add-on packages on the **Add-On Installation Tool** screen.

What's Next?

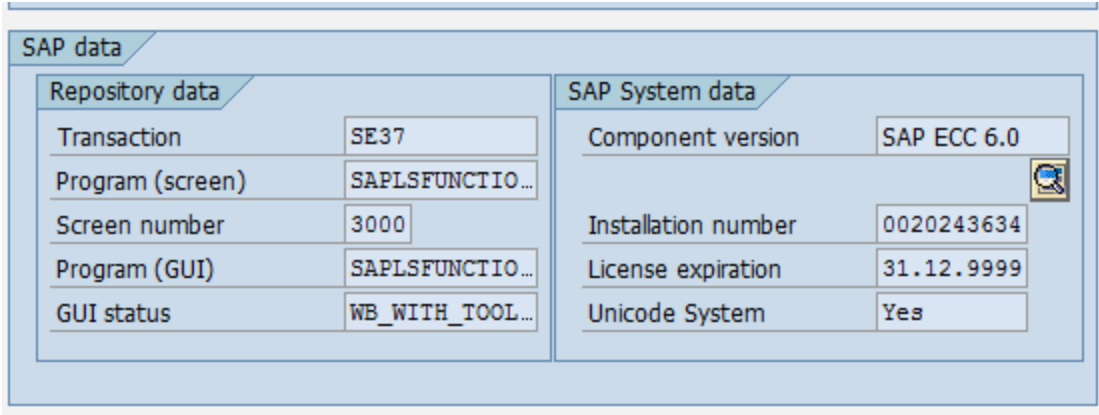
- [Configure SAP for External Numbering](#)

Verify ASI ABAP Add-On

Steps

1. In SAP, on the **System** menu, select **Status**.

The **System: Status** window appears.



2. In the **SAP System data** section, select .

The **Support Package Level for Installed Software Components** window appears.

CR2(1)/000 System: Component information

| Software Compon... | Release | Level | Highest Support ... | Short Description of Software Compon |
|--------------------|---------|-------|---------------------|--------------------------------------|
| SLL_PI | 900_604 | 0001 | SAPK-90A01INSL... | GTS Plug-In |
| WFMCORE | 200 | 0016 | SAPK-20016INWF... | WFMCORE 200 Upgrade: Meta-Comma |
| GRCFND_A | 300 | 0001 | SAPK-30001INGR... | GRC Foundation ABAP |
| GRCPCRTA | 300_700 | 0007 | SAPK-30307INGR... | GRCPC 300 RTA for 700 |
| EHSM | 100 | 0001 | SAPK-10001INEH... | SAP EHS Management Extension 1.0 |
| AIN | 400 | 0002 | SAPK-40002INAIN | AIN 400 : Add-On Supplement |
| MIAPMINT | 400_600 | 0000 | - | Meridium APM Integration Interfaces |
| MRSS | 700 | 0005 | SAPK-70005INMR... | Multi Resource Service Scheduling |

Navigation icons: back, forward, search, and refresh.

Footer icons: checkmark, error, and print.

3. If you deployed the SAP Adapter's ABAP Add-On package, scroll down until you see the Software Component *MIAPMINT*. If you see the following values in the following columns, the Add-On was applied successfully:

Deploy APM Connect

- **Release:** *400_600*, where *<SAP version>* indicates the version of SAP that you have installed.
- **Level:** *0000*

What's Next?

- Return to the workflow for the next step in the deployment process.

Configure SAP for External Numbering

When you implement an Implementation Package in ASI, Meridium Enterprise APM generates unique numbers for SAP Maintenance Plans, Maintenance Items, and General Maintenance Task Lists. In order for Meridium Enterprise APM to assign these external numbers, your SAP system must be configured to allow External Numbering.

Steps

1. Define the following External Number Ranges according to SAP documentation:

| Object Type | From Number | To Number |
|-------------------------------|------------------|------------------|
| Maintenance Plan | M00000000001 | M99999999999 |
| Maintenance Item | M000000000000001 | M999999999999999 |
| General Maintenance Task List | M0000001 | M9999999 |

⚠ Important: For details on configuring SAP for External Numbering, see the documentation for your SAP system.

What's Next?


- [Configure SAP Permissions](#)

Configure SAP Permissions

If you will be sending data to SAP using ASI Implementation Packages, you must configure SAP Permissions.

Steps

1. Configure the following security permissions:
 - Access to execute RFCs as described in SAP note 460089.
 - Access to execute the functions contained in the /MIAPM/ASM function group.
 - Authorizations defined in the SAP_PM_DATATRANSFER role.

 **Important:** For details on configuring SAP security, see the documentation for your SAP system.

About the ASI for SAP ABAP Add-on

Meridium Enterprise APM ASI for SAP extends the basic functionality of Asset Strategy Implementation (ASI) by offering integration with SAP. Deploying ASI for SAP requires two steps:

- Activating the ASI for SAP license in the Meridium Enterprise APM database. This documentation assumes that you activated the license when you completed the steps for creating or upgrading your Meridium Enterprise APM database.
- [Deploying the ASI for SAP ABAP add-on](#), which is a package that must be deployed on your SAP system to allow for integration between your Meridium Enterprise APM system and your SAP system.

The files necessary to deploy ASI for SAP are provided on the ASI for SAP ABAP Add-on DVD, which is not included in the standard Meridium Enterprise APM distribution but can be obtained from Meridium, Inc. upon request.

The ASI for SAP ABAP Add-on DVD contains installation files, upgrade files, and exchange files. In this documentation, we provide details on using the installation and upgrade files. You will need to use the exchange files if you upgrade an SAP system on which the ASI for SAP ABAP Add-on package has been installed. In that case, the SAP upgrade procedure will prompt you to access the exchange files for ASI for SAP. You can find the files in the Exchange Upgrade Files folder on the ASI for SAP ABAP Add-on DVD. Within the Exchange Upgrade Files folder, you will see subfolders representing the version of SAP to which you are upgrading. When prompted for an ASI for SAP exchange file, use the files in these subfolders. This documentation does not provide specific instructions for using these files during an SAP upgrade.

For information about what is included in the ASI ABAP Add-on, see the file `SAP_ASI_<version>_ObjectList.pdf`, which is located on the ASI for SAP ABAP Add-on installation DVD in the root folder.

Deploy the Data Loaders

The checklists in this section of the documentation contain all the steps necessary for deploying and configuring this module whether you are deploying the module for the first time or upgrading from a previous module.

Deploy the Data Loaders for the First Time

The following table outlines the steps that you must complete to deploy and configure this module for the first time. These instructions assume that you have completed the steps for deploying the basic Meridium Enterprise APM system architecture.

These tasks may be completed by multiple people in your organization. We recommend, however, that the tasks be completed in the order in which they are listed.

| Step | Task | Notes |
|------|---|--|
| 1 | Deploy the APM Connect Base. | This step is required. |
| 2 | In the Meridium Enterprise APM web browser, configure SSL . | This step is required if your Meridium Enterprise Server is configured to use SSL. |
| 3 | On your APM Connect server and on your Meridium APM Application Server, set permissions for the APM Connect Directory . | This step is required. |
| 4 | On your APM Connect server, deploy and configure data loaders files . | This step is required. |
| 5 | On your APM Connect server, enable test connection. | This step is required. |
| 6 | On your APM Connect server, update PostgreSQL networking configuration . | This step is required. |
| 7 | In the APM Connect Administration Center, change the APM Connect Administration Center Password . | This step is required. |
| 8 | In the APM Connect Administration Center, change the H2 Console password . | This step is required. |
| 9 | In the APM Connect Administration Center, create the APM service user . | This step is required. |
| 10 | In the APM Connect Administration Center, create the Intermediate Repository database . | This step is required. |

Upgrade APM Connect Data Loaders to V1.6.2

The following table outlines the steps that you must complete to upgrade this module to DL V1.6.2.

These tasks may be completed by multiple people in your organization. We recommend, however, that the tasks be completed in the order in which they are listed.

Upgrade from DL V1.6.1

| Step | Task | Notes |
|------|---|------------------------|
| 1 | On your APM Connect server, deploy and configure the configuration file . | This step is required. |
| 2 | On your APM Connect server, restart the service <i>APM-CONTAINER</i> . | This step is required. |

Upgrade from any Version DL V1.0.0 through DL V1.5.5

These instructions assume that you have completed the steps for upgrading the basic Meridium Enterprise APM system architecture.


| Step | Task | Notes |
|------|--|--|
| 1 | In the APM Connect Administration Center, delete existing data loaders jobs. | This step is required. |
| 2 | On your APM Connect sever, navigate to the runtime directory, and then delete the file runActionInMAC-0.1.kar . | This step is required. If you installed APM Connect in the default location, then the directory is C:\APMConnect\Utilities\runtime\deploy. |
| 3 | On your APM Connect server, deploy and configure the configuration file . | This step is required. |
| 4 | On your APM Connect server, restart the service <i>APM-CONTAINER</i> . | This step is required. |

Configure SSL

If your Meridium APM Web Server is configured to use SSL, this step is required to use the Data Loader functionality.

Steps

1. Log in to your Meridium Enterprise APM web application, and then access your browsers certificate information.

 **Note:** Typically you can access certificate information by selecting the lock icon in the address bar.

The **Certificate** window appears.

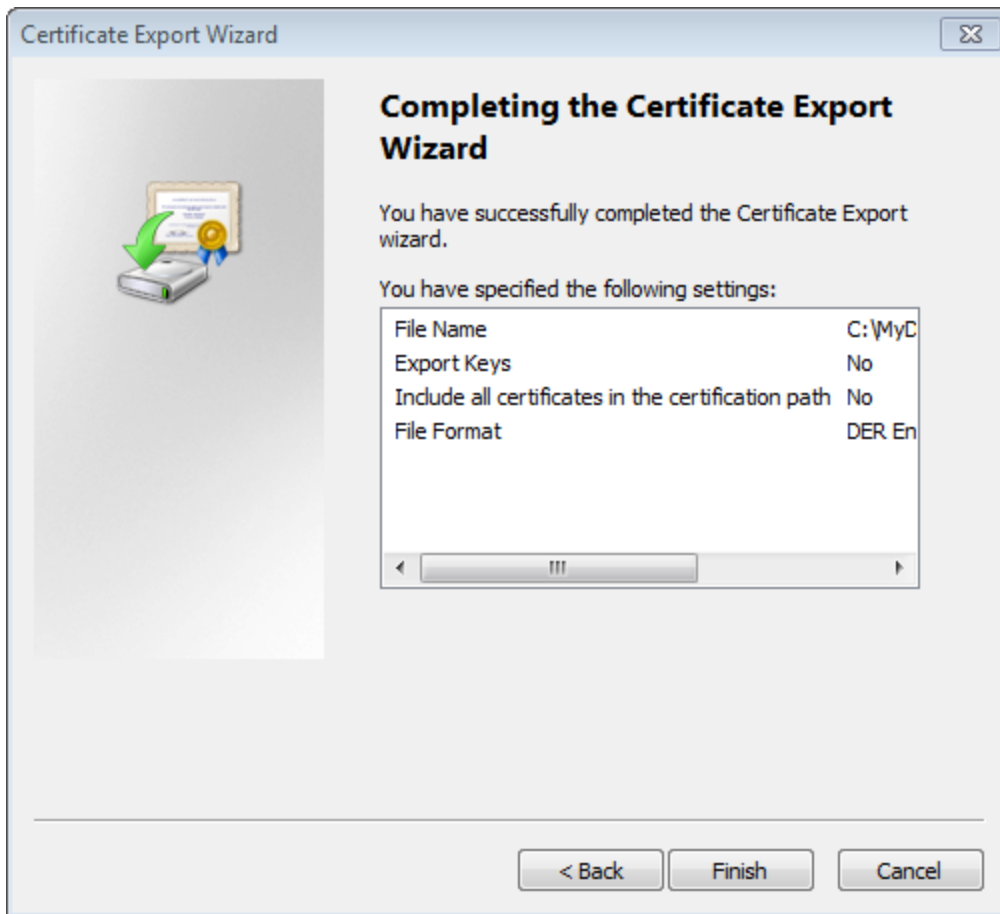
2. Select **Details**, and select **Copy to File....**

The **Certificate Export Wizard** window appears.



3. Select **Next**.

4. In the **Export File Format** window, select the **DER encoded binary X.509 (.cer)** button, and then select **Next**.
5. On the **File to Export** window, select **Browse...**
The **Save As** window appears.
6. Save the file to your Desktop under the name *certificate.cer*.
7. Select **Next**.



8. Select **Finish**.
The Certificate Export Wizard window appears.
9. Select **OK**.
10. Copy the *certificate.cer* file, and then paste it into the location of your machine's Java files.
For example, if your Java files are located at `C:\Program Files\Java\jre7\bin`, you will want to copy the *certificate.cer* file to that bin folder.
11. On the machine on which you are running Meridium Enterprise APM or APMNow, run the

Command Prompt as an Administrator, and navigate to the location of your machine's Java files.

12. Enter *keytool*.

Commands for the **Key and Certificate Management Tool** appear in the Command Prompt.

13. In the last line line, C:\Program Files\Java\jre7\bin>, enter `keytool -import -alias test -file certificate.cer -keystore publickey.store`.

14. Enter a password, and confirm the password by re-entering it.

In the Command Prompt, you are asked if you want to trust the certificate.

15. For yes, enter *y*.

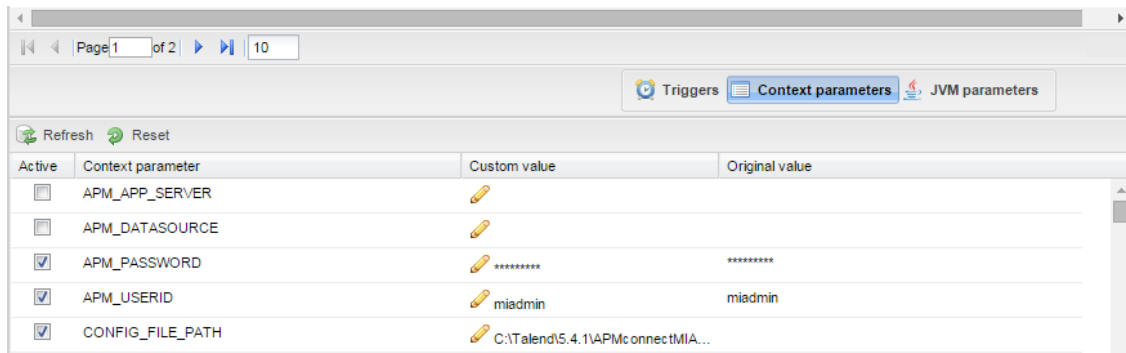
The keystore file is created.

16. Log into an instance of the APM Connect Administration Center.

17. In the **Job Conductor** workspace, select the Job for which you would like to set parameters.

18. At the bottom of the **Job Conductor** workspace, select **Context parameters**.

The **Context parameters** section appears.



19. Enter the following values for the corresponding parameters:

- **TRUSTSTORE_FILE**: the location of the certificate file
For the example: C:\Program Files\Java\jre7\bin\publickey.store.
- **TRUSTSTORE_PASSWORD**: the password you entered into the Command Prompt when you installed the certificate.
- **USE_SSL**: true.

SSL is now enabled.

Deploy and Configure Data Loader Files

Steps


1. On your APM Connect server, navigate to the runtime directory. If you installed APM Connect in the default location, then the directory is C:\APMConnect\Utilities\runtime\deploy.
2. If the file **runActionInMAC-0.1.kar** exists in the directory, delete the file.
3. Access the APM Connect installation package, and then copy the file **Run-DataloadersRoute.cfg**.
4. Navigate to **<root>\APMConnect\Utilities\runtime\etc**, and then paste the copied file in that location.
5. Open the file to edit, and then configure the following parameters:

| Parameter | Description | Default or Recommended Value |
|---------------------|---|---|
| context | Defines what Talend context environment is used. | Default. |
| TRUSTSTORE_FILE | The directory path to the dinolader SSL configuration file. | Value is unique to the user. |
| TRUSTSTORE_PASSWORD | The password for the keystore files. | Value is unique to the user. |
| USE_SSL | Determines if SSL is used. | <ul style="list-style-type: none"> • true: will use SSL. • false: will not use SSL. |
| apmconnect_Server | Intermediary Repository host name. | Value is unique to the user. |
| apmconnect_Database | Database for the dinolader job. | Value is unique to the user. |
| apmconnect_Login | Intermediary Repository user-name. | Value is unique to the user. |

6.

| | | |
|-------------------------------------|---|--|
| apmconnect_Password | Intermediary Repository password. | Value is unique to the user. |
| LOG4J_CONFIG_FILE | Log4j directory path. | C:/APMConnect/Config/log4j.properties |
| IS_LINUX | Indicates if the machine on which the Data Loaders are deployed is a POSIX-compliant operating system (e.g., Linux, UNIX, AIX, HPUX etc.) or an other operating system. | <ul style="list-style-type: none"> • true: Enter true if you are deploying the Data Loaders on a POSIX-compliant operating system. • false: Enter false if you are not deploying the Data Loaders on a POSIX-compliant operating system. |
| LINUX_BASE_PATH | The directory path where the data loader file share is mounted. | <p>This parameter is required only if you are deploying the Data Loaders on a Linux machine.</p> <p>This path is defined by system administrator for the Linux machine, and the value is unique to the user.</p> |
| org.apache.karaf.features.configKey | Karaf web console configuration tie-in is used to associate this configuration file with the RunDataLoadersRoute class. | <p>Run-Data-loadersRoute.talendcontext.Default</p> <div style="border: 1px solid red; padding: 5px; color: red; font-weight: bold;"> ⚠ IMPORTANT: Do not edit this parameter. </div> |

7. Save the file.
8. In the installation package, copy the file **RunDataLoadersRoute_0.2.kar**.
9. On your APM Connect server, navigate to **<root>\APMConnect\Utilities\runtime\deploy**, and then paste the copied file in that location.

 **Note:** If new configuration is not automatically applied, restart the APM_CONTAINER service. This will force the changes to be applied.

What's Next?

[Update PostgreSQL networking configuration.](#)

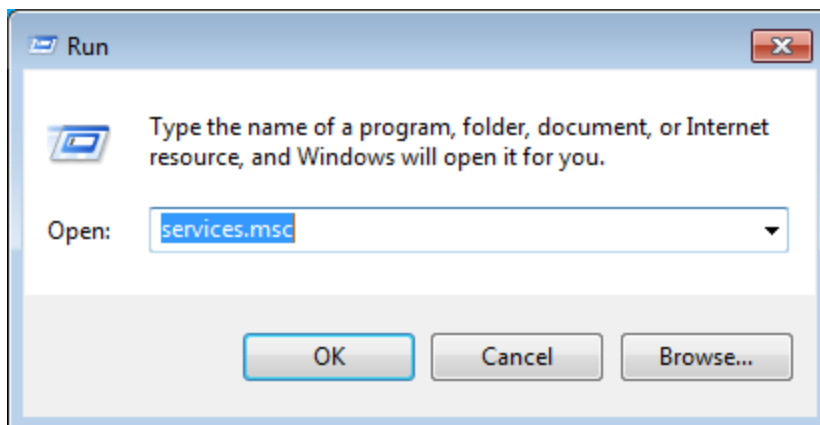
Set Permissions for APM Connect Directory

Before you begin importing data into Meridium using the Excel source files, you must set up a network folder share. The data is passed from the APM Server to the APM Connect server through a file share, a situation in which a folder on the network is shared and accessible to both servers. This topic describes the steps for setting up the permissions required to enable the file share.

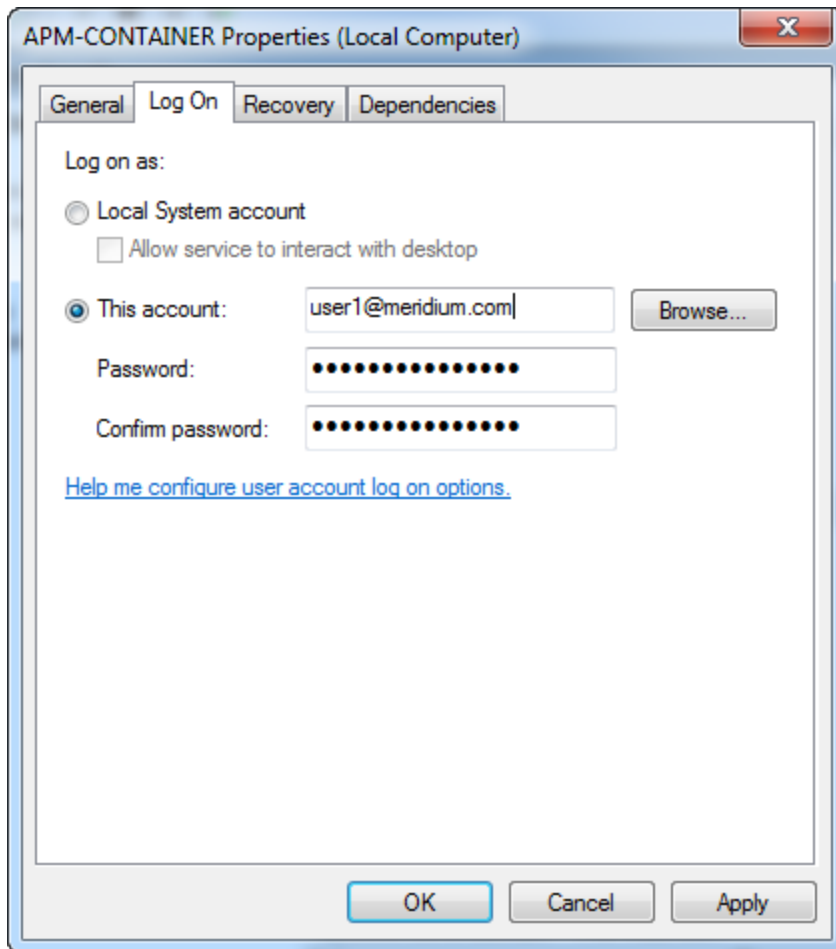
Steps

To create a domain user for the APM Container:

1. On the machine on which you installed APM Connect, from your desktop, select the Windows Start button to open the Windows Start Menu.
 2. In the **Search programs and files** box, search for *Run*.
Run appears in the **Programs** list.
3. Open **Run**.
The **Run** window appears.
4. In the **Open** box, enter: **services.msc**.



5. Select **OK**.
The **Services** window appears.
6. Right-click **APM-CONTAINER**, and then select **Properties**.
The **APM-CONTAINER Properties** window appears.
7. Select the **Log On** tab, and then select **This account**.
8. Enter the credentials for a user within your network.
Example: *user1@meridium.com*



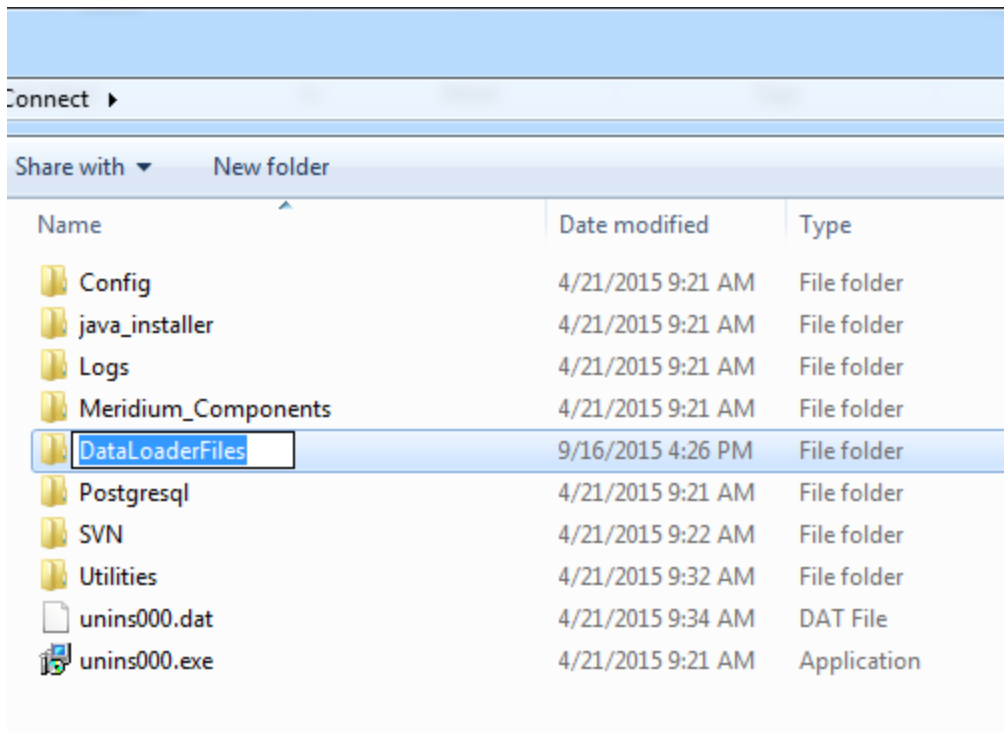
9. Select **Apply**, and then select **OK**.

A domain user has been assigned to run the APM Container service.

To create a Data Loaders file share:

⚠ Important: If you are employing a load-balancing setup using multiple servers, before you proceed, you must first configure the APM Server file share. If you are employing a standalone server, you may proceed with the following steps.

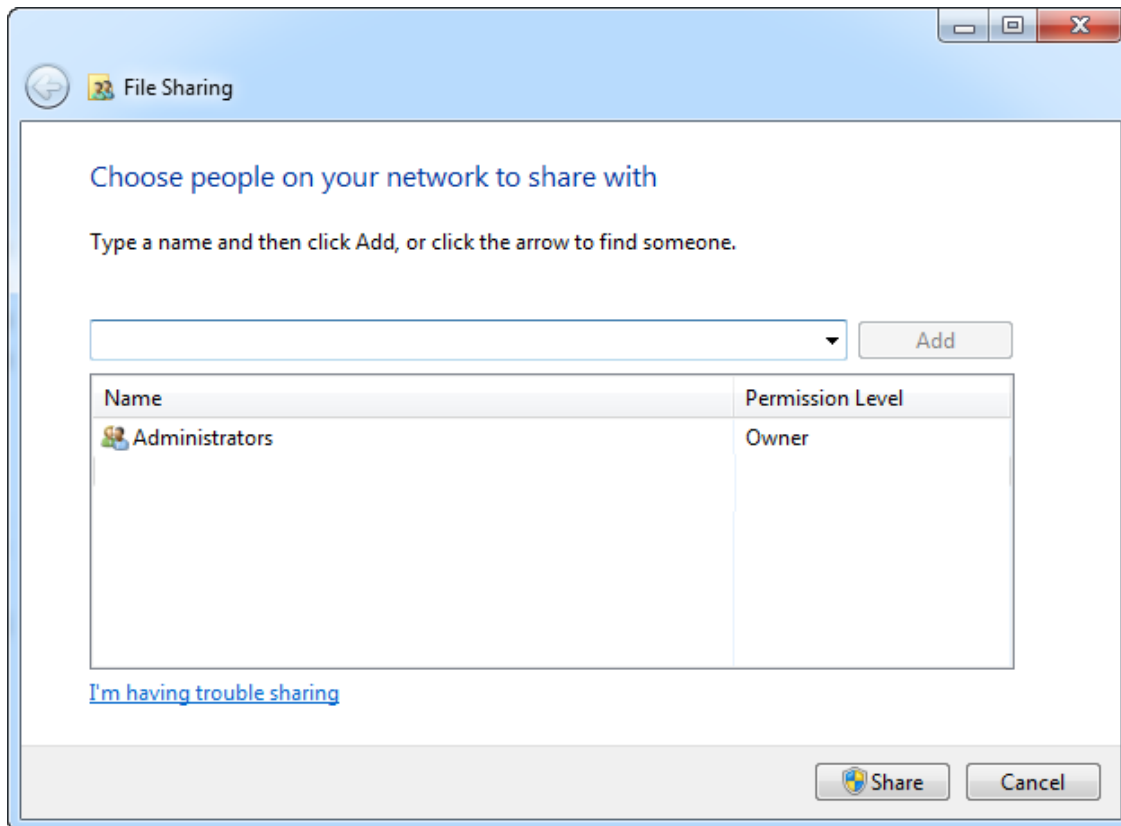
1. On your APM Server, navigate to the APM Connect directory at the following file path:
<root:>\APMConnect.
2. In the directory window, select **New folder**, and then name the folder with the recommended name: *DataLoaderFiles*.



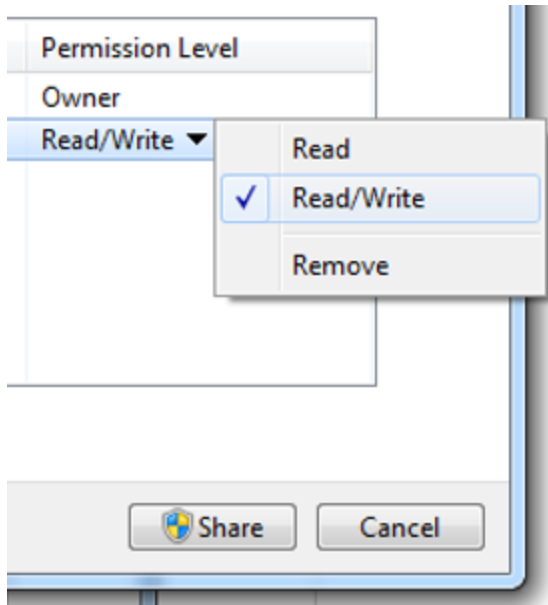
The Data Loader files folder is created.


3. Right-click the **DataLoaderFiles** folder.
4. Point to **Share with**, and then select **Specific people....**

The **File Sharing** window appears.



5. Select the domain user that you indicated in **Step 8** of the **To create a domain user for the APM Container** section of this topic.
6. In the **Permission Level** column for that user, select the drop-down arrow, and then select **Read/Write**.



 **Note:** Users running the APM-CONTAINER service and the APM Server must have Read/Write access to this folder.

7. Select **Share**.

Permission for the folder is granted to the user that you selected.

What's Next?

[Create APM service user.](#)

Update PostgreSQL Networking Configuration

To allow connections from the APM server to APM Connect, you must update the PostgreSQL networking configuration. This topic describes how to perform the configuration update.

Steps

1. On the machine on which you installed APM Connect, navigate to your PostgreSQL installation files. The default location is `<root:>\Program Files\PostgreSQL\9.3\data`.
2. Locate the configuration file `pg_hba.conf`, right-click the file, and then open it with a text editor.

The file `pg_hba.conf` opens in the text editing application.

3. Scroll down to the end of the document and locate the following line of text: `host all all 127.0.0.1/32 md5`
4. Copy the line, then paste the text directly below the line from which you copied it, and then, in the pasted text, replace `127.0.0.1` with the applicable Meridium Enterprise APM IP address.

```

76
77 # TYPE DATABASE USER ADDRESS METHOD
78
79 # IPv4 local connections:
80 host all all 127.0.0.1/32 md5
81 host all all <APM IP address>/32 md5
82 # IPv6 local connections:
83 host all all ::1/128 md5
84 # Allow replication connections from localhost, by a user with the
85 # replication privilege.
86 #host replication postgres 127.0.0.1/32 md5
87 #host replication postgres ::1/128 md5
88

```

5. Save the file, and then close the text editor.

PostgreSQL is now configured to open the connection from the Meridium Enterprise APM Server.

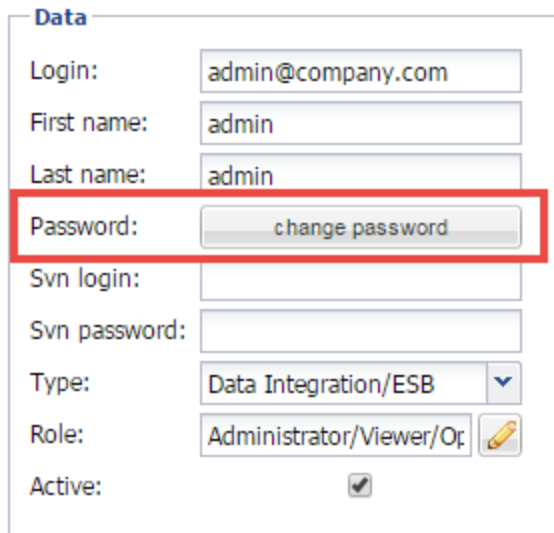
What's Next?

[Set permissions for the APM Connect directory.](#)

Change the APM Connect Administration Center User Password

Steps

1. [Access the APM Connect Administration Center.](#)
2. In the **Menu** pane, in the **Settings** section, select the **Users** tab.
The **Users** workspace appears.
3. In the **Users** workspace, select the user whose password you want to change.
4. In the **Data** pane, select **change password**.



The screenshot shows a 'Data' pane with several fields. The 'Password' field is highlighted with a red border and contains a 'change password' button. The other fields are: Login: admin@company.com, First name: admin, Last name: admin, Svn login: (empty), Svn password: (empty), Type: Data Integration/ESB (dropdown), Role: Administrator/Viewer/Op (dropdown with edit icon), and Active: (checked checkbox).

The **User Password** window appears.

5. Enter the new password, and enter it again to confirm.
6. Select **Validate**.

The password has been changed.

What's Next?






[Change the H2 Console password.](#)

Change H2 Console Password

This topic describes how to change the H2 Console password associated with the APM Connect Administration Center.

Steps

1. [Access the APM Connect Administration Center.](#)
2. In the **Menu** pane, in the **Settings** section, select the **Configuration** tab.
The **Configuration** section appears.
3. Select the **Database (4 Parameters)** group to expand the workspace.
4. Highlight and copy the URL in the **URL** row.

| Database (4 Parameters)  | | |
|---|--|--|
| Url | <code>jdbc:h2:C:\APMConnect\Utilities\Tomcat\webapps\apmconnect/WEB-INF/database/apm_connect;AUTO_SERVER=TRUE;MVC=TRUE;lock_timeout=15000</code>  | |
| User | tisadmin  | |
| Driver | org.h2.Driver  | |
| Web Console | http://localhost:8080/apmconnect/h2console  | |

5. Select the link in the **Web Console** row.
In a new browser tab, the **H2 Console Login** screen appears.
6. In the H2 Console, in the **JDBC URL** field, paste the copied URL.
7. In the **User Name** field, enter the user name. The default user name is *tisadmin*.
8. In the **Password** field, enter the password. The default password is *tisadmin*.

Login

Saved Settings: Generic H2 (Embedded) ▼

Setting Name: Generic H2 (Embedded) Save Remove

Driver Class: org.h2.Driver

JDBC URL: jdbc:h2:C:\APMConnect\Utilities\Tomcat\webapps\apmc


User Name: tisadmin

Password:

Connect Test Connection

9. Select **Connect**.

10. In the H2 Console, in the **SQL statement** pane, enter the following command: SET PASSWORD '<password>'.

 **Note:** The password must be in single quotes. Example: SET PASSWORD 'abc-strng!5'.

11. Select **Run (Ctrl+Enter)**.

The H2 Console password is changed.

What's Next?

[Deploy and configure data loaders files.](#)

Create APM Service User

Running jobs in the APM Connect Administration Center is perpetrated by users. The *apmService* user is required in order to facilitate communication between APM Connect and Meridium Enterprise APM.

Steps

1. In the APM Connect Administration Center, from the **Menu** pane, in the **Settings** section, select the **Users** tab.

2. Select **Add**.

The **Users** pane appears.

3. Enter the user information into the empty fields as necessary according to the following table:

| Field | Description | Value |
|-------------------|---|-------------------------------|
| Login | Email login for user | apmService@meridium.com |
| First name | User first name | apm |
| Last name | User last name | service |
| Password | User password | apmConnect (default password) |
| Type | Type of data migration | Data Integration/ESB |
| Role | User role | Operation manager |
| Active | Select check box to signify active user | Must select check box |

4. Select **Save**.

The apmService user is created, and it appears in the list of users.

What's Next?

- [Return to the workflow](#) for the next step in the deployment process.

Create the Intermediate Repository Database

Before you can run an extraction job, you must prepare the intermediate repository and enable the static data pull. This topic describes how to set up a repository and static data pull in preparation to run your first job.

⚠ Important: If you are using the Data Loaders and the SAP Adapters, you must deploy and run the *CreateIntermediateRepository* job for each set of adapters.

Before You Begin

Before you can prepare and deploy the repository, you must complete the following:

- [Import the create intermediate repository Job.](#)

Steps

1. Open and log in to the APM Connect Administration Center web application.

📄 Note: The user logging in [must have access to the Job Conductor](#) by being designated the Operations Manager role. By default, users designated admin do not have Job Conductor permissions.

2. In the **Job Conductor** workspace, in the appropriate project, select the *CreateIntermediateRepository* Job.
3. At the bottom of the **Job Conductor** workspace, select **Context parameters**.

The **Context parameters** section appears.

4. Configure the following parameters:

| Context Parameter | Description |
|-----------------------|--|
| CONFIG_FILE_DIRECTORY | The file path to context files for the jobs. |
| PG_ADMIN_USERNAME | The user name for the PostGRES SQL IR. |
| PG_ADMIN_PASSWORD | The password for the PostGRES SQL IR. |

5. Select **Run**.

The intermediate repository is created for the project.

6. In the **Job Conductor** workspace, in the appropriate project, select the *CreateStaticData* Job.

7. Select **Run**.

The static data pull is enabled.

You are now able to execute the jobs.

What's Next?

- Return to the [SAP Adapter workflow](#) for the next step in the deployment process.
- Return the [Maximo Adapter workflow](#) for the next steps in the deployment process.
- or-
- Return to the [Data Loader workflow](#) for the next step in the deployment process.

Enable Test Connection

Steps

1. Access your APM Connect Installation package, navigate to the Jobs folder, and then copy the file CheckConnections.jar.
2. On your APM Connect server, navigate to C:\APMConnect\Utilities\runtime\deploy.
3. In the deploy directory, paste the file CheckConnections.jar.

Results

You will now be able to test the connections required to complete a data load.

Deploy the Maximo Adapters

The checklists in this section of the documentation contain all the steps necessary for deploying and configuring this module whether you are deploying the module for the first time or upgrading from a previous module.

Deploy Maximo Adapter for the First Time

The following table outlines the steps that you must complete to deploy and configure this module for the first time. These instructions assume that you have completed the steps for deploying the basic Meridium Enterprise APM system architecture.

These tasks may be completed by multiple people in your organization. We recommend, however, that the tasks be completed in the order in which they are listed.

| Step | Task | Notes |
|------|---|--|
| 1 | Deploy the APM Connect Base. | This step is required. |
| 2 | In Meridium Enterprise APM, assign security users to one or more of the APM Connect Security Groups . | This step is required. |
| 3 | On the APM Connect sever, configure the context file . | This step is required. |
| 4 | On the APM Connect server, encrypt passwords in the context file. | |
| 5 | On the APM Connect sever, import notification management file . | This step is required. |
| 6 | In the APM Connect Administration Center, configure the context parameters . | This step is required. |
| 7 | In the APM Connect Administration Center, create the intermediate repository database . | |
| 8 | In Maximo, create object structures . | This step is required. |
| 9 | In Maximo, create web services . | This step is required if you are <i>not</i> using the REST web services. |
| 10 | In Maximo, configure Default password . | This step is required. |
| 11 | In Meridium Enterprise APM, create EAM System records to identify your Maximo systems. | This step is required. |

Upgrade Maximo to EAM MAX V1.1.0

The following table outlines the steps that you must complete to upgrade this module to EAM MAX V1.1.0. These instructions assume that you have completed the steps for upgrading the basic Meridium Enterprise APM system architecture.

These tasks may be completed by multiple people in your organization. We recommend, however, that the tasks be completed in the order in which they are listed.

To Upgrade from EAM MAX V1.0.0

| Step | Task | Notes |
|------|---|-------|
| 1 | Upgrade the adapter jobs. | None |
| 2 | Get the new context files . | None |

Configure the Maximo Context File



Steps

1. On the APM Connect server, navigate to the `<root:>/APMConnect/Config` folder.
2. Rename the `RENAME_TO_SYSTEM_NAME` folder to the name of the system you will be using.
3. Open the folder, and then open the context file to edit.

⚠ Important: Changes made to the context file will override changes made in the [APM Connect Administration Center Context parameters section](#).

📌 Note: Multiple values can be entered into the filter parameters using comma separated values or standard wild cards values.

| Intermediate Repository (IR) Connection Parameters | Description | Default or Recommend Value |
|--|---|--|
| IR_HOST | IP address of the IR. | Value is unique to the user. |
| IR_PORT | Port number of the IR. | 5432 (PostgreSQL default) |
| IR_DATABASE | Database in which the IR data is stored. | APMconnectIR_<Release Number(X_X_X)>. |
| IR_SCHEMA | Schema associated with the IR. | Public |
| IR_USER_ID | IR user name. | Value is unique to the user. |
| IR_PASSWORD | IR system password. | Value is unique to the user. |
| IR_TALEND_OUTPUT | File share folder to which the Maximo Adapter will write files. | Value is unique to the user. |
| PG_ADMIN_USER | Administrator user name for the PostgreSQL IR. | Value is unique to the user, and is used when creating the IR database. It can be removed after the database is created. |
| PG_ADMIN_PASSWORD | Administrator password for the PostgreSQL IR. | Value is unique to the user, and is used when creating the IR database. It can be removed after the database is created. |




| APM Connection Parameters | Description | Default or Recommend Value |
|---------------------------|--|--|
| APM_APP_SERVER | Meridium Enterprise APM Server name. | Value is unique to the user. |
| APM_DATASOURCE | Meridium Enterprise APM data source to which the data will be exported. | Value is unique to the user. |
| APM_USERID | The Meridium Enterprise APM Framework User ID. | Value is unique to the user. |
| APM_PASSWORD | The Meridium Enterprise APM Framework password. | Value is unique to the user. |
| SITE_REFERENCE_EQUIP | <p>Used to map the site reference value to an Maximo field. This dictates which Maximo field will be used as the site reference for Meridium Enterprise APM Equipment records.</p> | <p>You can enter a value defined in Meridium Enterprise APM.</p> <div data-bbox="987 835 1396 951" style="border: 1px solid black; padding: 5px;"> <p> Note: The value that is entered will be applied to all records.</p> </div> <p>-or-</p> <p>You can use the character # at the beginning and end of a Meridium Field Name to indicate the field that is used to set to set the site reference.</p> |
| SITE_REFERENCE_FLOC | <p>Used to map the site reference value to a Maximo field. This dictates which SAP field will be used as the site reference for Meridium Enterprise APM Functional Location records.</p> | <p>You can enter a value defined in Meridium Enterprise APM.</p> <div data-bbox="987 1318 1396 1434" style="border: 1px solid black; padding: 5px;"> <p> Note: The value that is entered will be applied to all records.</p> </div> <p>-or-</p> <p>You can use the character # at the beginning and end of a Meridium Field Name to indicate the field that is used to set to set the site reference.</p> |
| APM_WEBSERVICE | URL for the APM integration web services. | /MeridiumIntegrationServices |

| | | |
|--|--|--|
| APM_CONNECTION_TIMEOUT | How long, in seconds, Meridium Enterprise APM will wait for the connection to the Adapters before timing out. | 300 |
| APM_RECEIVE_TIMEOUT | How long, in seconds, Meridium Enterprise APM will wait for the response from the Adapters before timing out. | 600 |
| Maximo Connection Parameters for Extraction Interfaces | | |
| | Description | Default or Recommended Value |
| MAXIMO_USERID | Maximo system user ID. | Value is unique to the user. |
| MAXIMO_PASSWORD | Maximo system password. | Value is unique to the user. |
| LANGUAGE | The Maximo letter code that represents the language of the description to transfer into Meridium Enterprise APM. | Value is unique to the user. |
| MAXIMO_REST_URL | The REST URL for the Maximo end point, and is used if you want to use the REST service component. | http:// <host>:<port>/maxrest/rest/os This value is not required if using the MAXIMO_WEBSERVICE_URL parameter. Note: REST services are not fully supported in 7.1 and 7.5. |
| MAXIMO_WEBSERVICE_URL | The web service URL when SOAP web services are used to call Maximo | http://maximo <host>:<port>/meaweb/services. This value is not required if using the MAXIMO_REST_URL parameter. |

| MAXIMO_WEBSERVICE | Determines which type of web service to use: REST services or SOAP web services. | <ul style="list-style-type: none"> • true: Uses the web services • false: Uses the REST web services and is the default value. |
|---------------------------|---|--|
| MAXIMO_SYSTEM | The EAM system named defined on the EAM System Record in Meridium Enterprise APM. | Value is unique to the user, and should match the value in Meridium Enterprise APM exactly. |
| MAXIMO_CONNECTION_TIMEOUT | How long, in seconds, the Maximo Adapters will wait for the connection to Maximo before timing out. | Recommended value is 30. |
| MAXIMO_RECEIVE_TIMEOUT | How long, in seconds, the Maximo Adapters will wait for the response from Maximo before timing out. | Recommended value is 60. |
| MAXIMO_REST_ASSETNAME | Created equipment object structure . | MIASSET |
| MAXIMO_REST_FLOCNAME | Created functional location object structure . | MIOPERLOC |
| MAXIMO_REST_SRNAME | Created service request object structure . | MISR |
| MAXIMO_REST_WONAME | Created work order object structure . | MIWO |
| Common Filters | Description | Default or Recommend Value |
| CHANGE_DATE_START | Date value that limits the data extracted to records changed on or after the specified date. | Dates must be entered in the following format:YYYYMMDD. Optional. |
| CHANGE_DATE_END | Date value that limits the data extracted to records changed on or before the specified date. | Dates must be entered in the following format:YYYYMMDD. Optional. |
| CHANGE_TIME_START | Time value that limits the data extracted to records changed on or after the specified date. | Time must be in the following format: HHMMSS. Optional. |

| | | |
|---|---|---|
| CHANGE_TIME_END | Time value that limits the data extracted to records changed on or before the specified date. | Time must be in the following format: HHMMSS. Optional. |
| SITE_ID | Site ID as identified in Meridium Enterprise APM | Value is unique to the user. Optional. |
| Functional Location Specific Filters | | |
| | Description | Default or Recommend Value |
| LOCATION | Number that identifies the Functional Location record you want to extract. | Value is unique to the use. Optional. |
| LOCATION_TYPE | ID of the Functional Location Type that will limit the Functional Locations extracted. | Value is unique to the user. Optional. |
| LOCATION_STATUS | Status of the Functional Location that will limit the Functional Locations extracted. | Value is unique to the user. Optional. |
| Asset Specific Filters | | |
| | Description | Default or Recommend Value |
| ASSETNUM | Asset number for the asset(s) that you want to extract. | Value is unique to the user. Optional. |
| ASSET_TYPE | ID of the Asset Type that will limit the assets extracted. | Value is unique to the user. Optional. |
| ASSET_STATUS | Status of the Asset that will limit the Functional Locations extracted. | Value is unique to the user. Optional. |
| Work History Specific Filters | | |
| | Description | Default or Recommend Value |
| SERVICE_REQUEST_NO | Service Request number (s) that will limit the Service Request(s) extracted. | Value is unique to the user. Optional. |
| SERVICE_REQUEST_STATUS | Service Request status that will limit the data extracted. | Value is unique to the user. Optional. |

| | | |
|---|---|--|
| WORK_ORDER_NO | Work Order number(s) that will limit the Work Order(s) extracted. | Value is unique to the user. Optional. |
| WORK_ORDER_TYPE | Type of Maximo Work Order that will limit the work orders extracted. | Value is unique to the user. Optional. |
| WORK_ORDER_SYSTEM_STATUS | Work Order system status that will limit the work orders extracted. | Value is unique to the user. Optional. |
| WORKORDER_OR_SERVICEREQUEST_FILTER | Determines if Maximo services Requests or Work Orders will be transferred to an from Meridium Enterprise APM. | <ul style="list-style-type: none"> • SERVICEREQUEST: Loads only service requests. • WORKORDER: Loads only work orders. • null: Will load service requests. |
| Maximo Miscellaneous Parameters | Description | Default or Recommended Value |
| EXTRACT_ONLY | Determines if records will be loaded only into the staging tables or into the IR and then to APM. | <ul style="list-style-type: none"> • true : Will only load records into the IR. • false: Will load records from EAM to APM. |
| MANUAL_RUN | Determines how the date parameters will be treated. | <ul style="list-style-type: none"> • true : The dates specified in the context file will be used. Additionally, the dates of the last successful run stored in the database will not be updated. • false:The date range used during the extraction will be the date of the last successful record, as stored in the database. Each time a Job is run successfully, the database is updated with those dates, and all subsequent runs will use the dates from the last successful record. |

| | | |
|---|--|--|
| RESTART | Determines if the Maximo Adapters will pull records from the failure log or from the failure logs and other records. | <ul style="list-style-type: none"> • true: Looks to the failure table in the IR and loads the records from there. • false: Will look to the failure records and then continue to process other records. |
| LOG_REQUEST | Logs the Meridium Enterprise APM Web service requests. | <ul style="list-style-type: none"> • true: Enables logging • false: Disables logging <div style="border: 1px solid yellow; padding: 2px; margin-top: 5px;">  Note: False is recommended. </div> |
| LOG_RESPONSE | Logs the Meridium Enterprise APM Web service responses. | <ul style="list-style-type: none"> • true: Enables logging • false: Disables logging <div style="border: 1px solid yellow; padding: 2px; margin-top: 5px;">  Note: False is recommended. </div> |
| ROWS_TO_PROCESS | Meridium Enterprise APM web services batch count. | Default value is 100. |
| REST_FILTER_LIMIT | Limits the amount of records in the failure table that are extracted in one load. | Default value is 100. |
| MAXIMO_RS_COUNT | Limits the amount of Maximo records extracted in one load. | Default value is 1,000. |
| Maximo Notification Management Parameters | Description | Default or Recommended Value |
| <p>There are three parameters unique to the Maximo Notification Management Adapters. All other parameters are configured using the same guidelines as the extraction filters and connection parameters.</p> | | |
| <p> Important: You must configure the Maximo parameters for the parameters that correspond to your version of Maximo. For example, if you are using Maximo 7.6, configure the parameters in the <Maximo76> section.</p> | | |

| | | |
|--------------------------------------|--|---|
| <p>MAXIMO_CREATE_WO_SR</p> | <p>Determines if the Maximo Adapter will transfer Maximo Work Orders or Service Request.</p> | <ul style="list-style-type: none"> • WO: Will transfer only work orders • SR: Will transfer only service request • null: Will transfer service requests only. |
| <p>MAXIMO_DEFAULT_SITE_ID</p> | <p>Maximo Site ID.</p> | <p>Value is unique to the user, but can match the value of the Site Reference record that is linked to the EAM System Record.</p> |

What's Next?

- Return to the [Maximo Adapter workflow](#) for the next step in the deployment process.

Encrypt Passwords

Passwords in the APM Connect context file are not encrypted by default. However, you can encrypt any password manually. This topic describes how to manually encrypt passwords.

Steps

1. On the machine on which you installed APM Connect, access the APM Connect installation package, locate the *EncryptString_0.1.zip*, and then unzip the file.
2. Open the EncryptString folder, and then select *EncryptString_run.bat*.
Command prompt opens, and then the **Talend Open Studio** window appears.
3. Enter the password that you want to encrypt in the **Enter the text to be encrypted:** box.
4. Select **OK**.
5. In the command prompt, between the banners, copy the text that was generated.
6. Open the context file.
7. In the parameter that you want to encrypt, paste the generated text.
8. Append the highlighted parameter the with *_AES*, as shown in the following image.

```

<!-- Intermediate Repository connection parameters-->
<IR_HOST>APMCONNECTVM</IR_HOST>
<IR_PORT>5432</IR_PORT>
<IR_DATABASE>APMconnectFTP</IR_DATABASE>
<IR_PASSWORD_AES>FyoGBWa6ftigcB2nAWZ56w==</IR_PASSWORD_AES>

```

9. Save the context file.
10. For each password that you want to encrypt, repeat steps 2 through 9.
The passwords are encrypted.


What's Next?

- Return to the [SAP Adapter workflow](#) for the next step in the deployment process.
- or-
- Return the [Maximo Adapter workflow](#) for the next steps in the deployment process.


Import Notification Management File

Steps

1. On your APM Connect Server, in the `<root:>\APMConnect\Utilities\runtime\etc` directory create a context file name: `Maximo_NotificationManagement.cfg`.

 **Important:** The file name must match `Maximo_NotificationManagement.cfg` exactly.

2. Paste the following into into the context file:
 - context = Default
 - CONFIG_FILE_PATH = <The directory path to your [Maximo Context File](#). >

 **Note:** The path must use forward slashes (/).

3. Save the file.
4. Access the APM Connect installation package, and then copy the file `Maximo_NotificationManagement.jar`.
5. Navigate to `<root:>\APMConnect\Utilities\runtime\deploy`.
6. Paste the copied file `Maximo_NotificationManagement.jar` in the directory.

The Notification Management File is imported.

Configure Context Parameters

Steps

1. In the APM Connect Administration Center, in the **Job Conductor** workspace, select the **MAXIMO_MASTER_INTERFACE** Job.
2. At the bottom of the **Job Conductor** workspace, select **Context parameters**.

The **Context parameters** section appears, displaying the following parameters:

| Context Parameter | Description |
|------------------------------|--|
| CONFIG_FILE_DIRECTORY | The file path to context files for the jobs. |
| SYSTEM_TO_RUN | Name of the folder in which the context file is stored, and is the <system name> folder. |
| LOG4J_CONFIG_FILE | The file path for Log4j. |
| RUN_WORKHISTORY | The Work History Job. |
| RUN_EQUIPMENT | The Equipment Job. |
| RUN_FLOC | The Functional Location Job. |

3. Select the **Active** check box for each parameter whose custom value you want to edit.
4. To save the custom value, press Enter.
5. In the **CONFIG_FILE_DIRECTORY** **Custom value** box, enter the directory where the context files are stored. If the default configuration was followed, the path will be the following:
<root:>\APMConnect\Config.
6. Press Enter.
7. In the **SYSTEM_TO_RUN** **Custom value** box enter:
 - The name of the system directory from which you want to extract data.
 - or-
 - * to extract from all systems.
8. Press Enter.

The master job is configured.

Create the Intermediate Repository Database

Before you can run an extraction job, you must prepare the intermediate repository and enable the static data pull. This topic describes how to set up a repository and static data pull in preparation to run your first job.

⚠ Important: If you are using the Data Loaders and the SAP Adapters, you must deploy and run the *CreateIntermediateRepository* job for each set of adapters.

Before You Begin

Before you can prepare and deploy the repository, you must complete the following:

- [Import the create intermediate repository Job.](#)

Steps

1. Open and log in to the APM Connect Administration Center web application.

📄 Note: The user logging in [must have access to the Job Conductor](#) by being designated the Operations Manager role. By default, users designated admin do not have Job Conductor permissions.

2. In the **Job Conductor** workspace, in the appropriate project, select the *CreateIntermediateRepository* Job.
3. At the bottom of the **Job Conductor** workspace, select **Context parameters**.

The **Context parameters** section appears.

4. Configure the following parameters:

| Context Parameter | Description |
|-----------------------|--|
| CONFIG_FILE_DIRECTORY | The file path to context files for the jobs. |
| PG_ADMIN_USERNAME | The user name for the PostGRES SQL IR. |
| PG_ADMIN_PASSWORD | The password for the PostGRES SQL IR. |

5. Select **Run**.

The intermediate repository is created for the project.

6. In the **Job Conductor** workspace, in the appropriate project, select the *CreateStaticData* Job.

7. Select **Run**.

The static data pull is enabled.

You are now able to execute the jobs.

What's Next?

- Return to the [SAP Adapter workflow](#) for the next step in the deployment process.
- Return the [Maximo Adapter workflow](#) for the next steps in the deployment process.
- or-
- Return to the [Data Loader workflow](#) for the next step in the deployment process.

Create Object Structures in Maximo

To connect your Maximo system and your Meridium Enterprise APM system, you will need to create object structures in Maximo for the following:

- Asset
- Location
- Work Order
- Service Request

Steps: Create Object Structure - Asset

1. In the **Go To Application** column, select **Integration**, and select **Object Structures**.

The **Object Structure** page appears.

2. In the **Object Structure** box, enter *MXASSET*, and then open the object structure.
3. In the **Go To Application** column, in the **More Actions** section, select **Duplicate Object Structure**.
4. Enter the Object Structure name *MIASSET*.
5. In the **Source Object for MIASSET** section, remove all objects *except* the ASSET object.
6. In the **Go To Application** column, in the **More Actions** section, select **Exclude/ Include Fields**.

The **Exclude/Include Fields** window appears.

7. On the **Persistent Fields** tab, clear the **Exclude?** check boxes on the rows corresponding to the following fields:
 - ASSETID
 - ASSETNUM
 - ASSETTYPE
 - CHANGEDATE
 - DESCRIPTION
 - INSTALLDATE
 - ITEMNUM
 - LOCATION
 - MANUFACTURER

- PRIORITY
 - SERIALNUM
 - SITEID
 - STATUS
 - VENDOR
 - WARRANTYEXPDATE
8. On the **Non-Persistent Fields** tab, select the **Include?** check box on the row corresponding to the following field:
- DESCRIPTION_LONGDESCRIPTION
9. Select OK.

Steps: Create Object Structure - Location

1. In the **Go To Application** column, select **Integration**, and select **Object Structures**.
The **Object Structure** page appears.
2. In the **Object Structure** box, enter *MXOPERLOC*, and then open the object structure.
3. In the **Go To Application** column, in the **More Actions** section, select **Duplicate Object Structure**.
4. Enter the Object Structure name *MIOPERLOC*.
5. In the **Source Object for MIOPERLOC** section, remove all objects *except* the LOCATION object.
6. Add the ASSET object with LOCATION as parent and ASSET as relationship.
7. In the **Go To Application** column, in the **More Actions** section, select **Exclude/ Include Fields**.
The **Exclude/Include Fields** window appears.
8. On the **Persistent Fields** tab, clear the **Exclude?** check boxes on the rows corresponding to the following Fields:
 - CHANGEDATE
 - DESCRIPTION
 - LOCATION
 - LOCATIONSID

- SITEID
 - STATUS
 - TYPE
9. On the **Non-Persistent Fields** tab, select the **Include ?** check box on the row corresponding to the following fields:
- FAILURECODE
 - PARENT
 - LOCPRIORITY
 - DESCRIPTION_LONGDESCRIPTION
10. Select OK.

Steps: Create Object Structure - Work Order

1. In the **Go To Application** column, select **Integration**, and select **Object Structures**.
The **Object Structure** page appears.
2. In the **Object Structure** box, enter *MXWO*, and then open the object structure.
3. In the **Go To Application** column, in the **More Actions** section, select **Duplicate Object Structure**.
4. Enter the Object Structure name *MIWO*.
5. In the **Source Object for MIWO** section, remove all objects *except* the WORK ORDER object.
6. In the **Go To Application** column, in the **More Actions** section, select **Exclude/ Include Fields**.
The **Exclude/Include Fields** window appears.
7. On the **Persistent Fields** tab, clear the **Exclude?** check boxes on the rows corresponding to the following Fields:
 - ACTFINISH
 - ACTLABCOST
 - ACTLABHRS
 - ACTMATCOST
 - ACTSERVCOST

- ACTSTART
- ACTTOOLCOST
- ACTTOTALCOST
- ASSETLOCPRIORITY
- ASSETNUM
- CALCPRIORITY
- CHANGEBY
- CHANGEDATE
- CREWID
- DESCRIPTION
- ESTLABCOST
- ESTLABHRS
- ESTMATCOST
- ESTSERVCOST
- ESTTOOLCOST
- JPNUM
- JUSTIFYPRIORITY
- LEAD
- LOCATION
- OUTLABCOST
- OUTMATCOST
- OUTTOOLCOST
- PMNUM
- REPORTDATE
- SCHEDFINISH
- SCHEDSTART
- SITEID
- STATUS
- TARGCOMPDATE

- TARGSTARTDATE
 - WONUM
 - WOPRIORITY
 - WORKTYPE
8. On the **Non-Persistent Fields** tab, select the **Include ?** box on the row corresponding to the following **Fields**:
- DESCRIPTION_LONGDESCRIPTION
9. Select **OK**.

Steps: Create Object Structure - Service Request

1. In the **Go To Application** column, select **Integration**, and select **Object Structures**.
The **Object Structure** page appears.
2. In the **Object Structure** box, enter *MXSR*, and then open the object structure.
3. In the **Go To Application** column, in the **More Actions** section, select **Duplicate Object Structure**.
4. Enter the Object Structure name *MISR*.
5. In the **Source Object for MIWO** section, remove all objects *except* the service request object.
6. In the **Go To Application** column, in the **More Actions** section, select **Exclude/ Include Fields**.
The **Exclude/Include Fields** window appears.
7. On the **Persistent Fields** tab, clear the **Exclude?** check boxes on the rows corresponding to the following **Fields**:
 - ASSETNUM
 - DESCRIPTION
 - LOCATION
 - SITEID
 - TICKETID
8. On the **Non-Persistent Fields** tab, select the **Include ?** box on the row corresponding to the following **Fields**:


- DESCRIPTION_LONGDESCRIPTION

9. Select OK.

What's Next?

- [Create Web Services.](#)

Create Web Services in Maximo

 **Note:** You must only complete this step if you are not using the REST services. REST services are not fully supported in Maximo versions 7.1 and 7.5.

To complete the connection between your Maximo and your Enterprise APM System, you need to deploy each of the following web services in your Maximo system:

- MIASSET
- MIOPERLOC
- MIWO
- MISR

Steps

1. On the **Go To Applications** menu, select **Integration**, and then select **Web Service Library**.

The **Web Services Library** page appears.

2. In the **More Actions** section, select **Create Web Service**, and then select **Create Web Service from Object Structure**.

The **Create Web Service from an Object Structure Service Definition** window appears.

3. In the **Source Name** column, select the check box next to the web service name you want to create, and then select **Create**.

The web service name appears in the **Web Services Library** list.

4. In the **More Actions** tab, select **Deploy to Product Web Service Container**, and then select **Deploy Web Service**.

5. Repeat Steps 1-4 to create the remaining web services.

What's Next?

- [Configure the Default Password](#).

Configure the Default Password

If you have enabled web service authentication in your Maximo system, then you must configure a default user name and password in Maximo.

Steps

1. In Maximo, select **System configuration**, and then select **Platform configuration**, and then select **System properties**.
2. Search for the following property: *mxe.int.dfltuser*.
3. For the *mxe.int.dfltuser* property set the default user as *mxintadm*.
4. Refresh your Maximo system, and then search for the following property *mxe.int.dfltuserpassword*.
5. For the *mxe.int.dfltuserpassword* property, enter your default password, and then refresh your Maximo system.

The default user name and password are configured.

Results


After configuring the default user name and password, you can run the web service, and authentication will be accomplished through the default user and password.

What's Next?

- Return to the [Maximo Adapter workflow](#) for the next step in the deployment process.

Create EAM System Records

1. Create a new record , using the EAM System family.
2. In the **Name** box, enter the name of the Maximo system.
3. To populate the **System ID:** box, you must run the following query:
`UPDATE [MI_SAPSYSTEM] SET [MI_SAPSYSTEM].[MI_SAPSYSTEM_ID_C] = '<NAME>' WHERE [MI_SAPSYSTEM].[MI_SAPSYSTEM_NAME_C] LIKE '%<NAME>%'`

 **Important:** In the query, you must replace `<NAME>` with the value you entered into the **Name** box. By doing so, when you test the connection to the Maximo system, the value in the Name field will match the value that will be populated automatically in the System ID field.

4. If this Maximo system is the system to and from which you want to send data by default, select the **Default EAM System?** check box.

Results

An EAM system record is created for the EAM system to and from which you want to establish a connection with Meridium Enterprise APM. This record should now be used to link Site Reference.

Linking an EAM system to an EAM System record enables the APM Connect Adapters to create Notifications against that EAM System.

What's Next?

Return to the [Maximo workflow](#) for the next step in the deployment process.

Maximo Interfaces Security Groups

The following table lists the baseline Security Groups available for users within this module, as well as the baseline Roles to which those Security Groups are assigned.

⚠ IMPORTANT: Assigning a Security User to a Role grants that user the privileges associated with *all* of the Security Groups that are assigned to that Role. To avoid granting a Security User unintended privileges, before assigning a Security User to a Role, be sure to review all of the privileges associated with the Security Groups assigned to that Role. Also be aware that additional Roles, as well as Security Groups assigned to existing Roles, can be added via Security Manager.

| Security Group | Roles |
|---------------------------------|----------------------|
| MI CMMS Interface Administrator | MI Data Loader Admin |
| MI CMMS Interface User | MI Data Loader User |

The baseline family-level privileges that exist for these Security Groups are summarized in the following table.

| Family | MI CMMS Interface Administrator | MI CMMS Interface User |
|------------------------------|---------------------------------|------------------------|
| Entity Families | | |
| CMMS Interface | View, Update, Insert, Delete | View |
| CMMS Mapping | View, Update, Insert, Delete | View |
| CMMS System | View, Update, Insert, Delete | View |
| Equipment | View, Update, Insert, Delete | View |
| Functional Location | View, Update, Insert, Delete | View |
| Interface Log | View, Update, Insert, Delete | View |
| SAP System1 | View, Update, Insert, Delete | View |
| Site Reference | View | View |
| Work History | View, Update, Insert, Delete | View, Update, Insert |
| Work History Detail | View, Update, Insert, Delete | View, Update, Insert |
| Relationship Families | | |
| Equipment Has Equipment | View, Update, Insert, Delete | View, Update, Insert |

| | | |
|--|------------------------------|----------------------|
| Functional Location Has Equipment | View, Update, Insert, Delete | View, Update, Insert |
| Functional Location Has Functional Location(s) | View, Update, Insert, Delete | View, Update, Insert |
| Has CMMS Interface | View, Update, Insert, Delete | View |
| Has CMMS Mapping | View, Update, Insert, Delete | View |
| Has CMMS System | View, Update, Insert, Delete | View |
| Has Event Detail | View, Update, Insert, Delete | View, Update, Insert |
| Has SAP System | View, Update, Insert, Delete | View |

Site Filtering in the EAM Adapters

⚠ IMPORTANT: Site Reference records must preexist in your Meridium Enterprise APM System, before you can use the EAM Adapters to populate the site key. Additionally, the site entered into the context file must match the exact value in the corresponding Site Reference record.

⚠ IMPORTANT: The user who is running the EAM Adapters jobs, must have permissions in Meridium Enterprise APM to access that site to which the records being loaded will be assigned. Additionally, those user's credentials must be entered into the context file. If the user's account is not configured for the appropriate site, then the data load will fail, and they will receive an error.

The EAM Adapters are used to populate the Site Reference on Equipment and Functional Location records in Meridium Enterprise APM. The adapters populate the MI_SITE_KEY system field with the ENTY_KEY system field associated with the Site Reference value to be populated. On asset records, the Site Reference is stored in the MI_SITE_KEY field, a system field in Meridium Enterprise APM. The EAM Adapters uses the Site Name (MI_SITE_NAME) to translate the value to the corresponding Site Key and populate the MI_SITE_KEY field; therefore, you do not need to know the key to be able to populate the site reference. This functionality is important because this value can change from one database to another.

When records are loaded using the Equipment or Function Location Adapters, the system will assign the site key (MI_SITE_KEY) to the assets using the value designated in the [context file](#). The following parameters are used to designate the Site Reference value:

- **SITE_REFERENCE_EQUIP:** Used to populate the Site Reference Key on Equipment records being loaded into Meridium Enterprise APM. The Site Reference Key determines to which Site the Equipment record(s) will be assigned.
- **SITE_REFERENCE_FLOC:** Used to populate the Site Reference Key on Functional Location records loaded into Meridium Enterprise APM. The Site Reference Key determines to which Site the Functional Location record(s) will be assigned.

📌 Note: The values entered into these parameters should match, because Equipment records are linked to Functional Location records. Therefore, they should have the same site.

These parameters accept three types of values to determine the site reference value.

- a. **Site Name:** You can enter the site name directly as defined on the preexisting Site Reference record (i.e., Site 100).
- b. **Column Name:** You can use the character # and enter a column value to set the site reference. The following columns can be used:

- SAP columns:
 - MI_EQUIP000_PLNNG_PLNT_C
 - MI_EQUIP000_SAP_SYSTEM_C
 - MI_EQUIP000_MAINT_PLANT_C
 - MI_FNCLOC00_MAINT_PLNT_C
 - MI_FNCLOC00_PLNNG_PLNT_C
 - MI_FNCLOC00_SAP_SYSTEM_C
- Maximo columns:
 - MI_FNCLOC00_SITE_C
 - MI_EQUIP000_SITE_C

For example, if you wanted to use your SAP maintenance plant field as your Meridium Enterprise APM site reference, you would enter #MI_EQUIP000_MAINT_PLANT_C#.


- c. **Null:** You can leave the value as null. The site key will be null if a site reference value is not mapped in between the tags.

If the assets being loaded into Meridium Enterprise APM are global records, meaning they will not be filtered according to site, then the Site Reference parameters can be left blank. Once the records are loaded with a null value in the Site Reference parameters, the asset records will be designated as Global.

Once the adapters are run, records designated to be transferred into Meridium Enterprise APM, will be assigned to the site defined in the Site Reference parameters.

In addition to Equipment and Functional Location records loaded by the EAM adapters, Work History records and shell records are impacted by site reference functionality as detailed in the following table.

| Action | Result |
|---|--|
| If the Work History Adapter is run after the Equipment or Functional Location Adapter... | The Work History records will inherit the site key of their parent Functional Location or Equipment records. |
| If the Work History Adapter is run before the Equipment or Functional Location Adapter... | The site key will be Global, and a shell record will be created for Equipment and Functional Location. |
| If a shell record is created while loading data... | The site key will be Global. |

 **Note:** If you are using [multiple SAP Systems](#), you must set up a context file for each system, and designate the appropriate site(s) for each EAM Systems.

Deploy the SAP Adapters

The checklists in this section of the documentation contain all the steps necessary for deploying and configuring this module whether you are deploying the module for the first time or upgrading from a previous module.


Deploy the SAP Adapters for the First Time

The following table outlines the steps that you must complete to deploy and configure this module for the first time. These instructions assume that you have completed the steps for deploying the basic Meridium Enterprise APM system architecture.

These tasks may be completed by multiple people in your organization. We recommend, however, that the tasks be completed in the order in which they are listed.

| Step | Task | Notes |
|------|--|---|
| 1 | Deploy the APM Connect Base. | This step is required. |
| 2 | On the APM Connect Server, configure the context file directory. | This step is required. |
| 3 | On the APM Connect Server, configure the directory for multiple SAP systems. | This step is required only if you are using multiple SAP systems. |
| 4 | On the APM Connect Server, install the SAP Java connector. | This step is required. |
| 5 | On the APM Connect Server, import the notification management . jar file . | This step is required only if you are completing an on-premises deployment. |
| 6 | On the APM Connect Server, configure SSL . | This step is required only if you are completing an APM Now deployment. |
| 7 | On the APM Connect Server, configure the context file. | This step is required only if you are completing an on-premises deployment. |
| 8 | On the APM Connect Server, configure the SAP Cloud context file. | This step is required only if you are completing an APM Now deployment. |
| 9 | On the APM Connect Server, encrypt passwords. | This step is required. |
| 10 | In the APM Connect Administration Center, configure the context parameters. | This step is required. |
| 11 | In the APM Connect Administration Center, create the intermediate repository. | This step is required. |
| 12 | On the APM Connect Server, create a service user. | This step is required. |

| | | |
|---|---|---|
| 13 | On the SAP Server and in SAP, establish SFTP Transfer in SAP. | This step is required only if you are using SFTP to transfer files between SAP and Meridium Enterprise APM. |
| 14 | On your SAP server, create file share folder structure. | This step is required. |
| 15 | In SAP, install the SAP Adapters ABAP base service pack add-on. | This step is required. |
| 16 | In SAP, verify the SAP ABAP add-on. | This step is required. |
| <p>⚠ IMPORTANT: Each of the following tasks may be required depending on the license that you have purchased and the APM Connect component that you are deploying. The Work Management Adapter and Technical Characteristic Adapter are unavailable for the APM Now environment.</p> | | |
| 17 | In SAP, add entries to the /MIAPM/TASK_CNF Table. | This step is required only if you are using the Work Management Adapter. |
| 18 | In SAP, identify the Operation values that will be used to trigger the management of Inspection Task and Calibration Task records. | This step is required only if you are using the Work Management Adapter. |
| 19 | In Meridium Enterprise APM, assign the desired Security Users to the SAP Adapters Security Groups. | This step is required. |
| 20 | In Meridium Enterprise APM, configure the Meridium Enterprise APM system to create Notifications from Recommendation records belonging to customer-defined Recommendation families. | This step is required if you are using the Notification Management Adapter. |
| 21 | In Meridium Enterprise APM, create EAM System records to identify your SAP system(s). | <p>This step is required only if you are using the:</p> <ul style="list-style-type: none"> • Work Management Adapter • Technical Characteristic Adapters • Notification Management Adapter |

| | | |
|----|---|--|
| 22 | In Meridium Enterprise APM, test the SAP connection information that you specified in your EAM System records. | <p>This step is required only if you are using the on-premise:</p> <ul style="list-style-type: none"> • Work Management Adapter • Technical Characteristic Adapters • Notification Management Adapter <div style="border: 1px solid black; background-color: #ffffcc; padding: 5px;"> <p> Note: This step is not required if you are using the SAP Cloud Adapters.</p> </div> |
| 23 | In Meridium Enterprise APM, configure SAP task and confirmation creation. | This step is required only if you are using the Work Management Adapter. |
| 24 | In Meridium Enterprise APM, configure the Get Tasks for Work Order Generation query. | This step is required only if you are using the Work Management Adapter. |
| 25 | In Meridium Enterprise APM, create a scheduled item to create Work Orders in SAP. | This step is required only if you are using the Work Management Adapter. |
| 26 | In Meridium Enterprise APM, create CMMS Classification Type records. | This step is required only if you are using the Technical Characteristic Adapters. |
| 27 | In Meridium Enterprise APM, identify Classifications whose Characteristics you want to extract. | This step is required only if you are using the Technical Characteristic Adapters. |
| 28 | In Meridium Enterprise APM, identify Characteristics that you want to extract. | This step is required only if you are using the Technical Characteristic Adapters. |
| 29 | In Meridium Enterprise APM, refresh Meridium Enterprise APM to reflect current SAP Classifications and Characteristics. | This step is required only if you are using the Technical Characteristic Adapters. |
| 30 | Deploy the SAP PI Adapters for the first time. | This step is required only if you are deploying SAP PI on-premise. |

Upgrade SAP Adapters to EAM SAP V1.6.2

The following tables outline the steps that you must complete to upgrade this module to EAM SAP V1.6.2.

The steps that you must complete may vary depending on the version from which you are upgrading. Follow the workflow provided in the appropriate section.

Upgrade from EAM SAP V1.5.3 through EAM SAP V1.6.2

| Step | Task | Notes |
|------|--|-------|
| 1 | Upgrade the adapter jobs. | None |
| 2 | Get the new context files. | None |

Upgrade from EAM V1.5.2

| Step | Task | Notes |
|------|--|-------|
| 1 | Upgrade the adapter jobs. | None |
| 2 | Get the new context files. | None |
| 3 | Install and Start the Runtime Container. | None |
| 4 | Delete and Import the Karaf File into the APM Connect Administration Center. | None |

Upgrade from EAM V1.5.1

| Step | Task | Notes |
|------|---|-------|
| 1 | Upgrade the adapter jobs. | None |
| 2 | Get the new context files. | None |
| 3 | Disable the APM Connect Jobserver. | None |
| 4 | Install and Start the Runtime Container. | None |
| 5 | Import the Karaf File into the APM Connect Administration Center. | None |

| Step | Task | Notes |
|------|--|--|
| 6 | Configure APM Connect to run data loaders and EAM adapter jobs simultaneously. | The step is required only if you want to run the APM Connect data loaders and the EAM SAP jobs simultaneously. |

Upgrade from EAM V1.5.0

| Step | Task | Notes |
|------|--|-------|
| 1 | Upgrade the adapter jobs. | None |
| 2 | Get the new context files. | None |

Upgrade from APM Connect V1.3.0

| Step | Task | Notes |
|------|--|-------|
| 1 | Upgrade the adapter jobs. | None |
| 2 | Get the new context files. | None |

| Step | Task | Notes |
|------|---|--|
| 3 | Reorganize context files, or create additional directories to support multiple SAP systems. | This is required if you want to configure APM Connect to support multiple Meridium Enterprise APM systems and/or multiple SAP systems. |

Upgrade from APM Connect V1.2.0

| Step | Task | Notes |
|------|---|-------|
| 1 | Upgrade the adapter jobs. | None |
| 2 | Get the new context files . | None |

Upgrade from APM Connect V1.0.0

| Step | Task | Notes |
|------|---|-------|
| 1 | Upgrade the adapter jobs. | None |
| 2 | Get the new context files . | None |

Upgrade SAP Cloud Adapters to EAM SAP Cloud V1.0.1

The following table outlines the steps that you must complete to upgrade this module to EAM SAP Cloud V1.0.1. These instructions assume that you have completed the steps for upgrading the basic Meridium Enterprise APM system architecture.

These tasks may be completed by multiple people in your organization. We recommend, however, that the tasks be completed in the order in which they are listed.

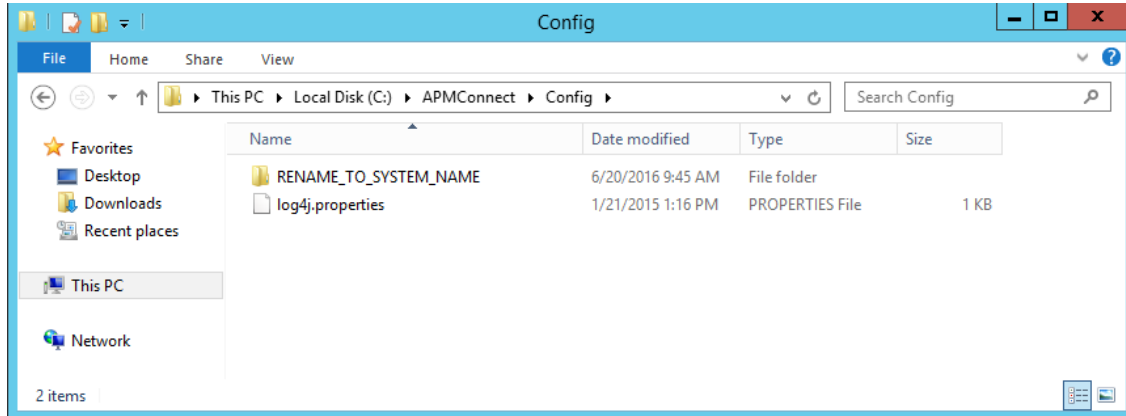
Upgrade from V1.0.0

| Step | Task | Notes |
|------|---|---|
| 1 | Upgrade the adapter jobs. | This step is required. |
| 2 | Access the EAM SAP V1.0.1 context file , and then edit the SSL parameters: USE_SSL , TRUSTSTORE_FILE , and TRUSTSTORE_PASSWORD . | This step is required if you are using SSL. |
| 3 | Configure SSL. | This step is required if you are using SSL. |

Configure the Context File Directory

Steps

1. On the APM Connect server, access your APM Connect installation package, and then navigate to the Jobs folder.
2. Access the context file, and then copy the file.
3. Navigate to the directory C:\APMConnect\Config.



4. Rename the folder **RENAME_TO_SYSTEM_NAME** to represent the name of your SAP System. This folder will define the Systems Context Directory.
5. Paste the context file, in the C:\APMConnect\Config\- 6. Delete the file *place context file here and delete this file.deleteme*.

The Context File Directory is configured.

What's Next?

[Configure the Context File Directory for Multiple SAP Systems](#)

Configure the Context File Directory for Multiple SAP Systems

△ IMPORTANT: This step is required only if you are using multiple SAP Systems from which you plan on extracting data. If you are not using multiple SAP systems, you can skip this procedure and proceed to the next step, [install the SAP Java connector](#), in the [APM Connect Base First-Time Deployment Workflow](#).

APM Connect allows you to extract data from multiple SAP Systems using the Master Job to extract from multiple systems. You must set up the appropriate directory structures.

Steps

1. On the machine on which you installed APM Connect, navigate to the following location: `C:\APMConnect\Config\`.
2. Create a new folder for each SAP System using the following folder structure: `C:\APMConnect\Config\<SAP System Name>`.
3. In each SAP system folder, place a copy of the [context file](#).
4. Label each copy of the context file using the following format: `SAP_<system name>_Contextfile.xml`.

△ IMPORTANT: You must label the context file with `SAP_` at the beginning of the file name, or APM Connect will be unable to read the context file during the extraction.

The directory structure is in place with the complete file path: `C:\APMConnect\Config\<SAP system name>\SAP_<SAP system name>_Contextfile.xml`.

For example, a configured directory will resemble the following: `C:\APMConnect\Config\Q-66\SAP_Q66_Contextfile.xml`.

What's Next?


[Install the SAP Java connector](#).

Install SAP Java Connector

To facilitate the data transfer, there must be a java connector between SAP and the APM Connect server. This topic describes how to establish the connection via the SAP Java Connector.

Steps

1. In the browser, navigate to the SAP marketplace, and download the SAP Java Connector package, including the latest version of the following files:
 - sapjco.jar
 - sapjco3.dll
 - sapjco3.jar

 **Note:** If you are using a 64-bit machine, per the APM Connect system requirements, you must select the 64-bit installer.

2. Copy the downloaded Java Connection files.
3. Navigate to `C:\APMConnect\Utilities\runtime\lib`, and then paste the copied files in that location.
4. Copy the downloaded **sapjco3.dll** file again.
5. Navigate to the `C:\windows\system32` directory, paste the copy of the **sapjco3.dll** file.

The Java Connector is installed.

What's Next?

[Import Notification Management File](#)

Import Notification Management File

⚠ IMPORTANT: This step is required only for on-premises deployment of the SAP Adapters. If you are not completing an on-premises deployment, you can skip this procedure, and proceed to the next step in the [SAP Adapter First-Time Deployment Workflow](#).

Steps

1. Access the APM Connect installation package, and then copy the file *SAP_NotificationManagement.jar*.
2. /navigate to `<root:>\APMConnect\Utilities\runtime\deploy`.
3. If you already have an existing *SAP_NotificationManagement.jar* file, delete it before copying the new file into the directory
4. Paste the copied file *SAP_NotificationManagement.jar* in the directory.

The Notification Management File is imported.

What's Next?

Return to the [SAP Adapter First-Time Deployment Workflow](#).

Configure SSL

The SAP Adapters in APM Now require an SSL certificate to transfer files. As a part of implementation, Meridium will supply you with an SSL certificate.

Steps

1. Access the SSL truststore file, provided at installation.
2. Copy the truststore file.
3. On your APM Connect Server, paste the truststore file in a secure file system location that is accessible by the [APM Container service user](#).
4. In the [context file](#), ensure you have configured the SSL Connection parameters, **USE_SSL**, **TRUSTSTORE_FILE**, and **TRUSTSTORE_PASSWORD**.

The SAP Adapters are configured to use SSL.

What's Next?

[Configure the Context File for APM Now](#)

Configure the Context File

⚠ IMPORTANT: This step is required only for on-premises deployment of the SAP Adapters. If you are deploying in APM Now, skip this procedure and proceed to the next step in the [APM Now SAP Adapters First Time deployment workflow](#).

Before you can run a job, you must specify a set of connection parameters and corresponding values to establish a connection with the following between APM Connect components, Meridium Enterprise APM, and your EAM system. Each of these connections is used when executing a job, and they are *required*. The connections are established via context files. This topic describes how to access and configure parameters in these context files.

Steps

1. On the APM Connect server, navigate to the `<root:>/APMConnect/Config` folder, and then open the context file to edit.

⚠ IMPORTANT: Changes made to the context file will override changes made in the [APM Connect Administration Center Context parameters section](#).

Steps: Configure the Context File for SAP Adapter


The following connection parameters are common to all APM Connect context files, and should be configured for the SAP Adapters and SAP PI Adapters.



📌 Hint: The SAP Adapters support [connections between multiple SAP systems](#) and multiple Meridium Enterprise APM databases by using one context file for each SAP system or Meridium Enterprise APM system. Each context file must be labeled `APMConnect/Config/<sap system name>/SAP_<SAP system name>_Contextfile.xml`, and must be configured with the appropriate context parameter values. Additionally, jobs are automatically configured to run a full extraction or load per context file for each job cycle, allowing different configurations per SAP System.


1. According to the following table, enter the appropriate values for each parameter into the context file:




| Intermediate Repository (IR) Connection Parameters | Description | Default or Recommend Value |
|--|-------------|----------------------------|
|--|-------------|----------------------------|

| | | |
|----------------------------------|--|---|
| IR_HOST | IP address of the IR. | Enter the host name of the PostgreSQL server. If you installed APM Connect using the default settings, then the vaule is localhost. |
| IR_PORT | Port number of the IR. | 5432 (PostgreSQL default) |
| IR_DATABASE | Database in which the IR data is stored. | Enter a name for the IR database. This value will be used to create the IR database. |
| IR_SCHEMA | The schema in which the IR database will be created. | The default value is Public |
| IR_USER_ID | The IR username. | Enter the username for the postgresSQL database. The default username is postgres. |
| IR_PASSWORD | The IR system password. | Enter the password for the PostgreSQL database that was created when running the installer. |
| APM Connect Parameter | Description | Default or Recommend Value |
| APM_CONNECT_HOST | The host name of the machine where APM Connect Administration Center is installed. | Value is unique to the user. |
| APM_CONNECT_PORT | The port name of the machine where APM Connect Administration Center is installed. | Value is unique to the user. |
| APM Connection Parameters | Description | Default or Recommend Value |
| APM_APP_SERVER | APM Application Server name. | Value is unique to the user. |

| | | |
|------------------------------------|--|---|
| <p>APM_DATASOURCE</p> | <p>APM data source to which the data will be exported.</p> | <p>Value is unique to the user.</p> |
| <p>APM_USERID</p> | <p>The Meridium Enterprise APM Framework User ID.</p> | <p>Value is unique to the user.</p> |
| <p>APM_PASSWORD</p> | <p>The Meridium Enterprise APM Framework password.</p> | <p>Value is unique to the user.</p> |
| <p>SITE_REFERENCE_EQUIP</p> | <p>Used to map the site reference value to an SAP field. This dictates which SAP field will be used as the site reference for Meridium Enterprise APM Equipment records.</p> | <p>You can enter a value defined in Meridium Enterprise APM.</p> <div data-bbox="1029 617 1398 758" style="border: 1px solid yellow; padding: 5px;"> <p> Note: The value that is entered will be applied to all records.</p> </div> <p>-or-</p> <p>You can use the character # at the beginning and end of a Meridium Field Name to indicate the field that is used to set to set the site reference.</p> <p>For example, if you wanted to use your SAP maintenance plant field as your Meridium Enterprise APM site reference, you would enter the <SITE_REFERENCE_EQUIP>#MI_EQUIP000_MAINT_PLANT_C#</SITE_REFERENCE_EQUIP>.</p> |

| | | |
|---|--|---|
| <p>SITE_REFERENCE_FLOC</p> | <p>Used to map the site reference value to an SAP field. This dictates which SAP field will be used as the site reference for Meridium Enterprise APM Equipment records.</p> | <p>You can enter a value defined in Meridium Enterprise APM.</p> <div data-bbox="1027 306 1398 447" style="border: 1px solid yellow; padding: 5px;"> <p> Note: The value that is entered will be applied to all records.</p> </div> <p>-or-</p> <p>You can use the character # at the beginning and end of a Meridium Field Name to indicate the field that is used to set to set the site reference.</p> <p>For example, if you wanted to use your SAP maintenance plant field as your Meridium Enterprise APM site reference, you would enter the <SITE_REFERENCE_FLOC>#MI_FNCLOC00_MAINT_PLANT_C#</SITE_REFERENCE_FLOC>.</p> |
| <p>SAP Connection Parameters</p> | <p>Description</p> | <p>Default or Recommend Value</p> |
| <p> Note: If you are using an SAP-PI Server, you do not need to configure these parameters.</p> | | |
| <p>SAP_CLIENT</p> | <p>SAP client from where data is imported.</p> | <p>Value is unique to the user.</p> |
| <p>SAP_HOST</p> | <p>IP address of the SAP Application Server.</p> | <p>Value is unique to the user.</p> |
| <p>SAP_LANGUAGE</p> | <p>The letter code that represents the language of the description to transfer into Meridium Enterprise APM.</p> | <p>Value is unique to the user.</p> |

| | | |
|------------------------------------|---|---|
| SAP_SYSTEM_NUMBER | Service port of the SAP Application Server. | Value is unique to the user. |
| SAP_USERID | SAP system user ID. | Value is unique to the user. |
| SAP_PASSWORD | SAP system password. | Value is unique to the user. |
| EQUIP_MULTI_OBJECTS_ENABLED | Enables records with Equipment Class (002) configured for Multiple Objects Allowed in SAP to be transferred to Meridium Enterprise APM. | true: Enter true if you Equipment Class (002) is configured for Multiple Objects Allowed in SAP. |
| FLOC_MULTI_OBJECTS_ENABLED | Enables records with Functional Location (003) configured for Multiple Objects Allowed in SAP to be transferred to Meridium Enterprise APM. | true: Enter true if your Functional Location (003) is configured for Multiple Objects Allowed in SAP. |
| File System Parameters | Description | Default or Recommend Value |
| IR_TALEND_OUTPUT | Temporary workspace. | Value is unique to the user. |
| PLSAP_INPUT | Path of the directory you created in which APM Connect searches for the generated files from SAP. | Value is unique to the user. |
| PLSAP_OUTPUT | Path of the directory where the data is stored by the SAP components. | Value is unique to the user.  Note: It is not required for SAP PI. |
| Miscellaneous Parameters | Description | Default or Recommended Value |


| | | |
|--|---|--|
| <p>MANUAL_RUN</p> | <p>Determines how the dates parameters will be treated.</p> | <ul style="list-style-type: none"> • true • false <div style="border: 1px solid yellow; padding: 5px; margin-top: 10px;"> <p> Note: If the MANUAL_RUN parameter is set to <i>true</i>, the dates specified in the context file will be used. Additionally, the dates of the last successful run stored in the database will not be updated. If set to <i>false</i>, the date range used during the extraction will be the date of the last successful record, as stored in the database. Each time a Job is run successfully, the database is updated with those dates, and all subsequent runs will use the dates from the last successful record.</p> </div> |
| <p>LOG_REQUEST</p> | <p>Logs the APM Web service requests.</p> | <ul style="list-style-type: none"> • true: enables logging • false: disables logging <div style="border: 1px solid yellow; padding: 5px; margin-top: 10px;"> <p> Note: False is recommended.</p> </div> |
| <p>LOG_RESPONSE</p> | <p>Logs the APM Web service responses.</p> | <ul style="list-style-type: none"> • true: enables logging • false: disables logging <div style="border: 1px solid yellow; padding: 5px; margin-top: 10px;"> <p> Note: False is recommended.</p> </div> |
| <p>Parallel Job Control Parameters</p> | | |

| | | |
|--|--|---|
| EXTRACT_NUM_PARALLEL_JOBS | The maximum number of parallel SAP jobs that APM Connect will open in a single extraction. | Choose a value that corresponds to the number of background processors that you have available to APM Connect. |
| IR_LOAD_NUM_PARALLEL_JOBS | The maximum number of IR load jobs in a single extraction. | 30 |
| APM_LOAD_THREAD_COUNT | The maximum number of APM web service calls that will be made in parallel. | 50 |
| FTP Parameters | Description | Default or Recommend Value |
| <p>Using an FTP Connection is only supported for the SAP and SAP PI Adapters, and configuration is only required if you are using FTP to transfer information between your systems.</p> <div style="border: 1px solid red; padding: 5px; margin: 5px 0;"> <p>⚠ Important: If you are using an SAP System with the SAPFTP_SERVERS table, you must configure that table to activate FTP servers according to the SAP Help System. You can refer to SAP OSS 1605054 for more details. Typically, this will apply to any SAP version later than ECC6 EHP5.</p> </div> | | |
| PLSAP_FTP_HOST | The FTP server host name. | Value is unique to the user. |
| PLSAP_FTP_USERID | The FTP server user name. | Value is unique to the user. |
| PLSAP_FTP_PASSWORD | The FTP server password. | Value is unique to the user. |
| PLSAP_FTP_PORT | The FTP server port. | <p>If the default configuration was followed, enter one of the following:</p> <ul style="list-style-type: none"> • 21: for FTP connection. • 22: for SFTP connection. |

| | | |
|-------------------------------|---|---|
| PLSAP_FTP_MODE | The mode by which files are copied. | Enter one of the following values: <ul style="list-style-type: none"> • SERVER: to use file shares. • FTP: to use standard FTP. • SFTP: to use standard Secure FTP. |
| PLSAP_FTP_SCAN_DIR | The remote FTP directory used to scan for files. | Value is unique to the user. |
| PLSAP_FTP_NUM_OF_RETRY | The number of times to scan the FTP server for files. | 10 |
| PLSAP_FTP_SLEEP_TIME | The time in seconds between scans. | 10 |

Steps: Configure Context File for the SAP PI Adapters

1. According to the following table, enter the appropriate values for each parameter into the context file:

| SAP PI Parameter | Description | Default or Recommend Value |
|--|--|--|
|  Note: If you are using the SAP Adapters or Maximo Adapters, you do <i>not</i> need to configure these parameters. | | |
| SAP_PI_HOST | The SAP PI server host. | Value is unique to the user. |
| SAP_PI_PORT | The SAP PI server port. | Value is unique to the user. |
| SAP_PI_RECEIVER_PARTY | Receiver determined in the communication channel section in SAP. | This is optional and unique to the user. |
| SAP_PI_RECEIVER_SERVICE | Receiver service determined in the communication channel section in SAP. | This is optional and unique to the user. |

| | | |
|------------------------------|---|--|
| SAP_PI_SENDER_PARTY | Receiver sender determined in the communication channel section in SAP. | This is optional and unique to the user. |
| SAP_PI_SENDER_SERVICE | Sender service that must match what is in the Communication Channel in SAP. | Meridium_APMConnect |
| SAP_PI_USERID | The SAP User ID. | Value is unique to the user. |
| SAP_PI_PASSWORD | The SAP PI password. | Value is unique to the user. |
| SAP_SYSTEM_ID | Systems ID of the SAP systems you would like to extract from. | Value is unique to the user. |
| SAP_PI_AAE | If you are using SAP 7.3 or above you may use the Advanced Adapter Engine (AAE). This parameter allows this functionality to be used during extraction. | <ul style="list-style-type: none"> • false: If you are not using AAE. This is the default. • true: If you are using AAE. |
| FILE_MOVE_USE_PI | Determines if APM Connect should use the SAP-PI to extract and load data. | <p>true -the file movement will use the PI between SAP and APM Connect.</p> <p>false- the file movement will not use PI and it will go directly.</p> |
| PLSAP_INPUT | Base path of the directory you created in which APM Connect searches for the generated files from SAP. | Value is unique to the user. |
| MAX_FILE_WAIT_SEC | How long the PI Adapters will wait for the extract to complete before the Job times out. | Recommended is 1000 sec. |

| | | |
|---|--|---|
| <p>COMPRESS_TYPE</p> | <p>Determines if the files will be compressed and which method of compression is being used.</p> | <p>None: files will are not compressed</p> <p>SAPCAR: files are compressed by SAP.</p> <p>ZIP-files are compressed through a standard zip method.</p> |
| <p>COMPRESS_SAP_COMMAND_NAME</p> | <p>The value of the command name created.</p> | <p>ZSAPCAR</p> |

What's Next?

[Encrypt Passwords](#)

Configure the Context File for APM Now

⚠ IMPORTANT: This step is required only for APM Now deployment of the SAP Adapters. If you are not deploying APM Now, skip this procedure and proceed to the next step in the SAP Adapters first time deployment workflow.

Before you can run a job, you must specify a set of connection parameters and corresponding values to establish a connection between APM Connect components, Meridium Enterprise APM, and your EAM system. Each of these connections is used when executing a job, and they are *required*. The connections are established via context files. This topic describes how to access and configure parameters in these context files.

Steps

1. On the APM Connect server, navigate to the to the context file, and then open the context file to edit.

⚠ Important: Changes made to the context file will override changes made in the APM Connect Administration Center Context parameters section.

| Intermediate Repository (IR) Connection Parameters | Description | Default or Recommended Value |
|--|--|---|
| IR_HOST | IP address of the IR. | Enter the host name of the PostgreSQL server. If you installed APM Connect using the default settings, then the value is localhost. |
| IR_PORT | Port number of the IR. | The default value is 5432. |
| IR_DATABASE | Database in which the IR data is stored. | Enter a name for the IR database. This value will be used to create the IR database. |
| IR_SCHEMA | The schema in which the IR database will be created. | The default value is <i>Public</i> . |
| IR_USER_ID | The IR username. | Enter the username for the PostgreSQL database. The default username is postgres. |

| | | |
|------------------------------|---|---|
| IR_PASSWORD | The IR system password. | Enter the password for the PostgreSQL database that was created when running the installer. |
| PG_ADMIN_USER | The IR username, and is used exclusively when creating the database. | Enter the username for the PostgreSQL database. The default username is postgres. |
| PG_ADMIN_USER | The IR system password and is used exclusively when creating the database. | Enter the password for the PostgreSQL database that was created when running the installer. |
| SAP System Parameters | Description | Default or Recommended Value |
| SAP_CLIENT | SAP client from which data will be extracted. | Value is unique to the user. |
| SAP_HOST | IP address of the SAP Application Server. | Value is unique to the user. |
| SAP_LANGUAGE | The letter code that represents the language used during extraction into Meridium Enterprise APM. | Value is unique to the user. |
| SAP_SYSTEM_NUMBER | Service port of the SAP Application Server. | Value is unique to the user. |
| SAP_USERID | SAP system user ID. | Value is unique to the user. |
| SAP_PASSWORD | SAP system password. | Value is unique to the user. |

| | | |
|--------------------------|--|---|
| <p>SAP_FILE_ENCODING</p> | <p>Determines the encoding of the source data.</p> | <p>The default value is UTF8.</p> <p>The following encodes are supported, and can be entered as a valid value.</p> <ul style="list-style-type: none"> • Cp858: Variant of Cp850 with Euro character • Cp437: MS-DOS United States, Australia, New Zealand, South Africa • Cp775: PC Baltic • Cp850: MS-DOS Latin-1 • Cp852: MS-DOS Latin-2 • Cp855: IBM Cyrillic • Cp857: IBM Turkish • Cp862: PC Hebrew • Cp866: MS-DOS Russian • ISO8859_1: Latin alphabet No. 1 • ISO8859_2: Latin Alphabet No. 2 • ISO8859_4: Latin Alphabet No. 4 • ISO8859_5 Latin/Cyrillic Alphabet • ISO8859_7 Latin/Greek Alphabet (ISO-8859-7:2003) |
|--------------------------|--|---|

| | | |
|----------------------------------|---|--|
| | | <ul style="list-style-type: none"> • ISO8859_9 Latin Alphabet No. 5 • ISO8859_13 Latin Alphabet No. 7 • ISO8859_15 Latin Alphabet No. 9 • KOI8_R KOI8-R, Russian • KOI8_U: KOI8-U, Ukrainian • ASCII: American Standard Code for Information Interchange • UTF8: Eight-bit Unicode (or UCS) Transformation Format • Cp1250: Windows Eastern European • Cp1251: Windows Cyrillic • Cp1252: Windows Latin-1 • Cp1253 : Windows Greek • Cp1254: Windows Turkish • Cp1257: Windows Baltic • Cp737: PC Greek • Cp874: IBM Thai |
| <p>EXTRACT_NUM_PARALLEL_JOBS</p> | <p>The maximum number of parallel SAP jobs that APM Connect will open in a single extraction.</p> | <p>Choose a value that corresponds to the number of background processors that you have available to APM Connect.</p> |


| File System Parameters | Description | Default or Recommended Value |
|------------------------|---|---|
| PLSAP_INPUT | Path of the directory you created in which SAP writes files. | Value is unique to the user. |
| PLSAP_OUTPUT | Path of the directory where APM Connect will access the files written by SAP. | Value is unique to the user. |
| IR_TALEND_OUTPUT | The root directory for all internal file processing. This is the directory where files will be transformed. | Enter a file system location to which files will be written. You can create a directory in the following location: C:\IR\TalendOutput. |
| LOG_BASE_DIR | Directory the path to the log file. | None. |
| SFTP_STAGING_DIR | Temporary storage location for files that are waiting to be loaded. | Value is unique to the user, and provided at installation. |
| USE_SSL | Determines if an SSL certificate will be used when transferring file. | Enter true. SSL certificate are required, and true is the only valid value. |
| TRUSTSTORE_FILE | The directory path where the SSL certificate is stored. | Enter the directory path where the SSL truststore is stored on the APM Connect Server. |
| TRUSTSTORE_PASSWORD | The password to the SSL certificate file. | Value is unique to the user, and will be provided at installation. |
| Filter Parameters | Description | Recommended or Default Value |
| CREATE_DATE_START | Date value that limits the data extracted to records created on or after the specified date. | Dates must be entered in the following format: YYYYMMDD. |
| CREATE_DATE_END | Date value that limits the data extracted to records created on or before the specified date. | Dates must be entered in the following format: YYYYMMDD. |


| CHANGE_DATE_START | Date value that limits the data extracted to records changed on or after the specified date. | Dates must be entered in the following format: YYYYMMDD. |
|---------------------------|---|--|
| CHANGE_DATE_END | Date value that limits the data extracted to records changed on or before the specified date. | Dates must be entered in the following format: YYYYMMDD. |
| CREATE_TIME_START | Time value that limits the data extracted to records created on or after the specified date. | Time must be in the following format: HHMMSS |
| CREATE_TIME_END | Time value that limits the data extracted to records created on or before the specified date. | Time must be in the following format: HHMMSS. |
| CHANGE_TIME_START | Time value that limits the data extracted to records changed on or after the specified date. | Time must be in the following format: HHMMSS. |
| CHANGE_TIME_END | Time value that limits the data extracted to records changed on or before the specified date. | Time must be in the following format: HHMMSS. |
| Equipment Filter Criteria | Description | Recommended or Default Value |
| EQUIPMENT_NO | Equipment that you want to extract. | The Equipment number should not exceed 18 characters. You cannot exceed 500 Equipment numbers. |
| EQUIPMENT_CATEGORY | ID of the Equipment Category that will limit the Equipment extracted. | The Equipment Category should not exceed one character. |
| EQUIPMENT_TYPE | ID of the Equipment Type that will limit the Equipment extracted. | The Equipment Type should not exceed 10 characters. |

| | | |
|-------------------------------------|--|--|
| EQUIPMENT_CLASS | ID of the Equipment Classification that will limit the Equipment extracted. | The Equipment Class should not exceed 18 characters. If an Equipment has multiple classifications, as long as you specify one of those classifications, the Equipment record will be extracted. |
| LANGUAGE | The SAP code that represents the language. | Must be a single character. |
| Functional Location Filter Criteria | Description | Recommended or Default Value |
| FLOC_NO | ID of the Functional Location that will limit the Functional Locations extracted. | The Functional Location number should not exceed 40 characters. You can not exceed 500 Functional Location numbers. |
| FLOC_TYPE | ID of the Functional Location Type that will limit the Functional Locations extracted. | Functional Location type should not exceed 10 characters. |
| FLOC_CLASS | ID of the Functional Location Classification that will limit the Functional Locations extracted. | Functional Location class should not exceed 18 characters. |
| FLOC_CATEGORY | ID of the Functional Location Category that will limit the Functional Locations extracted. | Functional Location category should not exceed one character. |
| Work History Filter Criteria | Description | Recommended or Default Value |
| NOTIFICATION_NO | Number that identifies the Notification record. | Notification Number should not exceed 12 characters. |
| WORK_ORDER_NO | Number that identifies the Work Order record. | Work Order Number should not exceed 12 characters. |

| | | |
|----------------------------|--|---|
| NOTIFICATION_TYPE | Order type that limits the orders that you want to extract. | Notification type should not exceed two characters. |
| WORK_ORDER_TYPE | ID of the work order that limits the orders that you want to extract. | Work Order type should not exceed four characters. |
| WORK_ORDER_SYSTEM_STATUS | Work Order systems status that limits the work orders you want to extract. | Work Order System Status should not exceed four characters. |
| WORK_ORDER_USER_STATUS | Work Order user status that limits the work orders that you want to extract. | Work Order User Status should not exceed four characters. |
| NOTIFICATION_SYSTEM_STATUS | Notification system status that limits the notifications that you want to extract. | Notification system status should not exceed four characters. |
| NOTIFICATION_USER_STATUS | Notification user status that limits the notifications that you want to extract. | User status should not exceed four characters. |
| MAINT_PLANT | ID(s) of the Maintenance Plant whose data you want to extract. | Plant values cannot exceed four characters. |
| Miscellaneous Parameters | Description | Recommended or Default Value |

| | | |
|---------------------|--|--|
| <p>MANUAL_RUN</p> | <p>Determines how the date parameters will be treated.</p> | <ul style="list-style-type: none"> • True: The dates specified in the context file will be used, and the dates of the last successful run stored in the database will not be updated. • False: The date range used during the extraction will be the date of the last successful record, as stored in the database. Each time a Job is run successfully, the database is updated with those dates, and all subsequent runs will use the dates from the last successful record. |
| <p>LOG_REQUEST</p> | <p>Determines if the Meridium web service request will be recorded in the log file</p> | <ul style="list-style-type: none"> • True: Log files will be created for the request. • False: This is the default value. Log files will not be created for the request. |
| <p>LOG_RESPONSE</p> | <p>Determines if the Meridium web service responses will be recorded in the log file</p> | <ul style="list-style-type: none"> • True: Log files will be created for the request. • False: This is the default value. Log files will not be created for the request. |

| | | |
|----------------------------------|--|---|
| <p>SITE_REFERENCE_ EQUIP</p> | <p>Used to map the site reference value to an SAP field. This dictates which SAP field will be used as the site reference for Meridium Enterprise APM Equipment records.</p> | <p>You can enter a value defined in Meridium Enterprise APM.</p> <div data-bbox="1089 331 1398 457" style="border: 1px solid yellow; padding: 5px;"> <p> Note: The value that is entered will be applied to all records.</p> </div> <p>-or-</p> <p>You can use the character # at the beginning and end of a Meridium Field Name to indicate the field that is used to set to set the site reference.</p> <p>For example, if you wanted to use your SAP maintenance plant field as your Meridium Enterprise APM site reference, you would enter the <SITE_REFERENCE_EQUIP>#MI_EQUIP000_MAINT_PLANT_C#</SITE_REFERENCE_EQUIP>.</p> |
|----------------------------------|--|---|

| <p>SITE_REFERENCE_FLOC</p> | <p>Used to map the site reference value to an SAP field. This dictates which SAP field will be used as the site reference for Meridium Enterprise APM Equipment records.</p> | <p>You can enter a value defined in Meridium Enterprise APM.</p> <div style="border: 1px solid black; background-color: #ffffcc; padding: 5px;"> <p> Note: The value that is entered will be applied to all records.</p> </div> <p>-or-</p> <p>You can use the character # at the beginning and end of a Meridium Field Name to indicate the field that is used to set to set the site reference.</p> <p>For example, if you wanted to use your SAP maintenance plant field as your Meridium Enterprise APM site reference, you would enter the <SITE_REFERENCE_FLOC>#MI_FNCLOC00_MAINT_PLANT_C#</SITE_REFERENCE_FLOC>.</p> |
|----------------------------|--|---|
| Queue | Description | Recommended or Default Value |
| <p>QUEUE_HOST</p> | <p>The APM Now queue host name.</p> | <p>Value is unique to the user, and provided at installation.</p> |
| <p>QUEUE_HOST_1</p> | <p>Additional APM Now queue host name.</p> | <p>Value is unique to the user, and provided at installation.</p> |
| <p>QUEUE_HOST_2</p> | <p>Additional APM Now queue host name.</p> | <p>Value is unique to the user, and provided at installation.</p> |

| QUEUE_PASSWORD | The APM Now queue password. | Value is unique to the user, and provided at installation. |
|------------------|---|--|
| QUEUE_PORT | The APM Now queue port. | Value is unique to the user, and provided at installation. |
| QUEUE_PORT_1 | Additional APM Now queue port. | Value is unique to the user, and provided at installation. |
| QUEUE_PORT_2 | Additional APM Now queue port. | Value is unique to the user, and provided at installation. |
| QUEUE_USER | The APM Now queue username. | Value is unique to the user, and provided at installation. |
| CUSTOMER_NAME | The coded customer name. | Value is unique to the user, and provided at installation. |
| SFTP Parameter | Description | Recommended or Default Value |
| SFTP_HOST | The SFTP server host name. | Value is unique to the user, and provided at installation. |
| SFTP_USERID | The SFTP server user name. | Value is unique to the user, and provided at installation. |
| SFTP_PASSWORD | The SFTP server password. | Value is unique to the user, and provided at installation. |
| SFTP_PORT | The SFTP server port. | Value is unique to the user, and provided at installation. |
| SFTP_LANDING_DIR | The directory path where the shared files are stored. | Value is unique to the user, and provided at installation. |

| USE_SSH_KEY | Determines if SSH security configuration will be used by the adapters. | True: SSH configuration will be used. False: SSH configuration will not be used. |
|---------------------------------------|---|--|
| SSH_PRIVATE_KEY | The directory where the SSH key is stored. | Value is unique to the user. The SSH key is provided at installation, and can be stored in any directory on the APM Connect server, but it is recommended to store it in C:/APMConnect/Config. |
| Email Notification Parameters | Description | Recommended or Default Value |
| EMAIL_TO | The email address(es) to which the notification email will be sent. | Value is unique to the user. |
| EMAIL_FROM | The email address from which the notification email will be sent. | Value is unique to the user. |
| REPORT_TARGET_DIR | The directory path where the report file will be delivered. | Value is unique to the user. |
| FAILURE_DETAIL_REPORT_JRXML_FILE_PATH | The directory path where the failure report file will be delivered. | Value is unique to the user. |
| LOAD_SUMMARY_REPORT_JRXML_FILE_PATH | The directory path where the load complete report file will be delivered. | Value is unique to the user. |
| SMTP_HOST | The host for SMTP installation the APM Connect server. | Value is unique to the user. |
| SMTP_PORT | The port for SMTP. | Default value is 25. |

| | | |
|-------------------------------|---|---|
| LOAD_SUMMARY_REPORT_ENABLED | Indicates whether or not the load complete report with every extraction. | <p>True: The Load Complete report will be sent detailing the number of records that were extracted and successfully loaded into Meridium Enterprise APM.</p> <p>False: The Load Complete report will not be sent.</p> |
| FAILURE_DETAIL_REPORT_ENABLED | Indicates whether or not the failure detail report will be sent when a record fails to load. | <p>True : The Failure Detail report will be sent detailing the records that failed to load and the reason why.</p> <p>False: The Failure Detail report will not be sent.</p> |
| CMMS_ID | The CMMS ID used as the identifier for your SAP System, and is <SAP System ID+SAP Client ID>. | Value is unique to the user. |
| PLASP FTP and STFP Parameters | Description | Recommended or Default Value |

| | | |
|------------------------|-------------------------------------|--|
| PLSAP_FTP_MODE | The mode by which files are copied. | <ul style="list-style-type: none"> • SERVER: Enter this option to use file shares. • FTP: Enter this option to use standard FTP. If this option is selected, then the subsequent parameters in this table are required. • SFTP: Enter this option to use standard Secure FTP. If this option is selected, then the subsequent parameters in this table are required. |
| PLSAP_FTP_HOST | The FTP server host name. | Value is unique to the user, and only required if you are using SFTP file transfer method. |
| PLSAP_FTP_USERID | The FTP server user name. | Value is unique to the user. |
| PLSAP_FTP_PASSWORD | The FTP server password. | Value is unique to the user. |
| PLSAP_SFTP_SCP_COMMAND | The FTP Command Name in SAP. | The default value is ZSCP . |
| PLSAP_FTP_PORT | The FTP server port. | <p>If the default configuration was followed, enter one of the following:</p> <ul style="list-style-type: none"> • 21: Is the port number for FTP connections. • 22: Is the port number for SFTP connections. |

| | | |
|------------------------|---|------------------------------|
| PLSAP_FTP_NUM_OF_RETRY | The number of times to scan the FTP server for files. | Value is unique to the user. |
| PLSAP_FTP_SCAN_DIR | The remote FTP directory used to scan for files. | 10 |
| PLSAP_FTP_SLEEP_TIME | The time in seconds between scans. | 10 |

2. Save the File.

What's Next?

[Encrypt passwords](#)

Encrypt Passwords

Passwords in the APM Connect context file are not encrypted by default. However, you can encrypt any password manually. This topic describes how to manually encrypt passwords.

Steps

1. On the machine on which you installed APM Connect, access the APM Connect installation package, locate the *EncryptString_0.1.zip*, and then unzip the file.
2. Open the EncryptString folder, and then select *EncryptString_run.bat*.
Command prompt opens, and then the **Talend Open Studio** window appears.
3. Enter the password that you want to encrypt in the **Enter the text to be encrypted:** box.
4. Select **OK**.
5. In the command prompt, between the banners, copy the text that was generated.
6. Open the context file.
7. In the parameter that you want to encrypt, paste the generated text.
8. Append the highlighted parameter the with *_AES*, as shown in the following image.

```

<!-- Intermediate Repository connection parameters-->
<IR_HOST>APMCONNECTVM</IR_HOST>
<IR_PORT>5432</IR_PORT>
<IR_DATABASE>APMconnectFTP</IR_DATABASE>
<IR_PASSWORD_AES>FyoGBWa6ftigcB2nAWZ56w==</IR_PASSWORD_AES>

```

9. Save the context file.
10. For each password that you want to encrypt, repeat steps 2 through 9.
The passwords are encrypted.

What's Next?

- Return to the [SAP Adapter workflow](#) for the next step in the deployment process.
- or-
- Return the [Maximo Adapter workflow](#) for the next steps in the deployment process.

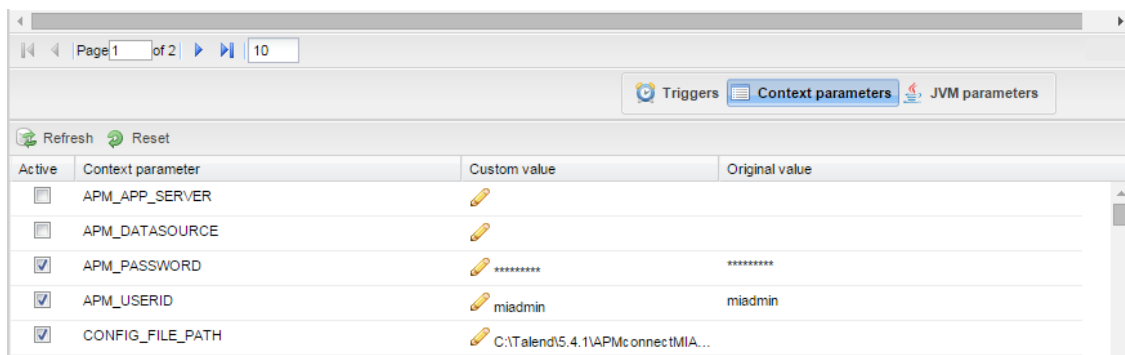
Configure Context Parameters

For every job that is imported, certain context parameters in the APM Connect Administration Center must be configured. This topic describes how to configure the required context parameters, so that you can run the job.

Steps

1. In the APM Connect Administration Center, in the **Job Conductor** workspace, select the Job for which you would like to set parameters.
2. At the bottom of the **Job Conductor** workspace, select **Context parameters**.


The **Context parameters** section appears.



| Active | Context parameter | Custom value | Original value |
|-------------------------------------|-------------------|----------------------------------|----------------|
| <input type="checkbox"/> | APM_APP_SERVER | | |
| <input type="checkbox"/> | APM_DATASOURCE | | |
| <input checked="" type="checkbox"/> | APM_PASSWORD | ***** | ***** |
| <input checked="" type="checkbox"/> | APM_USERID | miadmin | miadmin |
| <input checked="" type="checkbox"/> | CONFIG_FILE_PATH | C:\Talend\5.4.1\APMconnect\IA... | |

3. In the **Context parameter** column, scroll down to the context parameter you would like to configure.
4. In the **Custom value** box, configure context parameters, and select the **Active** check boxes for the following:
 - **APM User_ID**: Enter your Meridium Enterprise APM user name
 - **APM_PASSWORD**: Enter your Meridium Enterprise APM password.
 - **IR_USERID**: Enter the your intermediate repository user name.
 - **IR_PASSWORD**: Enter your intermediate repository password.
 - **SAP_USERID**: Enter you SAP System user name.
 - **SAP_PASSWORD**: Enter your SAP system password.
 - **CONFIG_FILE_PATH**: Enter the file path to the location where the context file is stored.
 - **LOG4j_FILE_PATH**: Enter the filed path to the location where the Log4j file is stored. If you installed APM Connect in the default location, then enter \APMConnect\Config\log4jproperties
 - **MANUAL_RUN**: Enter true or false to determine whether or not the dates recorded

in the context file will be used during extraction.

 **Note:** If the `MANUAL_RUN` parameter is set to `true`, the dates specified in the context file will be used. Additionally, the dates of the last successful run stored in the database will not be updated. If set to `false`, the date range used during the extraction will be the date of the last successful run, as stored in the database. Each time a Job is run successfully, the database is updated with those dates, and all subsequent runs will use the dates from the last successful run.

The context parameters are configured.

5. Repeat steps 1-3 for every imported Job you will run.
6. To configure the Master job to run, select the `SAP_MASTER_INTERFACE` Job.
7. At the bottom of the **Job Conductor** workspace, select **Context parameters**.

The **Context parameters** section appears, displaying the following parameters:

- `RUN_STATIC_DATA`: The Static Data Job
 - `RUN_EQUIPMENT`: The Equipment Job
 - `RUN_FLOC`: The Functional Location Job
 - `RUN_WORKHISTORY`: The Work History Job
 - `RUN_WORKMANAGEMENT`: The Work Management Job
 - `MASTER_CONFIG_FILE_DIR`: The file path to context files for the jobs
 - `SYSTEM_TO_RUN`: The source system from which you want to extract data
 - `RUN_TC_EQUIPMENT`: The Equipment Technical Characteristic Job
 - `RUN_TC_FLOC`: The Functional Location Technical Characteristics Job
8. For each extraction jobs you want to run, in the **Custom value** column enter `true`, and then select the **Active** check box.
 9. In the `MASTER_CONFIG_FILE_DIR` **Custom value** box, enter the directory where the context file(s) is stored.
 10. In the `SYSTEM_TO_RUN` **Custom value** box enter:
 - The name of the system directory from which you want to extract data.
 - or-
 - * to extract from all systems.
 11. Press Enter.

The Jobs are configured to run.

What's Next?

- [Return to the workflow](#) for the next step in the deployment process.

Deploy APM Connect

-or-

- [Run the Master Job in the APM Connect Administration Center.](#)

Configure the Context Parameters for APM Now

IMPORTANT: The Extraction Wrapper job is required only for APM Now deployment of the SAP Adapters.

The extraction wrapper job is a container job for the following APM Now SAP Adapters extraction jobs:

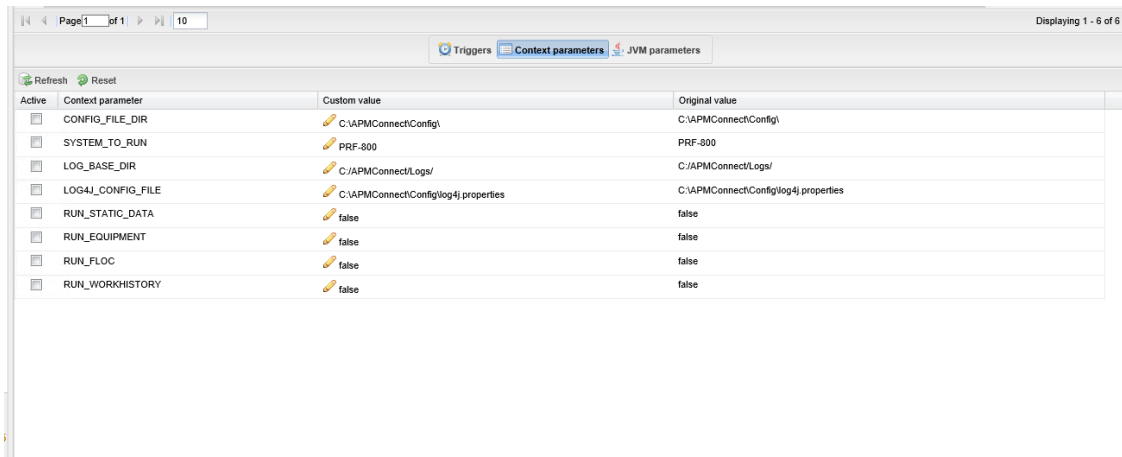
- RUN_STATIC_DATA
- RUN_EQUIPMENT
- RUN_FLOC
- RUN_WORKHISTORY

In addition to the extractions jobs, the Extraction Wrapper contains additional context parameters are required to configure the jobs to run.

Steps

1. In the APM Connect Administration Center, in the **Job Conductor** workspace, select the Extraction Wrapper job, and then select **Context parameters**.

The **Context parameters** section appears.



| Active | Context parameter | Custom value | Original value |
|--------------------------|-------------------|---------------------------------------|---------------------------------------|
| <input type="checkbox"/> | CONFIG_FILE_DIR | C:\APMConnect\Config\ | C:\APMConnect\Config\ |
| <input type="checkbox"/> | SYSTEM_TO_RUN | PRF-800 | PRF-800 |
| <input type="checkbox"/> | LOG_BASE_DIR | C:\APMConnect\Logs\ | C:\APMConnect\Logs\ |
| <input type="checkbox"/> | LOG4J_CONFIG_FILE | C:\APMConnect\Config\log4j.properties | C:\APMConnect\Config\log4j.properties |
| <input type="checkbox"/> | RUN_STATIC_DATA | false | false |
| <input type="checkbox"/> | RUN_EQUIPMENT | false | false |
| <input type="checkbox"/> | RUN_FLOC | false | false |
| <input type="checkbox"/> | RUN_WORKHISTORY | false | false |

2. Configure the **Custom value** for the following connection parameters:

- **CONFIG_FILE_DIR:** Enter the directory path where your context file is stored.
- **SYSTEM_TO_RUN:** Enter the [name of the directory](#) containing the context file from which you want to extract data, or, to extract from all context directories, enter *.
- **LOG_BASE_DIR:** Enter the directory path into which the log files will be written.

- **LOG4J_CONFIG_FILE**: Enter the directory path where your log4j properties file is stored.
3. Select the **Active** check box corresponding to each of the connection parameters.
 4. For each extraction jobs you want to run, in the **Custom value** column enter *true*, and then select the **Active** check box.

For example, if you want run only the Equipment Adapter, in the **RUN_EQUIPMENT** row, in the **Custom value** box enter **true**. Then, select the **Active** check box.

| Active | Context parameter | Custom value | Original value |
|-------------------------------------|-------------------|---------------------------------------|---------------------------------------|
| <input type="checkbox"/> | CONFIG_FILE_DIR | C:\APMConnect\Config\ | C:\APMConnect\Config\ |
| <input type="checkbox"/> | SYSTEM_TO_RUN | PRF-800 | PRF-800 |
| <input type="checkbox"/> | LOG_BASE_DIR | C:\APMConnect\Logs\ | C:\APMConnect\Logs\ |
| <input type="checkbox"/> | LOG4J_CONFIG_FILE | C:\APMConnect\Config\log4j.properties | C:\APMConnect\Config\log4j.properties |
| <input type="checkbox"/> | RUN_STATIC_DATA | false | false |
| <input checked="" type="checkbox"/> | RUN_EQUIPMENT | true | false |
| <input type="checkbox"/> | RUN_FLOC | false | false |
| <input type="checkbox"/> | RUN_WORKHISTORY | false | false |

The Extraction Wrapper job is configured to run. Once the job is executed, the data designated to be extracted in the **Connect parameters** will be transferred from your SAP System to your Meridium Enterprise APM system.

5. For each of the remaining jobs imported into the APM Connect Administration center, select the job, and then **Context parameters**.
6. Configure the following parameters:
 - **CONFIG_FILE_PATH**: Enter the directory path where your context file is stored including the name of the context file, e.g. C:\APMConnect\Config\SYS-001\SAP_ContextFile.xml
 - **LOG4J_CONFIG_FILE**: Enter the directory path where your log4j properties file is stored. including the file name e.g. C:\APMConnect\Config\log4j.properties
7. Repeat steps 5-7 for each imported job that you plan to run.

The jobs are configured [to run](#).

Create the Intermediate Repository Database

Before you can run an extraction job, you must prepare the intermediate repository and enable the static data pull. This topic describes how to set up a repository and static data pull in preparation to run your first job.

⚠ Important: If you are using the Data Loaders and the SAP Adapters, you must deploy and run the *CreateIntermediateRepository* job for each set of adapters.

Before You Begin

Before you can prepare and deploy the repository, you must complete the following:

- [Import the create intermediate repository Job.](#)

Steps

1. Open and log in to the APM Connect Administration Center web application.

📄 Note: The user logging in [must have access to the Job Conductor](#) by being designated the Operations Manager role. By default, users designated admin do not have Job Conductor permissions.

2. In the **Job Conductor** workspace, in the appropriate project, select the *CreateIntermediateRepository* Job.
3. At the bottom of the **Job Conductor** workspace, select **Context parameters**.

The **Context parameters** section appears.

4. Configure the following parameters:

| Context Parameter | Description |
|-----------------------|--|
| CONFIG_FILE_DIRECTORY | The file path to context files for the jobs. |
| PG_ADMIN_USERNAME | The user name for the PostGRES SQL IR. |
| PG_ADMIN_PASSWORD | The password for the PostGRES SQL IR. |

5. Select **Run**.

The intermediate repository is created for the project.

6. In the **Job Conductor** workspace, in the appropriate project, select the *CreateStaticData* Job.

7. Select **Run**.

The static data pull is enabled.

You are now able to execute the jobs.

What's Next?

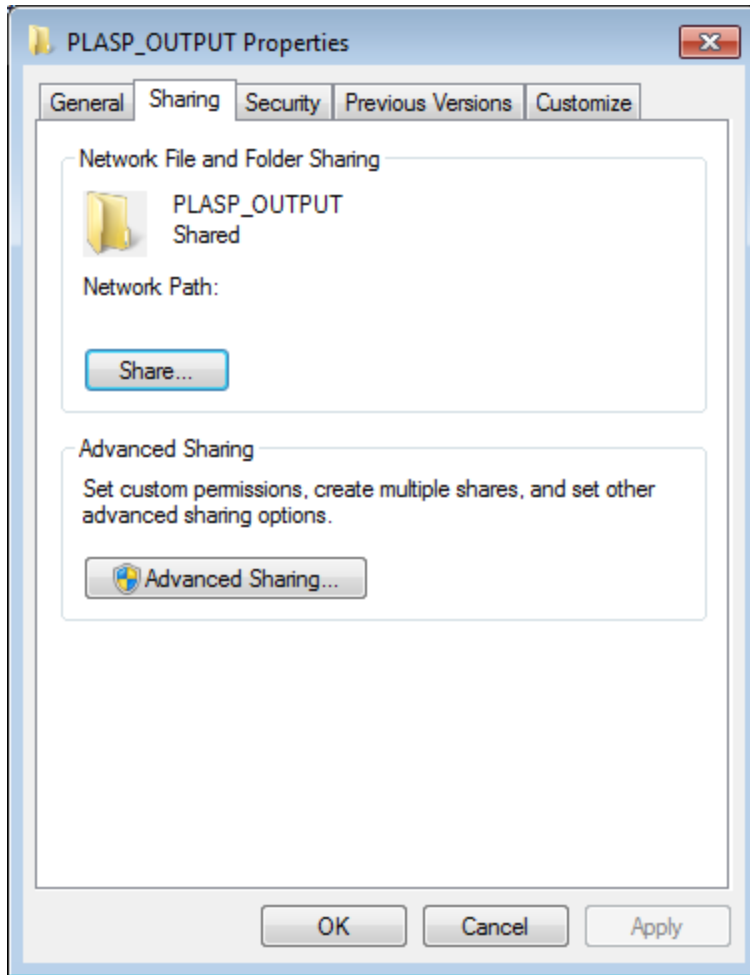
- Return to the [SAP Adapter workflow](#) for the next step in the deployment process.
- Return the [Maximo Adapter workflow](#) for the next steps in the deployment process.
- or-
- Return to the [Data Loader workflow](#) for the next step in the deployment process.

Create a Service Account User

For security reasons, it is important to limit the number of users that can access the file shares between the SAP server and the APM Connect server. The best way to do this is to create one service account user to run the Jobserver and to access the SAP file shares on the SAP server. This topic describes how to create a service account user that has access to the SAP server and runs the Jobserver.

Steps

1. In the same domain as the SAP server, create an active directory user.
2. On the SAP server, create a new folder that will be shared with the new user you just created.
3. Right-click the new folder.
4. Select **Properties**.
The <Folder Name> **Properties** window appears.
5. Select the **Sharing** tab.




6. Select **Share...**

The **File Sharing** window appears.

7. In the text box, enter the user name of the service account.

8. Select **Add**.

The new user appears in the list of users.

9. In the **Permission Level** column, select , and then select **Read/Write**.

10. Select **Share**.

11. Close the windows.

12. On the APM Connect server, select the Windows Start button to open the Windows Start menu.

13. In the **Search programs and files** box, enter *services*.

Services appears in the **Programs** list.

14. Open **Services**.

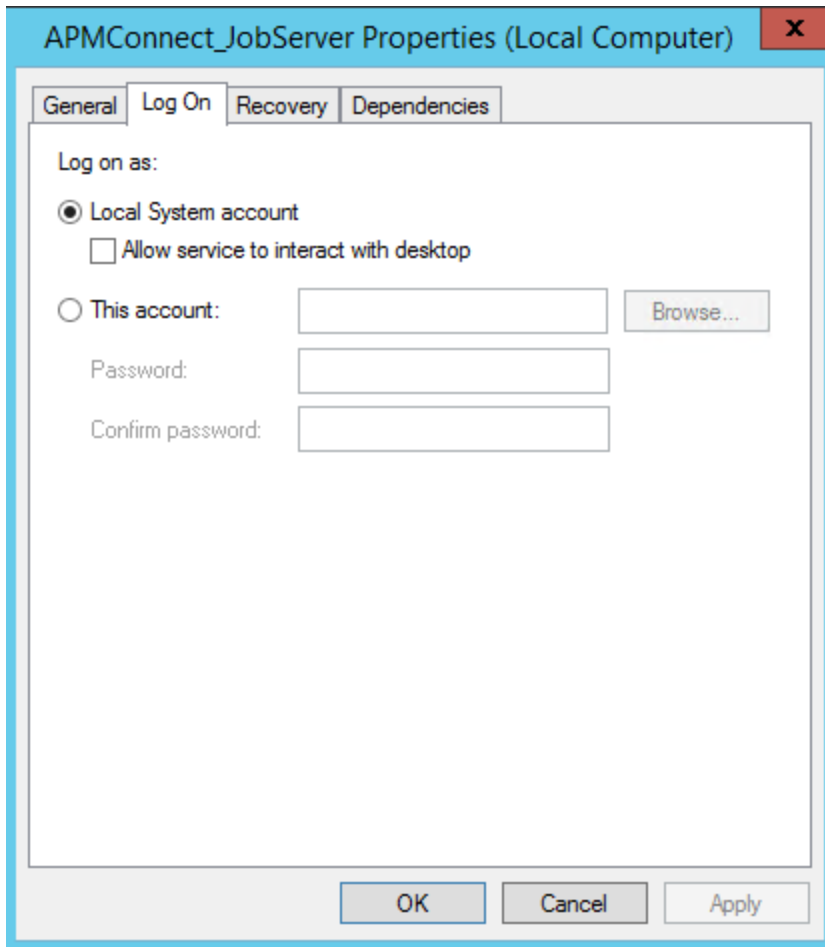
The **Services** window appears.

15. Right-click the *APMConnet_Jobserver* service.

16. Select **Properties**.

The **APMConnect_Jobserver Properties (Local Computer)** window appears.

17. Select the **Log On** tab.



18. Select **This account:**.

19. Enter the service account user.

20. Select **OK**.

The service account user has been created, authorized to run the Jobserver, and given access to the file shares on the SAP server.

What's Next?

Deploy APM Connect

- [Return to the workflow](#) for the next step in the deployment process.

Load Bulk IDs


To load more than 5,000 IDs in Meridium Enterprise APM, you must [use the Load_ID_List job](#) and the corresponding Excel template. You will need to create a directory structure on your APM Connect server that will allow many IDs to be loaded into Meridium Enterprise APM and configure the [BASE_DIRECTORY parameter in the context file](#).

Steps

1. On the machine on which you installed APM Connect, determine a [base file path](#) where you would like to place the input Excel file and archive the bulk ID loads.
2. Create the following subdirectories to load IDs for each type of IDs you plan to load:

| ID Type | Directory Structure | If ZERO_PAD_ID is enabled, then... |
|--|--|--|
| Equipment IDs: | <base directory>/EQUIPMENT/input/archive | IDs will be padded up to 18 characters. |
| Functional Location IDs | <base directory>/FLOC/input/archive | N/A: Functional Location IDs are not padded. |
| Work History Notification IDs | <base directory>/WH/NOTIFICATION/input/archive | IDs will be padded up to 12 characters. |
| Work Order IDs | <base directory>/WH/WORKORDER/input/archive | IDs will be padded up to 12 characters. |
| Work Management Equipment IDs: | <base directory>/WMI/EQUI/input/archive | IDs will be padded up to 12 characters. |
| Work Management Functional Location IDs: | <base directory>/WMI/FLOC/input/archive | N/A: Functional Location IDs are not padded. |
| Technical Characteristic Equipment IDs: | <base directory>/EQUIPMENT_TC/input/archive | IDs will be padded up to 18 characters. |

| | | |
|---|--|--|
| Technical Characteristic Functional Location IDs: | <base directory>/FLOC_TC/input/archive | N/A: Functional Location IDs are not padded. |
|---|--|--|


 **Note:** You cannot load Locations with the Load_ID_List job. You can only load internal IDs for Functional Locations. Additionally, you cannot load class information for Technical Characteristics. You can only load Equipment and Functional Location IDs.

3. Into each corresponding directory, place the Excel file(s) listing the IDs that you would like to load into Meridium Enterprise APM.
4. Run the Load_ID_List [job in the APM Connect Administration Center](#).

Results

The IDs in the Excel file are loaded into Meridium Enterprise APM, The Excel file is removed for the input directory, and then the Excel file is relocated to the archive directory.

Establish SFTP Transfer in SAP

 **Note:** If you are using SAP PI, then you can skip this procedure.

If you use (S)FTP to transfer files between SAP, APM Connect, and Meridium Enterprise APM, you must complete additional configuration in SAP. You must download a puTTY file and set up command names in SAP to use the puTTY file.

Steps

1. On your SAP system, in a browser, navigate to the PuTTY website.
2. Download the following puTTY file: pscp.exe.
3. Copy it into the PATH on your SAP system. The recommended directory is *%WINDIR%/System32*.
4. In SAP, run the transaction code SM69.

The **External Operation System Commands** screen appears.

5. Select .

The **Create an External Command** screen appears.

6. In the **Command Section**, in the **Command Name** box, enter a name for your command.
7. In the **Definition** section, in the **Operating system command** box, enter following systems commands: *pscp*.
8. Select **Save**.

The puTTY file is on the SAP system, and the corresponding command names are set up.

What's Next?

- [Return to the workflow](#) for the next step in the deployment process.

Create File Share Folder Structure

Note: If you are using SAP PI, then you can skip this procedure.

When SAP writes a data file, it is placed in a specific directory defined by the context parameter PLSAP_INPUT. This topic describes how to create the appropriate directory structure.

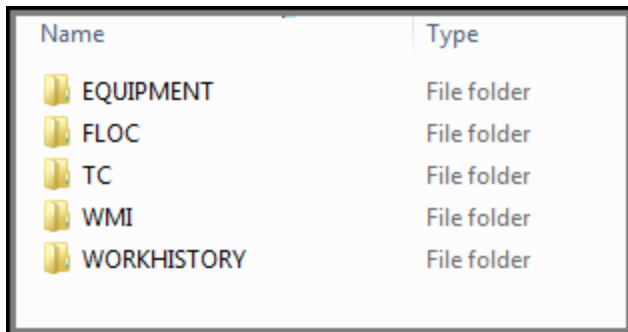
Steps

1. Navigate to the folder on which your SAP system writes files.

Note: This folder will be different for each customer, but will likely be labeled PLSAP_INPUT.

2. Create a new folder for each of the following:
 - EQUIPMENT
 - FLOC
 - TC
 - WMI
 - WORKHISTORY

The file structure will look like the following image:



| Name | Type |
|-------------|-------------|
| EQUIPMENT | File folder |
| FLOC | File folder |
| TC | File folder |
| WMI | File folder |
| WORKHISTORY | File folder |

The directory is created, and SAP will be able to write files to the necessary location.

What's Next?

- [Return to the workflow](#) for the next step in the deployment process.

Install the ABAP Base Service Pack Add-on

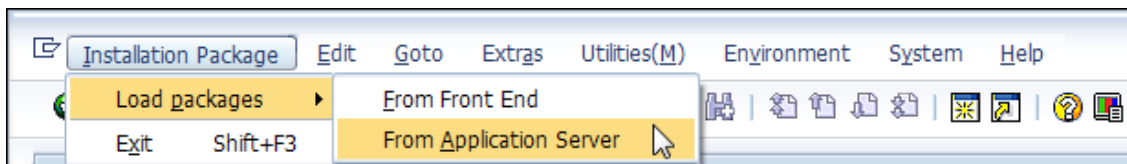
Note: To complete the following instructions successfully, you must use SAP client 000.

Steps

1. On a machine from which you can access the SAP Server, insert the SAP Interfaces installation DVD.
2. Navigate to the folder \\SAP Interfaces ABAP Add-On\Service Pack Files, and then select one of the following folder:
 - **Exchange Upgrade:** to upgrade the ABAP package when upgrading to a new SAP version.
 - **Install:** to install the ABAP Package for the first time.
 - **Upgrade:** to upgrade the ABAP package.
3. Navigate to the subfolder ECC6, and copy the .PAT file(s).
4. On the SAP Server, paste the copied file into the folder \\usr\sap\trans\eps\in.
5. Log in to the SAP system as a user with:
 - SCTSIMPSGL and S_CTS_ADMIN authorizations.

-or-

 - SAP_ALL authorization.
6. Run the following transaction: **SAINT**.
The **Add-On Installation Tool** screen appears.
7. On the **Installation Package** menu, point to **Load packages**, and then select **From Application Server**.



A message appears, asking if you want to upload OCS packages from the ECS inbox.

8. Select **Yes**.

The **SAINT: Uploading Packages from the File System** screen appears.

SAINT: Uploading Packages from the File System

| OCS File Name | Package | Result | RC | Message Text |
|---------------|----------------------|--------|------|-----------------------|
| D070020243634 | SAPK-400COINMIAPMINT | | 0000 | Uploaded successfully |

9. Select the .PAT file that you copied in step 3 of these instructions. The message column should read **Uploaded successfully**.

10. Select

The **Add-On Installation Tool** screen appears again.

11. Select **Start**.

A new grid appears. MIAPMINT appears in the list of add-on packages that can be installed.

12. Select the row containing the value MIAPMINT in the first column, and then select **Continue**.

The **Support Package selection** tab appears.

13. Select **Continue**.

14. Select **Continue** again.

Note: During the installation, the **Add Modification Adjustment Transports to the Queue dialog box** might appear. If it does, select **No**.

An indicator appears at the bottom of the screen to indicate the installation progress.

When the progress indicator disappears, a message appears, indicating that the add-on package will be installed.

15. Select .

The status is updated to indicate that the add-on package will now be imported, and the installation process continues.

When the installation process is complete, the status is updated to indicate that the add-on package was imported successfully.

16. Select **Finish**.

The MIAPMINT add-on package appears in the list of installed add-on packages on the Add-On Installation Tool screen.

What's Next?

Deploy APM Connect

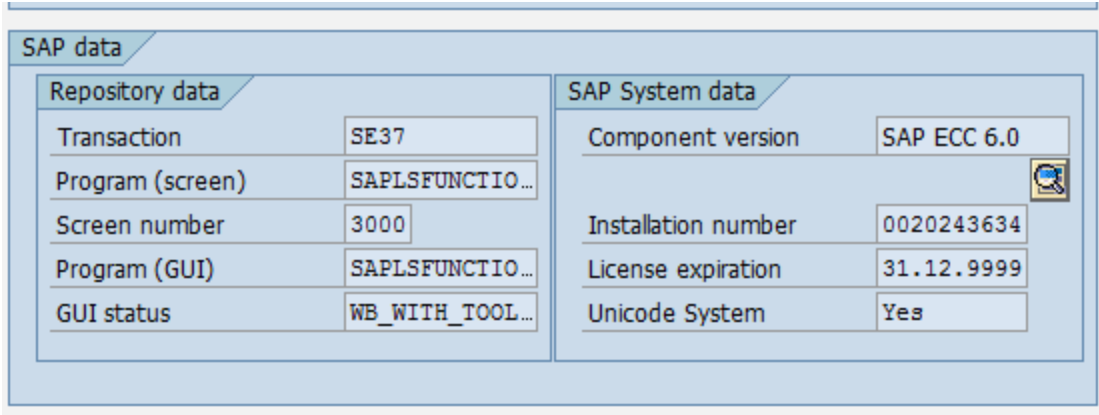
- [Return to the workflow](#) for the next step in the deployment process.

Verify ABAP Installation

Steps

1. In SAP, on the **System** menu, select **Status**.

The **System: Status** window appears.



2. In the **SAP System data** section, select .

The **Support Package Level for Installed Software Components** window appears.

CR2(1)/000 System: Component information

| Software Compon... | Release | Level | Highest Support ... | Short Description of Software Compon |
|--------------------|---------|-------|---------------------|--------------------------------------|
| SLL_PI | 900_604 | 0001 | SAPK-90A01INSL... | GTS Plug-In |
| WFMCORE | 200 | 0016 | SAPK-20016INWF... | WFMCORE 200 Upgrade: Meta-Comma |
| GRCFND_A | 300 | 0001 | SAPK-30001INGR... | GRC Foundation ABAP |
| GRCPCRTA | 300_700 | 0007 | SAPK-30307INGR... | GRCPC 300 RTA for 700 |
| EHSM | 100 | 0001 | SAPK-10001INEH... | SAP EHS Management Extension 1.0 |
| AIN | 400 | 0002 | SAPK-40002INAIN | AIN 400 : Add-On Supplement |
| MIAPMINT | 400_600 | 0000 | - | Meridium APM Integration Interfaces |
| MRSS | 700 | 0005 | SAPK-70005INMR... | Multi Resource Service Scheduling |

Navigation icons: back, forward, search, and refresh.

Footer icons: checkmark, error, and print.

3. If you deployed the SAP Adapter's ABAP Add-On package, scroll down until you see the Software Component *MIAPMINT*. If you see the following values in the following columns, the Add-On was applied successfully:

Deploy APM Connect

- **Release:** *400_600*, where *<SAP version>* indicates the version of SAP that you have installed.
- **Level:** *0000*

What's Next?

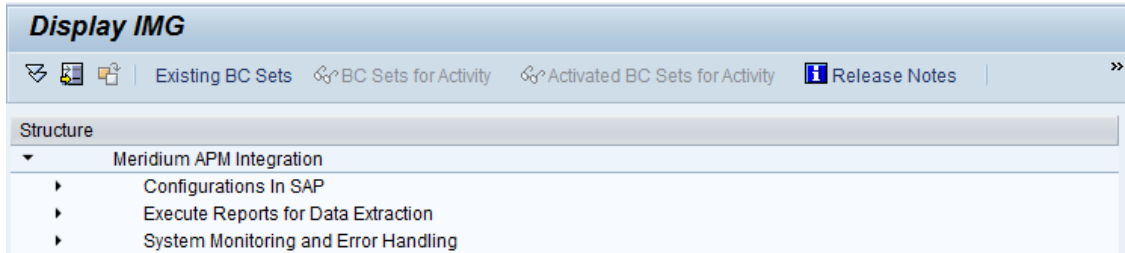
- Return to the workflow for the next step in the deployment process.

Add Entries to the /MIAPM/TASK_CNF Table

Steps

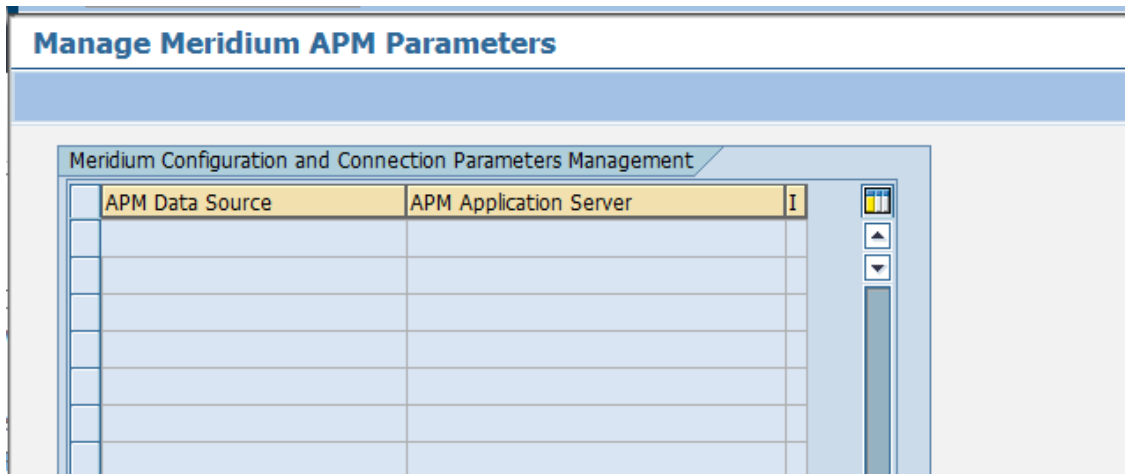
1. In the SAP system, run the following transaction: /n/MIAPM/MIPRO.


The **Display IMG** screen appears.



2. In the tree, expand **Configurations In SAP**.
3. Select **Maintain Meridium APM Parameters**.

The **Meridium Configuration and Connection Parameters Management** window appears.



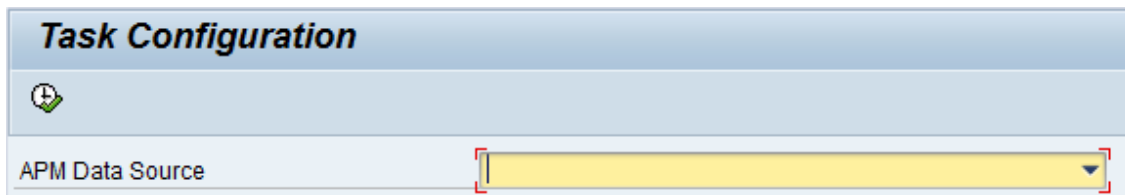
4. In the **APM Data Source** column, enter the APM data source(s) from which and to which you want to transfer data.
5. In the **APM Application Server**, enter your Meridium Enterprise APM Application server (s).
6. Select .

The **Meridium Configuration and Connection Parameters Management** window closes.

7. In the **Maintain Task Configuration Parameters** row, select



The **Task Configuration** screen appears.

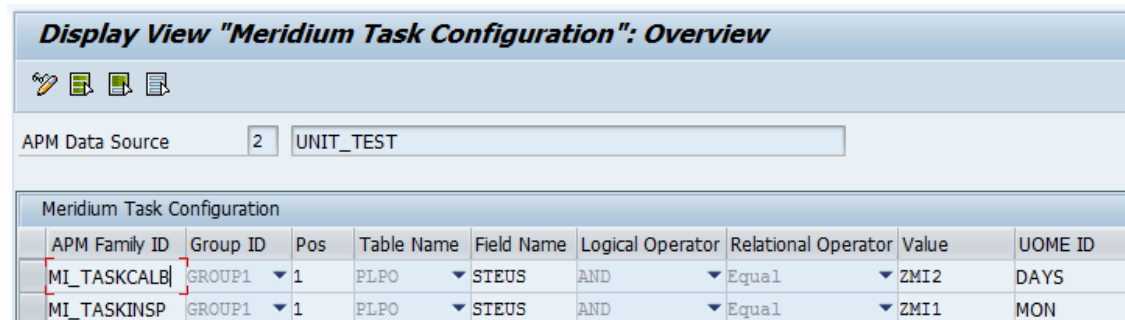


8. In the **APM Data Source** list, select the Meridium Enterprise APM data source for which you want to identify which Operation values will create which Task records.

Note: When defining the data sources, you must maintain the value for the **App Server** field.

9. Select

The **Display View "Meridium Task Configuration Table": Overview** screen appears. The following image illustrates the baseline table in an SAP system whose Client number is 000. Notice that there are two rows: one for Calibration Task records and one for Inspection Task records. This image illustrates a configuration in which Operations with the control key ZMI2 are used to create Calibration Task records, and Operations with the control key ZMI1 are used to create Inspection Task records.



10. To specify criteria that will be used to trigger the creation of Calibration Task and Inspection Task records, modify the values in the existing rows, or build on top of the current functionality by adding new rows. This documentation assumes that you are familiar with your SAP data structure and that you know how to define the criteria to achieve the desired result.

11. Select .

The criteria is saved.

Example

Suppose that the following Task List exists in your SAP System.

Display Equipment Task List: Operation Overview

Equipment 10000001 Turbine tube-update
 Group 7 Turbine tube-update Grp.Countr 8

| General Operation Overview | | | | | | | | | | |
|----------------------------|-----|----------|------|------|-----------------------|--------------------------|------|-----|-----|--|
| Op... | SOp | Work ctr | Plnt | Ctrl | Operation Description | LT | Work | Un. | No. | |
| 0010 | | PRODUCTI | 0001 | PI03 | Scaffolding Put Up | <input type="checkbox"/> | 0,0 | | 0 | |
| 0020 | | PRODUCTI | 0001 | ZMI1 | INSPECTION | <input type="checkbox"/> | 0,0 | | 0 | |
| 0030 | | PRODUCTI | 0001 | PP01 | Scaffolding Take down | <input type="checkbox"/> | 0,0 | | 0 | |

Although the list contains three Operations, only the second Operation, INSPECTION, is an inspection task. Therefore, you would want to configure the /MIAPM/TASK_CNF table such that when you run the Work Management Adapter, a Meridium Enterprise APM Inspection Task record is created for only that Operation.

The following image illustrates how you might configure the /MIAPM/TASK_CNF table in this scenario.

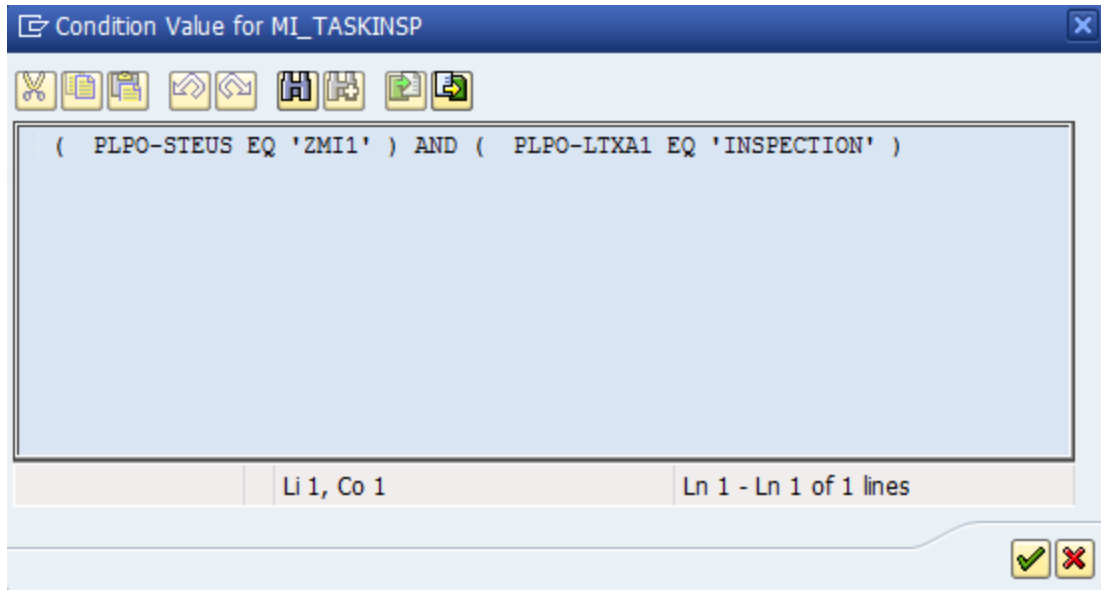
Display View "Meridium Task Configuration": Overview

APM Data Source 3 V360_TEST_DV_RM

| APM Family ID | Group ID | Pos | Table Name | Field Name | Logical Operator | Relational Operator | Value | UOME ID |
|---------------|----------|-----|------------|------------|------------------|---------------------|------------|---------|
| MI_TASKINSP | GROUP1 | 1 | PLPO | STEUS | OR | Equal | ZMI1 | MON |
| MI_TASKINSP | GROUP2 | 1 | PLPO | LTXA1 | AND | Equal | INSPECTION | |

The first row in this table specifies that the value in the control key field (i.e., the STEUS field) of the Operation must equal ZMI1. In addition, the second row specifies that the description of the Operation (i.e., the value in the LTXA1 field) must be INSPECTION.

The criteria specified for the MI_TASKINSP family in this example creates the condition shown in the following image.



Hint: To access the Condition Value for the <APM Family ID> dialog box, select a cell in the Value column, and then press F4.

The values that you specify in the Group ID column and the Pos column determine how the criteria in each row is arranged within the condition. In this example, each row is assigned to a different group, so the corresponding criteria is placed within different sets of parentheses. Although it is not shown in this example, if multiple rows were assigned to the same group, the value in the Pos column would determine the placement of the corresponding row's criteria within the parentheses.

When you run the Work Management Adapter, Meridium records are created for only the Operations that meet the specified criteria. Continuing with this example, an Inspection Task record is created for only the INSPECTION Operation.

What's Next?

- [Return to the workflow](#) for the next step in the deployment process.

SAP Interfaces Security Groups

The following table lists the baseline Security Groups that represent the main types of users for this module, as well as the baseline roles assigned to each.

| Security Group | Roles |
|--------------------------------|-------|
| MI SAP Interface Administrator | None |
| MI SAP Interface User | None |

The baseline family-level privileges that exist for these Security Groups are summarized in the following table.

| Family | MI SAP Interface Administrator | MI SAP Interface User |
|--|--------------------------------|------------------------------|
| Entity Family | | |
| Confirmation | View, Update, Insert, Delete | View, Update, Insert |
| Equipment | View, Update, Insert, Delete | View, Update, Insert |
| Functional Location | View, Update, Insert, Delete | View, Update, Insert |
| SAP System | View, Update, Insert, Delete | View |
| Site Reference | View | View |
| Work History | View, Update, Insert, Delete | View, Update, Insert |
| Work History Detail | View, Update, Insert, Delete | View, Update, Insert |
| Relationship Families | | |
| Equipment Has Equipment | View, Update, Insert, Delete | View, Update, Insert, Delete |
| Functional Location Has Equipment | View, Update, Insert, Delete | View, Update, Insert, Delete |
| Functional Location Has Functional Location(s) | View, Update, Insert, Delete | View, Update, Insert, Delete |
| Has Confirmation | View, Update, Insert, Delete | View, Update, Insert, Delete |
| Has Event Detail | View, Update, Insert, Delete | View, Update, Insert, Delete |

Deploy APM Connect

| | | |
|------------------|------------------------------|------------------------------|
| Has SAP System | View, Update, Insert, Delete | View, Update, Insert, Delete |
| Has Work History | View, Update, Insert, Delete | View, Update, Insert, Delete |
| User Assignment | View, Update, Insert, Delete | View, Update, Insert, Delete |

Identify Trigger Values for Creating Task Records


The Work Management Adapter allows you to create Inspection Task and Calibration Task records from SAP Maintenance Plans using Operations and Object Lists. This topic describes how to identify which values in an Operation or Object list will trigger the creation of which Task records in Meridium Enterprise APM.

The baseline product is configured such that:

- Operations with the control key ZMI2 will be used to create Calibration Task records.
- Operations with the control key ZMI1 will be used to create Inspection Task records.

Steps

1. If you want to accept the baseline configuration complete the following:
 1. Create the control keys ZMI1 and ZMI2.
 2. If you are using an SAP Client other than 000, add the appropriate entries to the /MIAPM/TASK_CNF table.

 **Note:** You are not required to use the default configuration. If you want to use values in different Operation fields (not control keys) to trigger the creation of Meridium Enterprise APM Task records, you can do so by [adding the appropriate entries to the /MIAPM/TASK_CNF table](#).

What's Next?


- [Return to the workflow](#) for the next step in the deployment process.

Create an EAM System Record

You must configure an EAM System Record to establish a connection between any EAM system and Meridium Enterprise APM.

Steps

1. Create a new record ,using the EAM System family.
2. In the **System ID**: box, enter the name of the SAP system.

 **Note:** We recommend that you use the format <SYSID>-<CLIENT>, where <SYSID> is the System ID of the SAP system and <CLIENT> is the Client number. By doing so, when you test the connection to the SAP system, the value in the Name field will match the value that will be populated automatically in the System ID field.

3. If this SAP system is the system to and from which you want to send data by default, select the **Default EAM System?** check box.
4. In the **User ID** box, enter a valid SAP User ID.
5. In the **Password** box, select **...**.


The **Enter SAP System Password** window appears.


6. In the **Enter Password** box, enter the password that is associated with the specified user ID.
7. In the **Confirm Password** box, reenter the password.
8. Select **OK**.
9. In the **Connection String** box:

1. Replace the text *SAP_SERVER_IP* with the IP address of the SAP Server.
2. Replace the text *SAP_SYSTEM_NUMBER* with the SAP System number.
3. Replace the text *SAP_CLIENT_NUMBER* with the SAP Client number.
4. Delete all angle brackets.

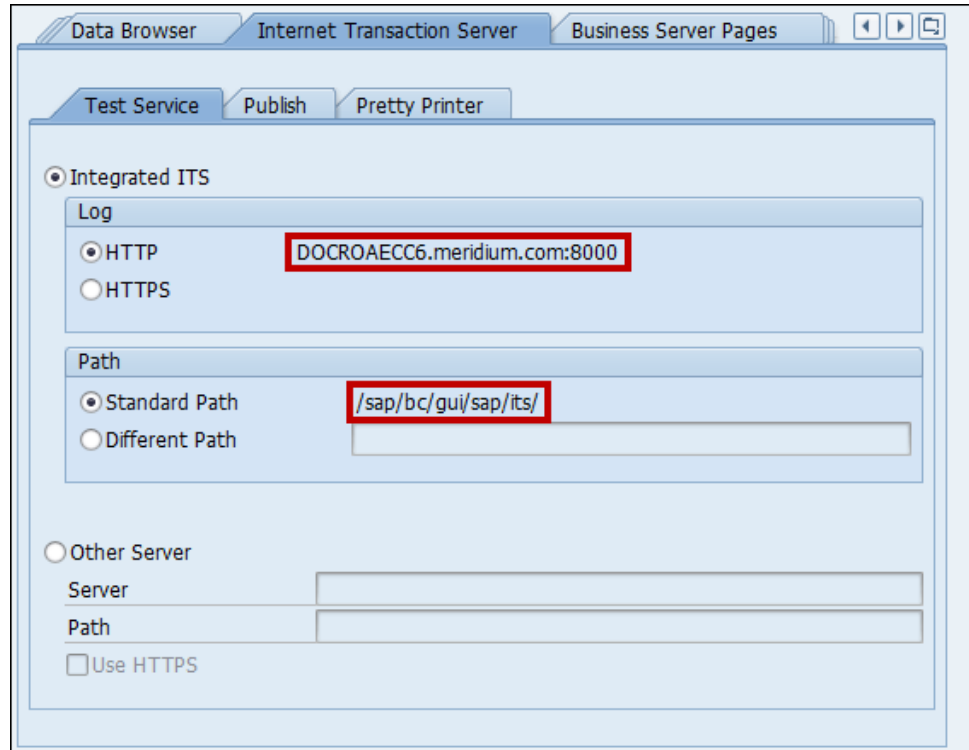
10. In the **ITS URL** box:

1. Replace the text *its_or_integrated_its_server_url* with the ITS Server information. To locate the ITS Server information:
 - i. In SAP, run the following transaction: *SE80*

 **Note:** If you do not have access to this transaction, contact your SAP BASIS team for assistance.

- ii. On the toolbar, select **Utilities**, and then select **Settings**.
- iii. On the upper-right corner of the screen, select  repeatedly until the **Internet Transaction Server** tab appears.
- iv. Select the **Internet Transaction Server** tab.

The ITS Server information that you must enter in the **ITS URL** box in Meridium Enterprise APM is <Log><Path>, where <Log> is the text in the **Log** section and <Path> is the text in the **Path** section.



2. Delete the angle brackets.
3. At the end of the URL, enter: webgui/!

For example, the ITS URL that corresponds with the values in the image above is `http:// DOCROAECC6.meridium.com:8000/sap/bc/gui/sap/its/webgui/!`

11. Select .

The EAM System record saved and created.

Results

An EAM system record is created for the EAM system to and from which you want to establish a connection with Meridium Enterprise APM. This record should now be used to link Site Reference.

Deploy APM Connect


Linking an EAM system to an EAM System record enables the APM Connect Adapters to create Notifications against that EAM System.

What's Next?

Return to the [SAP workflow](#) for the next step in the deployment process.

Test the Connection Defined in an EAM System Record

Steps

1. In the Meridium Enterprise APM application, open the [EAM System record](#) whose connection information you want to test.
2. To access the **Associated Pages** menu, select , and then select **Test Connection**.
The connection is tested.

Results

The connection information that you provided is tested, and a message appears, indicating whether or not the test was successful. In addition, the System ID field is populated automatically with the name of the SAP system, using the format <SYSID>-<CLIENT>, where <SYSID> is the System ID of the SAP system, and <CLIENT> is the Client number.


What's Next?

- [Return to the workflow](#) for the next step in the deployment process.

Configure Meridium Enterprise APM to Create Notifications from Recommendation Records


The SAP Interfaces feature allows you to create Recommendation records in Meridium Enterprise APM that will be used to create SAP Notifications automatically. For a Recommendation record to generate an SAP Notification automatically, the Create Work Request field must exist on the Recommendation datasheet. This field is available on the baseline datasheets for the baseline Recommendation families from which you are allowed to create SAP Notifications.

If you want to generate SAP Notifications from Recommendation records that belong to customer-defined subfamilies of the root Recommendation family, in addition to implementing the correct rules (for an example of the rules that you will need to implement, you can look at any active baseline Recommendation family), you will need to add the Create Work Request field to the desired datasheets for that family.

 **Hint:** You can create multiple types of SAP Notifications (e.g., M1) from Recommendation records. By default, Meridium Enterprise APM creates M1 Notifications.

Steps

1. If you want to create different Notification types, you will need to:
 1. Add the Notification Type field to the datasheet.
 2. Configure the Notification Type field to accept values other than M1.

 **Note:** In the baseline SAP Interfaces product, this field is disabled. If desired, you could configure it to be enabled so that users can type a value directly in the Notification Type cell on the datasheet. You might also consider creating a Valid Values rule that provides a list of acceptable values so that users can select the desired value from the list.

What's Next?

- [Return to the workflow](#) for the next step in the deployment process.

Configure SAP Task and Confirmation Creation

In order to transfer data between SAP items and Meridium Enterprise APM Task records and Event records for Inspection and Calibration, you will need to configure the datasheets used as the default datasheet.

Steps: Configure Meridium Enterprise APM to Transfer Data Between SAP Items and Task Records

1. Set the following baseline datasheets as the default datasheets on the Inspection and Calibration Task families:
 - **Inspection Task for SAP Integration:** Defined on the Inspection Task family.
 - **Calibration Task for SAP Integration:** Defined on the Calibration Task family.

Steps: Configure Meridium Enterprise APM to Create Confirmations from Calibration Event Records

1. Set the following baseline datasheets as the default datasheets on the Calibration Event families:
 - **Calibration, Analog:** Defined on the Calibration, Analog family.
 - **Calibration, Analyzer Multi-Component:** Defined on the Calibration, Analyzer Multi-Component family.
 - **Calibration, Analyzer Single Component:** Defined on the Calibration, Analyzer Single Component family.
 - **Calibration, Discrete:** Defined on the Calibration, Discrete family.
 - **Calibration, Functional Test:** Defined on the Calibration, Functional Test family.
 - **Calibration, Weight Scale:** Defined on the Calibration, Weight Scale family.

Steps: Configure Meridium Enterprise APM to Create Confirmations from Inspection Event Records

1. Set the following baseline datasheets as the default datasheets on the Inspection Event families:
 - **Bundle Inspection SAP Integration:** Defined on the Bundle Inspection family.
 - **Bundle Sub-Inspection SAP Integration:** Defined on the Bundle Sub-Inspection family.
 - **Visual Inspection SAP Integration:** Defined on the Full Inspection family.
 - **General Inspection SAP Integration:** Defined on the General Inspection family.

- **Pressure Test Inspection SAP Integration:** Defined on the Pressure Test Inspection family.
- **Pressure Test Sub-Inspection SAP Integration:** Defined on the Pressure Test Sub-Inspection family.

What's Next?

- [Return to the workflow](#) for the next step in the deployment process.

Configure the Query Get Tasks for Work Order Generation

The query Get Tasks for Work Order Generation is used to determine which Task records to use to create Orders in SAP.

The query contains the Task query source. For each record that is returned by the query, Meridium Enterprise APM will create an Order in SAP. The baseline query is configured to transfer Task records that meet specific criteria. If desired, you can modify the query to further limit the Task records that you want to transfer.

Steps

1. Create a query that meets at least the following requirements:
 - Contains the following column:
 - Field: ([Task].[Next Date]-[Task].[Call Horizon])
 - Alias: Expr
 - Criteria (\geq (? :d :caption='Last Successful Execution Date': id=LAST_DATE) AND $<$ Now())
 - Includes at least one field from the source family record.

What's Next?

- [Return to the workflow](#) for the next step in the deployment process.

Schedule Work Orders

Steps


1. [Access APM Connect](#).

The **APM Connect Configuration** page appears.

2. Select **EAM Settings**.


The **EAM Settings** page appears.

3. In the **Scheduling Properties** section, select **Edit Schedule**.

 **Note:** If there is a previously schedule item, a schedule summary will be displayed next to **Edit Schedule**. If there is no scheduled item, **Not scheduled** will be displayed next to the **Edit Schedule** button.

3. On the **Edit Schedule** window, select the **Recurrence** check box.

4. In the **Time Zone** box, select the appropriate time zone.

5. In the **Start** box, select  to schedule the start date and time.

- a. Select one of the following as appropriate:

- **The current date:** Select this option to use the current time and date as the starting point.
- **Clear:** Select this option to clear the current selection.
- **<Date>:** Select this option to use the selected date as the start date.

- b. Select , and then select the appropriate time.

- c. Select **Close**.

6. In the **Every** section, in the interval box, enter the numeric value for how often you want the generation to occur.

7. In the **Every** section, in the units box, select the interval unit (i.e., minutes, hours, years, etc).

8. In the **Every** section, in the begin box, select one of the following:

- **From start time:** Select this option to start the recurrence from the previously selected start time.
- **After last occurrence:** Select this option to begin the generation after the last time the job ran.

9. In the **End** box, based on when you want the recurrence to end, use the drop-down to select one of the following:

- **Never:** If you select this option, then the recurrence will not end.
- **After:** If you select this option, then you will enter a number of occurrences after which the generation will end.
- **Time & Date:** Select this option to use the calendar to select a time and date when the generation will end.


10. Select **OK**.

The schedule summary appears next to the **Edit Schedule**. Additionally, the scheduled item can be viewed in **Operations Manager** in **Scheduling**.

What's Next?



- [Return to the SAP Adapter workflow](#) for the next step in the deployment process.

Create CMMS Classification Type Records

 **Note:** If you using SAP PI, Classification and Characteristic synchronization are not supported.

Steps

1. Create a new record , using the **CMMS Classification Type** family.
2. In the **CMMS System** list, select the SAP system from which you want to extract characteristics.

The **SAP System** list is populated automatically with the value that appears in the Name field in the EAM System record whose **Default EAM System ?** check box is selected.
3. In the **Classification Type** list, select the item whose characteristics you want to extract: Equipment or Functional Location.
4. To access the **Associated Pages** menu, select , and then select **Synchronize Classifications**.
5. Select .

What's Next?

- [Return to the workflow](#) for the next step in the deployment process.

Identify Classifications to Extract

Steps

1. Open the [CMMS Classification Type record](#) representing the item whose classifications you want to extract (i.e., Equipment or Functional Location).
2. Select the **Details** tab. .
3. In the **Classification for Class Type** grid, in the rows representing the **Classifications** whose characteristics you want to extract, select the **Extract From CMMS System** boxes.

-or-

If you want to stop extracting all Characteristic for a Classification, clear the **Extract From CMMS System** check box.

4. Select .

The [CMMS Classification](#) records are saved.

Results

If you chose to stop extracting a classification:

- The **Extract From CMMS System** check box is cleared automatically in all [CMMS Characteristic records](#) that are linked to the [CMMS Classification record](#).
- When you run the corresponding characteristic extraction adapter, the characteristics whose **Extract From CMMS System** check boxes were cleared automatically will not be extracted.

What's Next?

- [Return to the workflow](#) for the next step in the deployment process.

Identify Characteristics to Extract

Steps

1. Open the [CMMS Classification](#) record representing the classification whose characteristics you want to extract.
 - Open the specific record in the Record Manager.
 - or-
 - Open the master [CMMS Classification Type](#) record to which it is linked, and view the CMMS Classification record in the grid in the datasheet.

2. Select .

3. In the grid on the [CMMS Classification](#) datasheet, in the rows representing the **Characteristics** that you want to extract, select the **Extract From CMMS System** check boxes.

-or-

If you want to stop extracting a characteristic, clear the **Extract From CMMS System** check box.

4. Select .

The [CMMS Characteristic](#) records are saved.


What's Next?

- [Return to the workflow](#) for the next step in the deployment process.

Refresh Meridium Enterprise APM to Reflect Current SAP Classifications and Characteristics

In some cases, after CMMS Classification and CMMS Characteristic records have been created in the Meridium Enterprise APM system, classifications and characteristics may get added or deleted in SAP. If this happens, you can refresh your Meridium Enterprise APM system so that it accurately reflects the most current data in SAP.

Steps

1. In the Record Manager, open the CMMS Classification Type record whose CMMS Classification records you want to update.
2. To access the **Associated Pages** menu, select , and then select **Synchronize Classifications**.

The Classifications are refreshed.

Results

- The Meridium Enterprise APM system checks the SAP system for any new or deleted classifications that are associated with the specified classification type (i.e., Equipment or Functional Location).
- If any classifications have been deleted in SAP, the corresponding CMMS Classification record is deleted.
- Likewise, if any classifications have been added, a new CMMS Classification record is created.
- If any classification descriptions have changed in SAP, the corresponding CMMS Classification record is updated with the new description.

What's Next?

- [Return to the workflow](#) for the next step in the deployment process.

About EAM System Records

When you transfer data from Meridium Enterprise APM to your EAM during any of the following workflows, the Meridium Enterprise APM system uses EAM System records to determine which EAM system to use:

- [Creating or updating SAP Notifications from Meridium Enterprise APM Recommendation records.](#)
- [Creating or updating SAP Confirmations from Meridium Enterprise APM Confirmation records.](#)
- [Creating SAP Orders from Meridium Enterprise APM Task records.](#)

In addition, EAM System records are used by the Equipment Characteristics Extraction Adapter and the Functional Location Characteristics Extraction Adapter in both of the following workflows:

- When you create [CMMS Classification Type records](#), EAM System records are used to determine which EAM system information to use to populate the CMMS System ID field.
- When you [refresh the Meridium Enterprise APM system to reflect the current SAP classifications and characteristics](#), EAM System records are used to determine the EAM system in which to look for the current classifications and characteristics.

Site Filtering in the EAM Adapters

⚠ IMPORTANT: Site Reference records must preexist in your Meridium Enterprise APM System, before you can use the EAM Adapters to populate the site key. Additionally, the site entered into the context file must match the exact value in the corresponding Site Reference record.

⚠ IMPORTANT: The user who is running the EAM Adapters jobs, must have permissions in Meridium Enterprise APM to access that site to which the records being loaded will be assigned. Additionally, those user's credentials must be entered into the context file. If the user's account is not configured for the appropriate site, then the data load will fail, and they will receive an error.

The EAM Adapters are used to populate the Site Reference on Equipment and Functional Location records in Meridium Enterprise APM. The adapters populate the MI_SITE_KEY system field with the ENTY_KEY system field associated with the Site Reference value to be populated. On asset records, the Site Reference is stored in the MI_SITE_KEY field, a system field in Meridium Enterprise APM. The EAM Adapters uses the Site Name (MI_SITE_NAME) to translate the value to the corresponding Site Key and populate the MI_SITE_KEY field; therefore, you do not need to know the key to be able to populate the site reference. This functionality is important because this value can change from one database to another.

When records are loaded using the Equipment or Function Location Adapters, the system will assign the site key (MI_SITE_KEY) to the assets using the value designated in the [context file](#). The following parameters are used to designate the Site Reference value:

- **SITE_REFERENCE_EQUIP:** Used to populate the Site Reference Key on Equipment records being loaded into Meridium Enterprise APM. The Site Reference Key determines to which Site the Equipment record(s) will be assigned.
- **SITE_REFERENCE_FLOC:** Used to populate the Site Reference Key on Functional Location records loaded into Meridium Enterprise APM. The Site Reference Key determines to which Site the Functional Location record(s) will be assigned.

📄 Note: The values entered into these parameters should match, because Equipment records are linked to Functional Location records. Therefore, they should have the same site.

These parameters accept three types of values to determine the site reference value.

- a. **Site Name:** You can enter the site name directly as defined on the preexisting Site Reference record (i.e., Site 100).
- b. **Column Name:** You can use the character # and enter a column value to set the site reference. The following columns can be used:

- SAP columns:
 - MI_EQUIP000_PLNNG_PLNT_C
 - MI_EQUIP000_SAP_SYSTEM_C
 - MI_EQUIP000_MAINT_PLANT_C
 - MI_FNCLOC00_MAINT_PLNT_C
 - MI_FNCLOC00_PLNNG_PLNT_C
 - MI_FNCLOC00_SAP_SYSTEM_C
- Maximo columns:
 - MI_FNCLOC00_SITE_C
 - MI_EQUIP000_SITE_C

For example, if you wanted to use your SAP maintenance plant field as your Meridium Enterprise APM site reference, you would enter #MI_EQUIP000_MAINT_PLANT_C#.


- c. **Null:** You can leave the value as null. The site key will be null if a site reference value is not mapped in between the tags.

If the assets being loaded into Meridium Enterprise APM are global records, meaning they will not be filtered according to site, then the Site Reference parameters can be left blank. Once the records are loaded with a null value in the Site Reference parameters, the asset records will be designated as Global.


Once the adapters are run, records designated to be transferred into Meridium Enterprise APM, will be assigned to the site defined in the Site Reference parameters.

In addition to Equipment and Functional Location records loaded by the EAM adapters, Work History records and shell records are impacted by site reference functionality as detailed in the following table.

| Action | Result |
|---|--|
| If the Work History Adapter is run after the Equipment or Functional Location Adapter... | The Work History records will inherit the site key of their parent Functional Location or Equipment records. |
| If the Work History Adapter is run before the Equipment or Functional Location Adapter... | The site key will be Global, and a shell record will be created for Equipment and Functional Location. |
| If a shell record is created while loading data... | The site key will be Global. |

 **Note:** If you are using [multiple SAP Systems](#), you must set up a context file for each system, and designate the appropriate site(s) for each EAM Systems.


About Extracting Characteristics

 **Note:** If you are using SAP PI, Classification and Characteristic synchronization are not supported.

When you create CMMS Classification Type records using the CMMS System list, you must select the SAP system from which you want to extract characteristics belonging to that classification type. The **CMMS System** list displays the values in the Name field in all existing EAM System records. When you save the CMMS Classification Type record, the Meridium Enterprise APM system finds the EAM System record whose Name field contains the selected value, and the value in the System ID field in that EAM System record is copied to the CMMS System ID field in the CMMS Classification Type record.

Then, when you create CMMS Classification or CMMS Characteristic records that are associated with that CMMS Classification Type record, the value in the CMMS System ID field in the CMMS Classification Type record is copied automatically to the CMMS System ID field in those records.

CMMS Characteristic records are created automatically and linked to the CMMS Classification record. Each CMMS Characteristic record is created from a characteristic that currently exists in the specified SAP system (using the CMMS System field in the CMMS Classification record). The CMMS Characteristic records are displayed in a grid on the CMMS Classification datasheet, as shown in the following image:

 **Note:** The System ID field is available on the baseline EAM System datasheet, but the CMMS System ID field is not available on the baseline CMMS Classification Type, CMMS Classification, or CMMS Characteristic datasheets.

When you run the Equipment Characteristic Extraction Interface or the Functional Location Characteristic Extraction Interface, the Meridium Enterprise APM code needs to determine which specific characteristics to extract from that system. To do so, it evaluates the CMMS Characteristic records that exist in your Meridium Enterprise APM database. If it finds any CMMS Characteristic records whose CMMS System ID field value identifies the SAP system from which you are running the interface, it will extract only those characteristics from that SAP system (assuming that the **Extract from CMMS System** check box is selected in the CMMS Characteristic record).

About Classification Hierarchies

In SAP, for any given class, one or more of its characteristics can be inherited from another class. For example, consider the following SAP classes:

- EQ_CLASS_0001
- Fasteners
- Bolts
- Hexagonal Bolt

As shown in the following image, EQ_CLASS_0001 has four unique characteristics:

The screenshot shows the SAP configuration for class EQ_CLASS_0001. The 'Char.' tab is selected, displaying a table of characteristics.

| Characteristic | Description | Data... | N... | D... | Unit | R.. |
|------------------------|----------------------------|---------|------|------|------|--------------------------|
| SAP_EHS_1017_003_TE... | Test type | CHAR | 30 | 0 | | <input type="checkbox"/> |
| OPH | Operating Hours | NUM | 10 | 0 h | | <input type="checkbox"/> |
| LOCAL_REG_NUM | Local Registration Numb... | CHAR | 30 | 0 | | <input type="checkbox"/> |
| COLOR | Color | CHAR | 25 | 0 | | <input type="checkbox"/> |

As shown in the following image, Fasteners also has four sets of unique characteristics:

The screenshot shows the SAP configuration for class FASTENERS. The 'Char.' tab is selected, displaying a table of characteristics.

| Characteristic | Description | Data... | N... | D... | Unit | R.. |
|-------------------|-------------------|---------|------|------|------|--------------------------|
| NUMBEROFTHREADS | Number of Threads | NUM | 10 | 0 | | <input type="checkbox"/> |
| THREAD_TYPE | THREAD TYPE | CHAR | 5 | 0 | | <input type="checkbox"/> |
| LENGTH | Length | NUM | 3 | 2 cm | | <input type="checkbox"/> |
| FASTENER_DIAMETER | Diameter | NUM | 2 | 1 cm | | <input type="checkbox"/> |

Bolts, however, inherits all of the characteristics from EQ_CLASS_0001 and FASTENERS. In addition, Bolts has two unique characteristics of its own: HEAD_SHAPE and BOLT_TYPE:

Class: BOLTS

Class type: 002 Equipment Class

Change Number:

Valid from: 30.07.2012 Validity

Basic data | Keywords | Char. | Texts

| Characteristic | Description | Data... | N... | D... | Unit | R... |
|-----------------------|----------------------------|---------|------|------|------|--------------------------|
| SAP_EHS_1017_003_TEST | Test type | CHAR | 30 | 0 | | <input type="checkbox"/> |
| OPH | Operating Hours | NUM | 10 | 0 h | | <input type="checkbox"/> |
| LOCAL_REG_NUM | Local Registration Numb... | CHAR | 30 | 0 | | <input type="checkbox"/> |
| COLOR | Color | CHAR | 25 | 0 | | <input type="checkbox"/> |
| NUMBEROFTHEADS | Number of Threads | NUM | 10 | 0 | | <input type="checkbox"/> |
| THREAD_TYPE | THREAD TYPE | CHAR | 5 | 0 | | <input type="checkbox"/> |
| LENGTH | Length | NUM | 3 | 2 cm | | <input type="checkbox"/> |
| FASTENER_DIAMETER | Diameter | NUM | 2 | 1 cm | | <input type="checkbox"/> |
| HEAD_SHAPE | HEAD SHAPE | CHAR | 10 | 0 | | <input type="checkbox"/> |
| BOLT_TYPE | TYPE OF bOLT | CHAR | 10 | 0 | | <input type="checkbox"/> |

Finally, Hexagonal Bolt also inherits all of the characteristics from EQ_CLASS_0001, FASTENERS, and BOLTS. It also has one unique characteristic of its own: TOLERANCE:

Class: HEXAGONALBOLT
 Class type: 002 Equipment Class
 Change Number:
 Valid from: 30.07.2012

Basic data | Keywords | Char. | Texts

| Characteristic | Description | Data... | N... | D... | Unit | R.. |
|------------------------|----------------------------|---------|------|------|------|--------------------------|
| HEAD_SHAPE | AD SHAPE | CHAR | 10 | 0 | | <input type="checkbox"/> |
| BOLT_TYPE | TYPE OF bOLT | CHAR | 10 | 0 | | <input type="checkbox"/> |
| SAP_EHS_1017_003_TE... | Test type | CHAR | 30 | 0 | | <input type="checkbox"/> |
| OPH | Operating Hours | NUM | 10 | 0 h | | <input type="checkbox"/> |
| LOCAL_REG_NUM | Local Registration Numb... | CHAR | 30 | 0 | | <input type="checkbox"/> |
| COLOR | Color | CHAR | 25 | 0 | | <input type="checkbox"/> |
| NUMBEROFTHEADS | Number of Threads | NUM | 10 | 0 | | <input type="checkbox"/> |
| THREAD_TYPE | THREAD TYPE | CHAR | 5 | 0 | | <input type="checkbox"/> |
| LENGTH | Length | NUM | 3 | 2 cm | | <input type="checkbox"/> |
| FASTENER_DIAMETER | Diameter | NUM | 2 | 1 cm | | <input type="checkbox"/> |
| TOLERANCE | tolerance | NUM | 3 | 0 % | | <input type="checkbox"/> |

Using these SAP classes, in the Meridium Enterprise APM system, if you were to select the **Extract From CMMS System** check box for the HEXAGONALBOLT class, after selecting the **Synchronize Characteristics** link while viewing the HEXAGONALBOLT CMMS Classification record, the following CMMS Characteristic records would be created automatically:

| Class Group | Classification | Characteristic Name | Characteristic Description | Extract From CMMS System |
|-------------|----------------|---------------------|----------------------------|--------------------------|
| | EQ_CLASS_001 | COLOR | | <input type="checkbox"/> |
| | FASTENERS | FASTENERS DIAMETER | | <input type="checkbox"/> |
| | BOLTS | HEAD SHAPE | | <input type="checkbox"/> |
| | FASTENERS | LENGTH | | <input type="checkbox"/> |
| | EQ_CLASS_001 | LOCAL_REG_NUM | | <input type="checkbox"/> |
| | FASTENERS | NUMBEROFTHEADS | | <input type="checkbox"/> |
| | EQ_CLASS_001 | OPH | | <input type="checkbox"/> |
| | EQ_CLASS_001 | SAP_EHS_1017_003 | | <input type="checkbox"/> |
| | FASTENERS | THREAD_TYPE | | <input type="checkbox"/> |
| | HEXAGONALBOLT | TOLERANCE | | <input type="checkbox"/> |
| | BOLTS | BOLT_TYPE | | <input type="checkbox"/> |

As you can see from the Classification column, some of the characteristics are inherited from other classes:

Specifically, you can see that:

- The following characteristics are inherited from the class EQ_CLASS_0001:
 - COLOR
 - LOCAL_REG_NUM
 - OPH
 - SAP_EHS_1017_003_TEST_TYPE
- The following characteristics are inherited from the class FASTENERS:
 - FASTENER_DIAMETER
 - LENGTH
 - NUMBEROFTHEADS
 - THREAD_TYPE
- The following characteristics are inherited from the class BOLTS:
 - HEAD_SHAPE
 - BOLT_TYPE
- The characteristic TOLERANCE is assigned directly to the class HEXAGONALBOLT (no highlighting).

If you selected the **Extract From CMMS System** check boxes for *all* of these characteristics, if you were to run the Equipment Characteristics Extraction Interface without filters, *all* of these characteristics would be extracted.

If, however, you were to filter the report to extract only characteristics belonging to the HEXAGONALBOLT class, only characteristics that are assigned directly at the HEXAGONALBOLT level would be extracted. In other words, because only TOLERANCE is assigned directly to HEXAGONALBOLT, only the TOLERANCE characteristic would be extracted.

About the //MIAPM/TASK_CNF Table

The //MIAPM/TASK_CNF table allows you to define criteria that will be used to create Inspection Task and Calibration Task records from SAP Operations. The following image illustrates the baseline table in an SAP system whose Client number is 000. Notice that there are two rows: one for Calibration Task records and one for Inspection Task records. This image illustrates the baseline configuration, in which Operations with the control key ZMI2 are used to create Calibration Task records and Operations with the control key ZMI1 are used to create Inspection Task records.

Display View "Meridium Task Configuration": Overview

APM Data Source: 2 UNIT_TEST

| Meridium Task Configuration | | | | | | | | | |
|-----------------------------|----------|-----|------------|------------|------------------|---------------------|-------|---------|--|
| APM Family ID | Group ID | Pos | Table Name | Field Name | Logical Operator | Relational Operator | Value | UOME ID | |
| MI_TASKCALB | GROUP1 | 1 | PLPO | STEUS | AND | Equal | ZMI2 | DAYS | |
| MI_TASKINSP | GROUP1 | 1 | PLPO | STEUS | AND | Equal | ZMI1 | MON | |

Details: Table Columns


When you access the table, you will see a grid, in which you can add or remove rows to define the desired criteria. The grid contains the following columns:

- **Family ID:** The Meridium Enterprise APM Task family whose records will be created using the criteria defined in that row. Each row should contain the value MI_TASKCALB (for Calibration Task records), MI_TASKINSP (for Inspection Task records), or the ID of another Meridium Enterprise APM Task family.
- **Group ID:** The ID that you can use to create groups of criteria within the condition that this table creates. When you assign the same Group ID to multiple rows in the //MIAPM/TASK_CNF table, the corresponding values are placed within parentheses in the resulting condition.
- **Pos:** Specifies the placement of the row's criteria within the corresponding group.
- **Table Name:** The name of the SAP table whose field value will be used to trigger the creation of records in the corresponding Meridium Enterprise APM Task family. You can select PLAS, PLKO, or PLPO.
- **Field Name:** The name of the SAP field whose value will be used to create records in the corresponding Meridium Enterprise APM Task family. In the baseline table for SAP Client 000 customers, both rows contain the value STEUS, which identifies the Control Key field.
- **Logical Operator:** An operator that combines criteria found in multiple rows. You can select AND or OR.

- **Relational Operator:** An operator that defines the condition to apply to the SAP field value identified by that row. You can select any of the following options:
 - Equal
 - Not Equal
 - Greater than Equals To
 - Lesser than Equals To
 - Greater Than
 - Lesser Than
 - IN
 - Not IN


In the baseline table for SAP Client 000 customers, both rows contain the value Equals, which indicates that the value in the Control Key field must equal a certain value in order to trigger the creation of Inspection Task or Calibration Task records.

- **Value:** The value used to determine which records will be created in the corresponding Meridium Enterprise APM Task family. In the baseline table for SAP Client 000 customers:
 - The first row contains the value ZMI2, which indicates that the value in the Control Key field must equal ZMI2.
 - The second row contains the value ZMI1, which indicates that the value in the Control Key field must equal ZMI1.

 **Hint:** With a field in this column selected, you can press F4 to see the condition that is created by the criteria that is specified for the corresponding Meridium Enterprise APM family.


About User's Permissions for File Shares

When using a shared file system to facilitate data extraction from SAP to APM Connect, you will need to grant the [service account user\(s\)](#) the appropriate permissions to access both systems.

 **Note:** Using active directory to manage the service account is recommended.

The volume to be mounted can be in three configurations: NAS/SAN, Windows, or Unix. Additionally, access control could be different for each configuration, as shown in the following table:

| Volume (Disk, Share, LUN) | Access Control |
|---------------------------|---|
| NAS/SAN | Vendor specific user mapping (i.e. NetApp), or active directory integrations. |
| Windows | Users/Groups permissions are defined in Active Directory. |
| Unix | Active Directory integration, or user maps (i.e. Samba or Config). |

 **Hint:** When the shares are created and permissions configured correctly, [run the equipment job](#) for a single equipment ID. This is a quick and easy way to check that permissions are set up correctly. After you run the job, a file will be created using the SAP service account, then opened and read by the [APM Connect service account](#).

Deploy the SAP PI Adapters

This topic provides a list of all procedures related to the PI Specific setup, as well as links to the related concept and reference topics.

Deploy the SAP PI Adapters for the First Time

The following table outlines the steps that you must complete to deploy and configure this module for the first time. These instructions assume that you have completed the steps for deploying the basic Meridium Enterprise APM system architecture.

These tasks may be completed by multiple people in your organization. We recommend, however, that the tasks be completed in the order in which they are listed.

| Step | Task | Notes |
|------|---|------------------------|
| 1 | Deploy the SAP Adapters. | This step is required. |
| 2 | On your SAP PI sever, import the design object. | This step is required. |
| 3 | On your SAP PI sever, import the configuration object. | This step is required. |
| 4 | On your SAP PI sever, modify the baseline communication channels. | This step is required. |
| 5 | On your SAP PI server, activate the RFCReceiverToECC object. | This step is required. |
| 6 | In SAP, define the command name. | This step is required. |
| 7 | In SAP, install the SAPCAR file. | This step is required. |
| 8 | In SAP, create SAP PI directory structure. | This step is required. |

Upgrade the SAP PI Adapters to EAM SAP PI V1.1.0

The following tables outlines the steps that you must complete to upgrade this module to EAM SAP PI V1.1.0 These instructions assume that you have completed the steps for upgrading the basic Meridium Enterprise APM system architecture.

These tasks may be completed by multiple people in your organization. We recommend, however, that the tasks be completed in the order in which they are listed.

To Upgrade from EAM SAP PI V1.0.0

| Step | Task | Notes |
|------|--|-------|
| 1 | Upgrade the adapter jobs. | None |
| 2 | Get the new context files. | None |

Import the Design Object

Steps

1. Access the APM Connect installation package.
2. Navigate to the folder that corresponds to the version of SAP PI that you are using. For example if you are using SAP PI version 7.3, navigate to *SAP PI 730*.
3. Copy the file *MERIDIUM_APMCONNECT_V1_0.tpz*.
4. On the SAP PI Server, paste the copied file to the folder *lus-r\sap\<SID>\SYS\global\xl\repository_server\import*, where *<SID>* is the system ID of the SAP PI Server.

-or-

Paste the copied file anywhere on your local machine.

5. If you are using a version prior to SAP PI 7.3, select **Integration Repository**.

-or-

If you are using SAP PI 7.3 or above, select **Enterprise Services Builder**.

A login screen appears.

6. Log in as an administrator.

Depending on the SAP PI Server version you are using, the **Design: Integration Builder** window or the **Enterprise Services Builder** window appears.

7. On the **Tools** menu, select **Import design objects**.

The **Choose Import Source** window appears.

8. Select **Client** if the file copied in step on was pasted onto your local machine, or select **Server** if the file copied in step one was pasted to *lus-r\sap\<SID>\SYS\global\xl\repository_server\import*

9. Select the **Design Objects** folder.

10. Select the file *MERIDIUM_APMCONNECT_V1_0.tpz*, and then select **OK**.

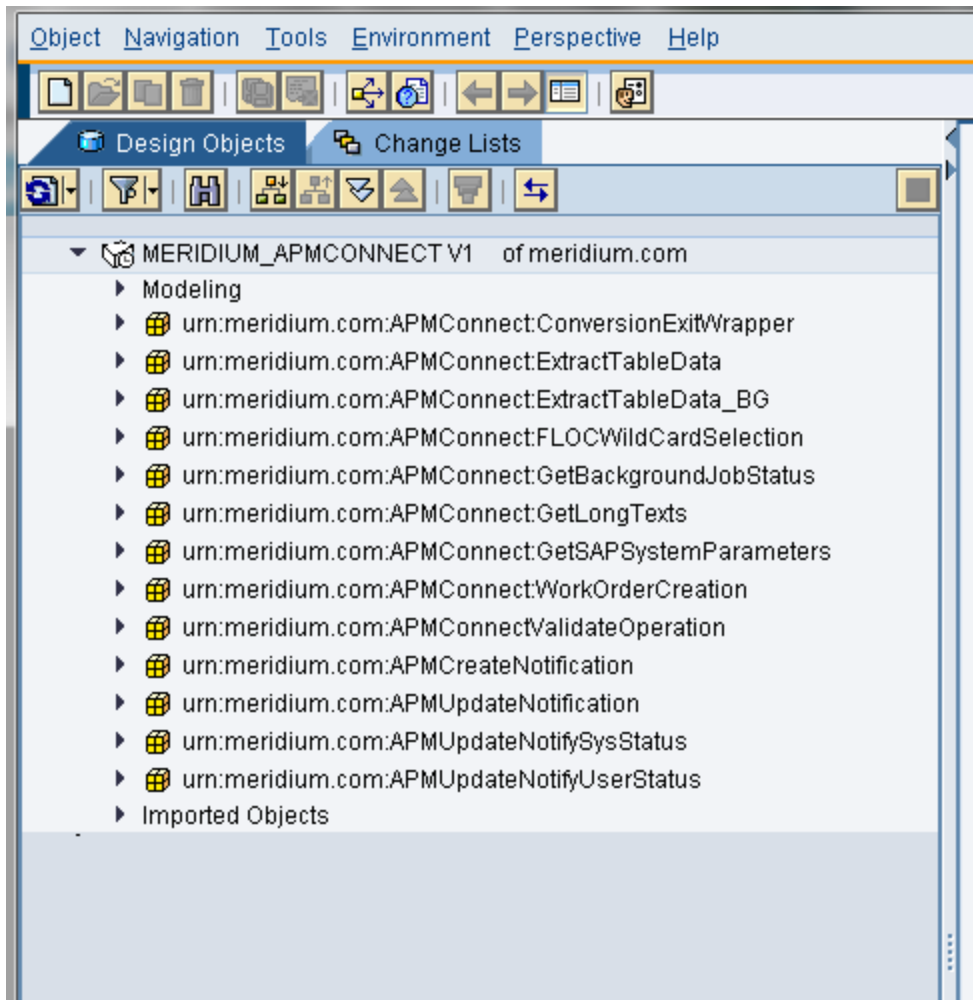
A confirmation dialog box appears.

11. Select **Import**.

The file is imported.

12. Select **Close**.

The Design Object is imported and appears in the **Design Object** section.



Import the Configuration Object

The steps for importing the configuration object are different depending on which SAP PI Server version you are using.

Steps

1. Access the APM Connect installation package.
2. Navigate to the folder that corresponds to the version of SAP PI that you are using. For example if you are using SAP PI version 7.3, navigate to *SAP PI 730*.
3. Copy the file *MERIDIUM_APMCONNECT_V1_0.tpz*.
4. On the SAP PI Server, paste the copied file into the folder `usr\sap\<SID>\SYS\global\ix\directory_server\import`, where *<SID>* is the system ID of the SAP PI Server.

-or-

Paste the copied file anywhere on your local machine.

5. In a web browser, navigate to `http://<SAP PI Server>:<port number>/rep/start/index.jsp`, where *<SAP PI Server>* is the name of the SAP PI Server and *<port number>* is the port number of the specified SAP PI Server.

The **SAP Exchange Infrastructure** window appears.

6. Select **Integration Directory**.

A login screen appears, prompting you to log in to the **Configuration: Integration Builder**.

7. Log in as an administrator.

The **Configuration: Integration Builder** window appears.

8. On the **Tools** menu, select **Import configuration objects**.

The **Choose Import Source** window appears.

9. Select **Client** if the file copied in step three was pasted onto your local machine, or select **Server** if the file copied in step one was pasted to `usr\sap\<SID>\SYS\global\ix\directory_server\import`.

10. Select the **Configuration Objects** folder.

11. Select the file *MERIDIUM_APMCONNECT_V1_0.tpz*, and then select **OK**.

A confirmation dialog box appears.

12. Select **Import**.

The file is imported, and a confirmation message appears.


13. Select **Close**.

The configuration object is imported, and the objects appear in the **Configuration Integration Builder**.

What's Next?

You will now need to [modify the baseline communication](#) channels. To do so, you will need to remain logged in to the **Configuration: Integration Builder**.

Modify the Baseline Communication Channels

 **Note:** If the FILE_MOVE_USE parameter is set to false in the [context file](#), you can skip this procedure.

There are four baseline communication channels that are a part of the APM Connect SAP-PI Adapters: FileReceiver_APMConnect, SOAPSender_APMConnect, FileSender_SAP_ECC, and RFCReceiver_SAP_ECC. You will need to modify the following baseline communication channels:

- FileReceiver_APMConnect
- FileSender_Meridium_ECC

Steps

1. In a web browser, navigate to `http://<SAP PI Server>:<port number>/rep/start/index.jsp`, where <SAP PI Server> is the name of the SAP PI Server and <port number> is the port number of the specified SAP PI Server.

The **SAP Exchange Infrastructure** window appears.

2. Select **Integration Directory**.

A login screen appears, prompting you to log in to the **Configuration: Integration Builder**.

3. Log in as an administrator.

The **Configuration: Integration Builder** window appears.

1. In the **Configuration: Integration Builder**, in the **Scenarios** section, expand the **MeridiumAPMConnectIntegratedConfigurations V1.0** row.
2. Expand the **Service Without Party** row.
3. Expand the **Business Service** row.
4. Expand the **Meridium_APMConnect** row.
5. Expand the **Communication Channel** row.

The row expands, and the following APM Connect Communication Channels appear:

- FileReceiver_APMConnect
- FileSender_Meridium_ECC


6. Select FileReceiver_APMConnect.




The **Display Communication Channel** screen appears.

7. Select .

8. In the **File Access Parameters** section, in the **Target Directory** box, enter the target

directory file path.

 **Important:** This path must match exactly the IR_TALEND_OUTPUT [parameter in the context file](#).

9. In **File Name Scheme**, enter *.*.
10. Select .
11. Select the FileSender_Meridium_ECC.
Display Communication Channel screen appears.
12. Select .
13. In the **File Access Parameters** section, in **Source Directory** box, enter the SAP target directory exactly as it is in the [PLSAP_INPUT parameter in the context file](#).
14. In **Processing Parameters** section, the **Poll Interval** box, enter the recommended value of 100.
15. In the **Processing Mode** box, select **Delete**.
16. In the File Name Scheme, enter *.*.
17. Select .

The communication channels are modified.

Activate the RFCReceiver_SAP Object

The steps for activating the RFCReceiver_SAP object are different depending on which SAP PI Server version you are using. To access the appropriate instructions, select the SAP PI Server version that you are using:



Steps

1. In the Configuration: Integration Builder, select the **Change Lists** tab.
2. In the **Change Lists** section, select XI 3.0 Import, and then select | **SAP_ECC|RFCReceiverToECC**.

The **Error Loading Adapter Metadata** dialog box appears.

3. Select **Close**.

The communication channel details appear on the right side of the screen.

4. On the right side of the screen, select .
5. In the **Parameters** section, in the **Adapter Type** row, select .


The **Choose Adapter Metadata** window appears.

6. Select the latest RFC Adapter from the list, and then select **Apply**.


The communication channel details return to focus.

7. In the **Properties** section, confirm or enter values for the following parameters:

- RFC Server Type

 **Note:** This parameter must be set to SAP System.

- Application Server
- System Number
- Authentication Mode

 **Note:** This parameter must be set to Use Logon Data for SAP System.

- Logon User
- Logon Password
- Logon Language
- Logon Client

8. Select .


9. In the **Change Lists** section, right-click on **PI <version number> Import**, and then select **Activate**.

A confirmation message appears.


10. Select **Activate**.

The object is activated.

Define the Command Name in SAP

 **Note:** If you are not using a compression method during the extraction, then you can skip this procedure.

If you are using a compression option in the context file, you need to define the command name for the compression type you are using. There are two types of compressions for APM Connect SAPCAR and ZIP. You can only use one type of compression.

 **Note:** It is recommended to use SAPCAR as your compression type.

Steps

1. In SAP, run the transaction code *SM69*.

The **External Operation System Commands** screen appears.

2. Select .

The **Create an External Command** screen appears.

3. In the **Command** section, in the **Command Name** box, enter one of the following the command names:

- **ZSAPCAR**: if you are using SAPCAR for compression.

-or-

- **ZZIP**: if you are using ZIP for compression.

4. In the **Definition** section, in the **Operating system command** box, enter one of the following systems commands:

- *SAPCAR -cvf*: if you are using SAPCAR for compression.

-or-

- *ZIP -9 -j*: if you are using ZIP for compression.

5. Select **Save**.

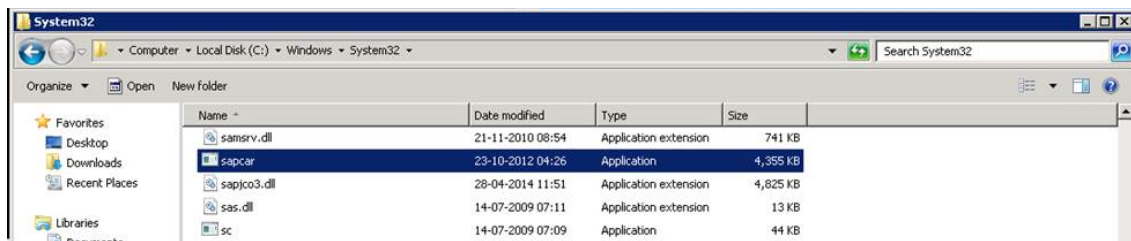
The Command Name is defined.

Install the SAPCAR File on the APM Connect Server

Note: If you are not using SAPCAR to compress files, then skip this procedure and proceed to the next procedure in the installation workflow.

Steps

1. On the SAP Server, copy the SAPCAR.exe file.
2. Access the APM Connect Server.
3. In the windows system32 directory, paste the SAPCAR.exe file, as shown in the following image:



The SAPCAR file is installed.


Create SAP PI Directory Structure

You will need to set up a directory structure on your SAP server to facilitate transfers from SAP PI to APM Connect. The structure depends on the [FILE_MOVE_USE_PI parameter and the COMPRESS_TYPE parameter usage in the context file](#). Additionally, the folder structure depends on whether you are using [FTP mode](#) to transfer files.

Steps

1. On your SAP server, create one directory and subdirectory according to the following grid:

| If FILE_MOVE_USE_PI is.. | ...and COMPRESS_TYPE is... | ... create the following directory structure: |
|---|----------------------------|---|
| false | NONE | <root:> /False |
| false | ZIP or SAPCAR | <root:>/False/Compress |
| true | NONE | <root:>/ |
| true | ZIP or SAPCAR | <root:>/Compress. |
| If you are running the adapters in FTP Mode | | |
| true | NONE | <root:> /FTP |
| true | SAPCAR or ZIP | <root:> /FTP/Compress |

 **Note:** Each directory needs to be in a shared directory that APM Connect can access, and should be the base path value in PLSAP_INPUT parameter.

The directories are created, and the SAP PI server and APM Connect server can extract files from the SAP sever.

Overview of APM Connect

Meridium APM Connect is an integration framework designed to connect users to the valuable data that exists in data stores, systems, and applications throughout the enterprise.

The framework delivers data transformation engines to convert data to their appropriate forms, a modular integration engine to handle complex routing scenarios, and other engineered components to create a unified integration solution.

Built on the APM Connect framework are numerous adapters that can meet many integration needs by either pulling data from or pushing it into other sources in the data ecosystem. APM Connect offers new EAM connection adapters as replacement technology for some existing EAM interfaces, and will continue to add additional adapters and capabilities in subsequent releases.

Adapters

The following adapters are currently available through the most recent release of APM Connect:

- [ASI for SAP](#).ASI for SAP
- [EAM Adapters](#)
 - [SAP Adapters](#)
 - Equipment Adapter
 - Functional Location Adapter
 - Work History Adapter
 - Notification Management Adapter
 - Technical Characteristics Adapter
 - Work Management Adapter
 - SAP PI Adapters
 - [Maximo Adapters](#)
 - Equipment
 - Functional Location Adapters
 - Service Request Adapter
 - Work Order Adapter
- Data Loaders

Overview of the EAM Adapters

The Meridium APM Connect EAM Adapters transfer data from your existing Enterprise Asset Management (EAM) system into Meridium Enterprise APM using the APM Connect Administration Center.

Meridium APM Connect is built upon a fundamental premise that you are using an external EAM system to store information about your equipment, the locations in which the equipment exists, failures of the equipment and locations, and work that has been performed on the equipment and locations.

Meridium Enterprise APM provides tools that let you analyze and process this data. Before you can analyze the data in the Meridium Enterprise APM, however, you must transfer it from your EAM system into your Meridium Enterprise APM system. After the data exists in Meridium Enterprise APM, it can be analyzed to determine the state of your equipment and locations, and the reliability, trends, potential risks, and probability of failures associated with them.

EAM Adapter Workflow


This workflow provides the basic, high-level steps for using this module. The steps and links in this workflow do not necessarily reference every possible procedure. For more procedures, see the links in the Related Information section.

1. Identify the records you want to transfer from your EAM system(s) to Meridium Enterprise APM.
2. Apply filter parameters in the context file as necessary.
3. [Schedule a job\(s\)](#) to run in the APM Connect Administration Center.

-or-

Execute a [run-now job](#).

4. Check that the record was transferred into Meridium Enterprise APM.


 **Note:** This step is not necessary to complete the data transfer. However, it is a check to ensure that the transfer was executed successfully.


5. If the transfer was not successful, [view the execution log](#) for errors.

Overview of the Maximo Adapters

The APM Connect Maximo Adapters allow you to extract, transform, and load data between your Maximo system and your Meridium Enterprise APM system.


Create Maximo Work Orders or Service Requests

 **Important:** You can only create either a Work Order or a Service Request in Maximo from Meridium Enterprise APM. You can not create both at the same time, so [you must configure the context file](#) to designate which to create.

 **Note:** The following instructions assume that the **Create Work Request** field exists on the baseline datasheets for the supported Recommendation families. This field exists on the default datasheets in the baseline Meridium Enterprise APM database, so these instructions assume that they have not been removed by an administrative user.

Steps

1. Create a new or open an existing Recommendation record .
2. If the Recommendation records is not already linked to the Equipment or Functional Location record that represents the equipment or location for which you want to create a Maximo Work Order, link the records.
3. Select the appropriate datasheet for the Recommendation record.
4. Enter values into the fields as desired to provide information about the recommended action.

 **Note:** The value in the Target Completion Date field must be a date other than the current date.


5. Select the **Create Work Request?**.
6. Select .

The record is saved.

Results

After you save the recommendation record the following occurs:

1. A Work Order or Service Request is created in the Maximo system.
2. The **Work Request Reference** field is populated with the ID of the corresponding Work Order or Service Request.
3. After the **Work Request Reference** field is populated, the **Create Work Request** field becomes disabled.

 **Note:** If a Work Order could not be created for any reason, a message appears, describing the problem. You will be unable to save the Recommendation record until you clear the **Create Work Request?** check box.

About Extracting Data From Maximo

The extraction adapters allow you to extract data from your Maximo system and import it into your Meridium Enterprise APM system. To execute an adapter, you must configure the appropriate [parameters in the context file](#). After the context file is configured, you must [run the Adapter job in the APM Connect Administration Center](#), and then your data is extracted, transformed, and loaded into Meridium Enterprise APM.


There are four jobs that can be used to extract data from Maximo and load data into Meridium Enterprise APM.

- **Maximo_Asset:** Loads Maximo Asset records to Meridium Enterprise APM as Equipment records.
- **Maximo_Location:** Loads Maximo Location records to Meridium Enterprise APM as Functional Location records.
- **Maximo_WorkHistory:** Loads Maximo Work Order records, Service Request records, and failure records as Meridium Enterprise APM Work History and Work History Detail records.
- **Maximo_Master_Interface:** Can be used as a wrapper job to run all of the extraction jobs simultaneously.

As a Meridium Enterprise APM user, after the adapter job runs, you can use standard Meridium Enterprise APM tools (e.g., Search Tool) to access the records that were created automatically.


Details: Extracting Equipment Data


When the [Equipment job is run](#), for each asset in the Maximo system that meets the criteria defined in [context file](#), a corresponding Equipment record will be created in the Meridium Enterprise APM database. In addition, if that Maximo asset has a parent asset or location, the Meridium APM Equipment record will be linked automatically to a parent record belonging to the Equipment family or the Functional Location family, as appropriate.

 **Note:** If an asset is deleted in the Maximo system after an Equipment record has already been created for it in the Meridium Enterprise APM system, rerunning the Equipment Adapter job will not delete the Meridium Enterprise APM Equipment record.

Details: Extracting Functional Location Data

When the Functional Location Adapter job is run, for each location in the Maximo system that meets the criteria defined in the [context file](#), a corresponding Functional Location record will be created in the Meridium Enterprise APM database. In addition, if that Maximo location has a parent asset or location, the Meridium Enterprise APM Functional Location record will be linked automatically to a parent record belonging to the Equipment family or the Functional Location family, as appropriate.

 **Note:** The Functional Location Extraction Interface will not extract locations of the type COURIER or LABOR. Additionally, store room functional locations are not extracted.

 **Note:** If an asset is deleted in the Maximo system after a Functional Location record has already been created for it in the Meridium Enterprise APM system, rerunning the Functional Location Extraction Interface will not delete the Meridium Enterprise APM Functional Location record.

Details: Extracting Work Orders

When the Work History Job is run, for each Work Order in the Maximo system that meets the criteria defined in the scheduled item, a corresponding Work History record will be created in the Meridium APM database. Each Work History record will be linked to one Equipment or Functional Location record identifying the asset or location against which the Maximo Work Order is written.

If the Work Order is written against a location, the Work History record will be linked to a Functional Location record, and the Location ID field in the Work History record will be populated automatically with the Location ID of that Maximo location.

If the Work Order is written against an asset, the Work History record will be linked to an Equipment record, and the Equipment ID field in the Work History record will be populated automatically with the Location ID of that Maximo asset. In addition, if that Maximo asset has a parent location, the Work History record will also be linked to a Functional Location record representing that parent Maximo location. The Location ID field in the Work History record will also be populated automatically with the Location ID of that parent Maximo location.

Details: Extracting Service Requests

When the Work History Job is run, for each Service Request in the Maximo system that meets the criteria defined in the scheduled item, a corresponding Work History record will be created in the Meridium APM database. Each Work History record will be linked to one Equipment or Functional Location record identifying the asset or functional location against which the Maximo Service Request is written. Specifically:


If the Service Request is written against a location, the Work History record will be linked to a Functional Location record, and the Location ID field in the Work History record will be populated automatically with the Location ID of that Maximo location.

If the Service Request is written against an asset, the Work History record will be linked to an Equipment record, and the Equipment ID field in the Work History record will be populated automatically with the Location ID of that Maximo asset. In addition, if that Maximo asset has a parent location, the Work History record will also be linked to a Functional Location record representing

that parent Maximo location. The Location ID field in the Work History record will also be populated automatically with the Location ID of that parent Maximo location.

Details: Extracting Failure Information

When the Work History Job is run Work Order and Service Request failure information is extracted from your Maximo system into your Meridium APM system as Work History Detail records.

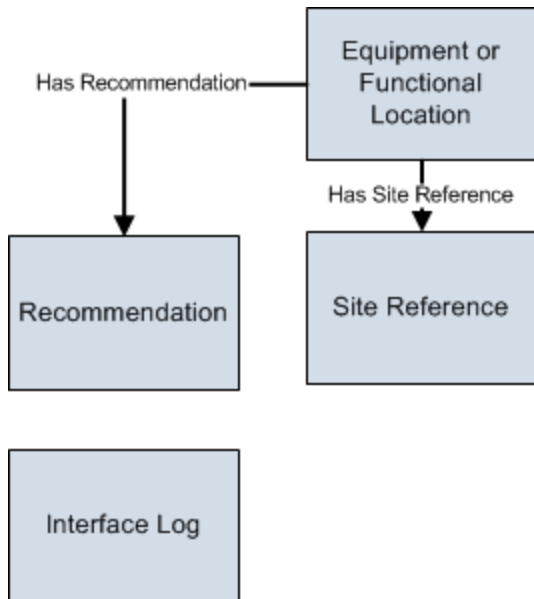
 **Note:** If a Work Order does not have any failure information, a Work History Detail record will not be created.

Reference Information: Maximo Adapters

This topic provides a listing of all detailed reference information provided for the Maximo Adapters, such as command syntax, specifications, and table/field descriptions.

Maximo Data Model

The following diagram shows how the families used by the Maximo Adapter are related to one another.



Note: In the diagram, boxes represent entity families and arrows represent relationship families that are configured in the baseline database. You can determine the direction of the each relationship definition from the direction of the arrow head: the box from which the arrow originates is the predecessor, and the box to which the arrow head points is the successor.

Like all Meridium APM modules, the Meridium APM Maximo Interfaces feature consists of entity families, relationship families, and business rules. When attempting to understand and make use of the Meridium APM Maximo Interfaces functionality, it can be helpful to visualize the Maximo Interfaces data model.

Because you should already be familiar with the concept of records and viewing records in the Meridium APM Record Manager, as you attempt to get your bearings in the Maximo Interfaces, it may be useful to remember that the Maximo Interfaces simply offers functionality that allows you to create and view records.

In addition, you can link each Equipment or Functional Location record to a Site Reference record, which identifies the site to which that equipment or location belongs.

About Interface Log Records used by the Service Request and Work Order Interface Record

Each time an interface is run, an Interface Log record is created automatically to store information about the process, such as the status of the process (e.g., Completed with warnings), the date the interface was run, and the parameters that were used to run the interface.

If the value in an Interface Log record is Completed with Warnings or Completed with Errors, a Super User or a member of the MI CMMS Interfaces Administrator Security Group can review the warnings or errors and then change the status to Completed with Warnings (Cleared) or Completed with Errors (Cleared).

Site Filtering in the EAM Adapters

⚠ IMPORTANT: Site Reference records must preexist in your Meridium Enterprise APM System, before you can use the EAM Adapters to populate the site key. Additionally, the site entered into the context file must match the exact value in the corresponding Site Reference record.

⚠ IMPORTANT: The user who is running the EAM Adapters jobs, must have permissions in Meridium Enterprise APM to access that site to which the records being loaded will be assigned. Additionally, those user's credentials must be entered into the context file. If the user's account is not configured for the appropriate site, then the data load will fail, and they will receive an error.

The EAM Adapters are used to populate the Site Reference on Equipment and Functional Location records in Meridium Enterprise APM. The adapters populate the MI_SITE_KEY system field with the ENTY_KEY system field associated with the Site Reference value to be populated. On asset records, the Site Reference is stored in the MI_SITE_KEY field, a system field in Meridium Enterprise APM. The EAM Adapters uses the Site Name (MI_SITE_NAME) to translate the value to the corresponding Site Key and populate the MI_SITE_KEY field; therefore, you do not need to know the key to be able to populate the site reference. This functionality is important because this value can change from one database to another.

When records are loaded using the Equipment or Function Location Adapters, the system will assign the site key (MI_SITE_KEY) to the assets using the value designated in the [context file](#). The following parameters are used to designate the Site Reference value:

- **SITE_REFERENCE_EQUIP:** Used to populate the Site Reference Key on Equipment records being loaded into Meridium Enterprise APM. The Site Reference Key determines to which Site the Equipment record(s) will be assigned.
- **SITE_REFERENCE_FLOC:** Used to populate the Site Reference Key on Functional Location records loaded into Meridium Enterprise APM. The Site Reference Key determines to which Site the Functional Location record(s) will be assigned.

📄 Note: The values entered into these parameters should match, because Equipment records are linked to Functional Location records. Therefore, they should have the same site.

These parameters accept three types of values to determine the site reference value.

- a. **Site Name:** You can enter the site name directly as defined on the preexisting Site Reference record (i.e., Site 100).
- b. **Column Name:** You can use the character # and enter a column value to set the site reference. The following columns can be used:

- SAP columns:
 - MI_EQUIP000_PLNNG_PLNT_C
 - MI_EQUIP000_SAP_SYSTEM_C
 - MI_EQUIP000_MAINT_PLANT_C
 - MI_FNCLOC00_MAINT_PLNT_C
 - MI_FNCLOC00_PLNNG_PLNT_C
 - MI_FNCLOC00_SAP_SYSTEM_C
- Maximo columns:
 - MI_FNCLOC00_SITE_C
 - MI_EQUIP000_SITE_C

For example, if you wanted to use your SAP maintenance plant field as your Meridium Enterprise APM site reference, you would enter #MI_EQUIP000_MAINT_PLANT_C#.


- c. **Null:** You can leave the value as null. The site key will be null if a site reference value is not mapped in between the tags.

If the assets being loaded into Meridium Enterprise APM are global records, meaning they will not be filtered according to site, then the Site Reference parameters can be left blank. Once the records are loaded with a null value in the Site Reference parameters, the asset records will be designated as Global.

Once the adapters are run, records designated to be transferred into Meridium Enterprise APM, will be assigned to the site defined in the Site Reference parameters.

In addition to Equipment and Functional Location records loaded by the EAM adapters, Work History records and shell records are impacted by site reference functionality as detailed in the following table.

| Action | Result |
|---|--|
| If the Work History Adapter is run after the Equipment or Functional Location Adapter... | The Work History records will inherit the site key of their parent Functional Location or Equipment records. |
| If the Work History Adapter is run before the Equipment or Functional Location Adapter... | The site key will be Global, and a shell record will be created for Equipment and Functional Location. |
| If a shell record is created while loading data... | The site key will be Global. |

 **Note:** If you are using [multiple SAP Systems](#), you must set up a context file for each system, and designate the appropriate site(s) for each EAM Systems.

Maximo Values Mapped to Meridium Enterprise APM Records

This topic provides a listing of all Mapping information provided for the Maximo Adapters.

Maximo Equipment Records Mappings

The following tables explain the values that are used to populate Equipment fields when you run the Equipment Extraction Interface.

Maximo Values Mapped to Meridium Enterprise APM Equipment Records

| Meridium Family ID | Meridium Enterprise APM Field ID | Meridium Enterprise APM Field Caption | Maximo Table | Maximo Internal ID | Maximo Adapter Label | Is a Meridium Key Field? |
|--------------------|----------------------------------|---------------------------------------|--------------|--------------------|--|--|
| MI_EQUIP0-00 | MI_EQUIP0-00_EQUIP_ID_C | Equipment ID | ASSET | ASSETID | None. This value is not visible in the Maximo interface. | None |
| MI_EQUIP0-00 | MI_EQUIP0-00_EQUIP_TECH_NBR_C | Equipment Technical Number | ASSET | ASSETNUM | Asset | This is a Meridium Enterprise APM key field. |
| MI_EQUIP0-00 | MI_EQUIP0-00_TYPE_C | Equipment Type | ASSET | ASSETTYPE | Type | None |
| MI_EQUIP0-00 | MI_EQUIP0-00_CHANGE_DATE_D | CMMS Last Changed Date | ASSET | CHANGEDATE | Changed Date | None |
| MI_EQUIP0-00 | MI_EQUIP0-00_EQUIP_SHRT_DESC_C | Equipment Short Description | ASSET | DESCRIPTION | This value appears to the right of the Asset text box on the Maximo Adapter. | None |

| | | | | | | |
|--------------|---------------------------------|----------------------------|-------|-----------------------------|--|------|
| MI_EQUIP0-00 | MI_EQUIP0-00_EQUIP_LNG_DESC_T | Equipment Long Description | ASSET | DESCRIPTION_LONGDESCRIPTION | This value appears in the Long Description window. | None |
| MI_EQUIP0-00 | MI_EQUIP0-00_PRCH_D | Purchase Date | ASSET | INSTALLDATE | Installation Date | None |
| MI_EQUIP0-00 | MI_EQUIP0-00_INV_NO_C | Inventory Number | ASSET | ITEMNUM | Rotating Item | None |
| MI_EQUIP0-00 | MI_EQUIP0-00_FNC_LOC_C | Functional Location | ASSET | LOCATION | Location | None |
| MI_EQUIP0-00 | MI_EQUIP0-00_MFR_C | Manufacturer | ASSET | MANUFACTURER | Manufacturer | None |
| MI_EQUIP0-00 | MI_EQUIP0-00_CRITI_IND_C | Criticality Indicator | ASSET | PRIORITY | Priority | None |
| MI_EQUIP0-00 | MI_EQUIP0-00_ASSET_SERIAL_NBR_C | Asset Serial Number | ASSET | SERIALNUM | Serial # | None |
| MI_EQUIP0-00 | MI_EQUIP0-00_SITE_C | Site | ASSET | SITEID | Site | None |

| | | | | | | |
|--------------|---------------------------|----------------------------|--------------------------------------|--------------------------------------|--|--|
| MI_EQUIP0-00 | MI_EQUIP0-00_SYS_ST_C | System Status | ASSET | STATUS | Status | None |
| MI_EQUIP0-00 | MI_EQUIP0-00_EQUIP_VNDR_C | Equipment Vendor | ASSET | VENDOR | Vendor | None |
| MI_EQUIP0-00 | MI_EQUIP0-00_WRNTY_EXPR_D | Warranty Expiration Date | ASSET | WARRANTYEXP-DATE | None. This value is not visible in the Maximo interface. | None |
| MI_EQUIP0-00 | MI_EQUIP0-00_SN_C | Manufacturer serial number | ASSET | SERIALNUM | Manufacturer serial number | None |
| MI_EQUIP0-00 | MI_EQUIP0-00_OBJ_TYP_C | Type of Technical Object | ASSET | ASSETTYPE | Type of Technical Object | None |
| MI_EQUIP0-00 | MI_EQUIP0-00_SAP_SYSTEM_C | CMMS SYSTEM | Auto populated by the Maximo System. | Auto populated by the Maximo System. | Auto populated by the Maximo System. | This is a Meridium Enterprise APM key filed. |

Maximo Functional Location Mappings

The following tables explain the values that are used to populate Functional Location fields when you run the Functional Location Extraction Interface.

Maximo Values Mapped to Meridium Enterprise APM Functional Location Records

| Meridium Enterprise APM Field ID | Meridium Enterprise APM Field Caption | MAXIMO Table | Maximo Internal ID | Maximo Adapter Label | Comments |
|----------------------------------|---------------------------------------|--------------|-----------------------------|---|----------|
| MI_FNCLOC0-0_CHANGE_DATE_D | CMMS Last Changed Date | LOCATIO-N | CHANGEDATE | None. This value is not visible in the Maximo interface. | None |
| MI_FNCLOC0-0_FNC_LOC_DESC_C | Functional Location Description | LOCATIO-N | DESCRIPTION | This value appears to the right of the Location text box on the Maximo Adapter. | None |
| MI_FNCLOC0-0_FNC_LOC_LNG_DESC_C | Functional Location Long Description | LOCATIO-N | DESCRIPTION_LONGDESCRIPTION | This value appears in the Long Description window. | None |
| MI_FNCLOC0-0_FAIL_CLASS_C | Failure Class | LOCATIO-N | FAILURECODE | Failure Class | None |

| | | | | | |
|-----------------------------|---------------------------------|--------------------------------------|--------------------------------------|--|--|
| MI_FNCLOC0-0_FNC_LOC_C | Functional Location | LOCATIO-N | LOCATION | Location | This is a Meridium Enterprise APM key filed. |
| MI_FNCLOC0-0_INTERNAL_ID_C | Functional Location Internal ID | LOCATIO-N | LOCATIONSID | None. This value is not visible in the Maximo interface. | None |
| MI_FNCLOC0-0_CRTCAL_IND_C | Criticality Indicator | LOCATIO-N | LOCPRIORITY | Priority | None |
| MI_FNCLOC0-0_SUPR_FNC_LOC_C | Superior Functional Location | LOCATIO-N | PARENT | Parent | None |
| MI_FNCLOC0-0_SITE_C | Site | LOCATIO-N | SITEID | Site | None |
| MI_FNCLOC0-0_SYS_STATUS_C | System Status | LOCATIO-N | STATUS | Status | None |
| MI_FNCLOC0-0_TYPE_C | Location Type | LOCATIO-N | TYPE | Type | None |
| MI_FNCLOC0-0_SAP_SYSTEM_C | CMMS System | Auto populated by the Maximo System. | Auto populated by the Maximo System. | Auto populated by the Maximo System. | This is a Meridium Enterprise APM key filed. |

Maximo Work History Mappings

The following tables explain the values that are used to populate Work History fields when you extract Work Orders and Service Requests from Maximo.

Values Mapped from Maximo Work Orders to Meridium Enterprise APM Work History Records

| Meridium Family Name | Meridium APM Work History Field ID | Meridium APM Work History Field Caption | Maximo Table Name | Maximo Internal ID | Maximo Interface Label | Comments |
|----------------------|------------------------------------|---|-------------------|--------------------|------------------------|----------|
| MI_EVWKH-IST | MI_EVWKHIST_MAINT_COMPL_D | Maintenance Completion Date | WORKORDER | ACTFINISH | Actual Finish | None |
| MI_EVWKH-IST | MI_EVWKHIST_ACT_LABOR_COST_N | Actual Labor Cost | WORKORDER | ACTLABCOST | Actual Labor Cost | None |
| MI_EVWKH-IST | MI_EVWKHIST_ACT_LABOR_TIME_N | Actual Labor | WORKORDER | ACTLABHRS | Actual Labor Hours | None |
| MI_EVWKH-IST | MI_EVWKHIST_ACT_MTRL_COST_N | Actual Material Cost | WORKORDER | ACTMATCOST | Actual Material Cost | None |

| | | | | | | |
|--------------|---------------------------------|-----------------------------|-----------|------------------|-------------------------|------|
| MI_EVWKH-IST | MI_EVWKHIS-T_ACT_SERV_COST_N | Actual Service Cost | WORKORDER | ACTSERVCOST | Actual Service Cost | None |
| MI_EVWKH-IST | MI_EVWKHIS-T_MAINT_START_D | Maintenance Start Date | WORKORDER | ACTSTART | Actual Start | None |
| MI_EVWKH-IST | MI_EVWKHIS-T_ACT_TOOL_COST_N | Actual Tool Cost | WORKORDER | ACTTOOLCOST | Actual Tool Cost | None |
| MI_EVWKH-IST | MI_EVWKHIS-T_MAINT_CST_N | Maintenance Cost | WORKORDER | ACTTOTALCOST | Actual Total Cost | None |
| MI_EVWKH-IST | MI_EVWKHIS-T_EQU_LOC_PRIORITY_N | Equipment Location Priority | WORKORDER | ASSETLOCPRIORITY | Asset/Location Priority | None |
| MI_EVWKH-IST | MI_EVENT_ASST_ID_CHR | Equipment ID | WORKORDER | ASSETNUM | Asset | None |
| MI_EVWKH-IST | MI_EVWKHIS-T_CALC_PRIORITY_N | Calculated Priority | WORKORDER | CALCPRIORITY | Asset/Location Priority | None |

| | | | | | | |
|--------------|---|---|-----------|-----------------------------|--|------|
| MI_EVWKH-IST | MI_EVENT_MODFD_BY_CHR | Modified By | WORKORDER | CHANGEBY | Modified By | None |
| MI_EVWKH-IST | MI_EVWKHIST_ORDR_CHNG_DT_D | Order Last Change Date | WORKORDER | CHANGEDATE | None. This value is not visible in the Maximo interface. | None |
| MI_EVWKH-IST | MI_EVWKHIST_CREW_ID_C | Crew ID | WORKORDER | CREWID | Crew | None |
| MI_EVWKH-IST | MI_EVWKHIST_ORDR_DESC_C AND MI_EVENT_SHRT_CHR | Order Description AND Event Short Description | WORKORDER | DESCRIPTION | Description | None |
| MI_EVWKH-IST | MI_EVENT_LNG_DSC_TX | Event Long Description | WORKORDER | DESCRIPTION_LONGDESCRIPTION | This value appears in the Long Description window. | None |
| MI_EVWKH-IST | MI_EVWKHIST_EST_LABOR_COST_N | Estimated Labor Cost | WORKORDER | ESTLABCOST | Estimated Labor Cost | None |

| | | | | | | |
|--------------|--------------------------------|----------------------------|-----------|-----------------|--|------|
| MI_EVWKH-IST | MI_EVWKHIS-T_EST_LABOR_TIME_N | Estimated Labor | WORKORDER | ESTLABHRS | Estimated Labor Hours | None |
| MI_EVWKH-IST | MI_EVWKHIS-T_EST_MTRL_COST_N | Estimated Material Cost | WORKORDER | ESTMATCOST | Estimated Material Cost | None |
| MI_EVWKH-IST | MI_EVWKHIS-T_EST_SERV_COST_N | Estimated Service Cost | WORKORDER | ESTSERVCOST | Estimated Service Cost | None |
| MI_EVWKH-IST | MI_EVWKHIS-T_EST_TOOL_COST_N | Estimated Tool Cost | WORKORDER | ESTTOOLCOST | Estimated Tool Cost | None |
| MI_EVWKH-IST | MI_EVWKHIS-T_ORDR_MAINT_PLAN_C | Order Maintenance Plan | WORKORDER | JPNUM | None. This value is not visible in the Maximo interface. | None |
| MI_EVWKH-IST | MI_EVWKHIS-T_ORDR_PRTY_DESC_C | Order Priority Description | WORKORDER | JUSTIFYPRIORITY | Priority Justification | None |
| MI_EVWKH-IST | MI_EVWKHIS-T_LEAD_CRAFT_C | Lead Craft | WORKORDER | LEAD | Lead | None |

| | | | | | | |
|--------------|-------------------------------|------------------------------|-----------|-------------|--|------|
| MI_EVWKH-IST | MI_EVENT_LOC_ID_CHR | Location ID | WORKORDER | LOCATION | Location | None |
| MI_EVWKH-IST | MI_EVWKHIST_ACT_OUT_LBR_CST_N | Actual Outside Labor Cost | WORKORDER | OUTLABCOST | Outside Labor Cost | None |
| MI_EVWKH-IST | MI_EVWKHIST_ACT_OUT_MTR_CST_N | Actual Outside Material Cost | WORKORDER | OUTMATCOST | Outside Material Cost | None |
| MI_EVWKH-IST | MI_EVWKHIST_ACT_OUT_TL_CST_N | Actual Outside Tool Cost | WORKORDER | OUTTOOLCOST | Outside Tool Cost | None |
| MI_EVWKH-IST | MI_EVWKHIST_PM_NBR_C | PM Number | WORKORDER | PMNUM | None. This value is not visible in the Maximo interface. | None |
| MI_EVWKH-IST | MI_EVENT_STRT_DT | Event Start Date | WORKORDER | REPORTDATE | Reported Date | None |
| MI_EVWKH-IST | MI_EVWKHIST_SCHED_COMPL_D | Scheduled Completion Date | WORKORDER | SCHEDFINISH | Scheduled Finish | None |

| | | | | | | |
|--------------|------------------------------|------------------------|-----------|---------------|--|---|
| MI_EVWKH-IST | MI_EVWKHIS-T_SCHED_START_D | Scheduled Start Date | WORKORDER | SCHEDSTART | Scheduled Start | None |
| MI_EVWKH-IST | MI_EVWKHIS-T_SITE_C | Site | WORKORDER | SITEID | Site | This field is used as a pick list value in Meridium Enterprise APM. |
| MI_EVWKH-IST | MI_EVWKHIS-T_ORDR_SYS_STAT_C | Order System Status | WORKORDER | STATUS | Status | None |
| MI_EVWKH-IST | MI_EVWKHIS-T_TARGET_COMPL_D | Target Completion Date | WORKORDER | TARGCOMPDATE | Target Finish | None |
| MI_EVWKH-IST | MI_EVWKHIS-T_TARGET_START_D | Target Start Date | WORKORDER | TARGSTARTDATE | None. This value is not visible in the Maximo interface. | None |

| | | | | | | |
|--------------|---|-----------------------------|--------------------------------------|--------------------------------------|--|---|
| MI_EVWKH-IST | MI_EVENT_ID AND MIEVWKHIST_ORDER_ID_N | Event ID AND Order ID | WORKORDER | WONUM | Work Order | None |
| MI_EVWKH-IST | MI_EVWKHIST_ORDR_PRTY_C | Order Priority | WORKORDER | WOPRIORITY | Priority | None |
| MI_EVWKH-IST | MI_EVWKHIST_ORDR_TYP_CD_C | Order Type Code | WORKORDER | WORKTYPE | None. This value is not visible in the Maximo interface. | None |
| MI_EVWKH-IST | MI_EVWKHIST_OBJECT_NUMBER_C | Object Number | WORKORDER | "OR"+WONUM | None. This value is not visible in the Maximo interface. | This field is used as a pick list value in Meridium Enterprise APM. |
| MI_EVWKH-IST | MI_EVWKHIST_SAP_SYSTEM_C | CMMS System | Auto populated by the Maximo System. | Auto populated by the Maximo System. | Auto populated by the Maximo System. | This field is used as a pick list value in Meridium Enterprise APM. |

Values Mapped from Maximo Service Request to Meridium Enterprise APM Work History Records

| Meridium Family | Meridium APM Work History Field ID | Meridium APM Work History Field Caption | Maximo Table | Maximo Internal ID | Maximo Interface Label | Comments |
|-----------------|------------------------------------|---|--------------|--------------------|--|--|
| MI_EVWKHIS-T | MI_EVENT_ASST_ID_CHR | Equipment ID | SR | ASSETNUM | Asset | |
| MI_EVWKHIS-T | MI_EVENT_SHRT_DSC_CHR | Event Short Description | SR | DESCRIPTION | Summary | |
| MI_EVWKHIS-T | MI_EVENT_LOC_ID_CHR | Location ID | SR | LOCATION | Location | |
| MI_EVWKHIS-T | MI_EVWKHIS-T_SITE_C | Site | SR | SITEID | Site | This is a Meridium Enterprise APM key filed. |
| MI_EVWKHIS-T | MI_EVENT_ID | Event ID | SR | TICKETID | Service Request | |
| MI_EVWKHIS-T | MI_EVWKHIS-T_OBJECT_NUMBER_C | OBJECT NUMBER | SR | "QM"+TICKETID | None. This value is not visible in the Maximo interface. | This is a Meridium Enterprise APM key filed. |

| | | | | | | |
|--------------|--------------------------------|-------------|--------------------------------------|--------------------------------------|--|--|
| MI_EVWKHIS-T | MI_EVWKHIS-T_RQST_ID_CHNG_DT_D | Change Date | SR | CHANGEDATE | None. This value is not visible in the Maximo interface. | |
| MI_EVWKHIS-T | MI_EVWKHIS-T_RQST_ID_C | Request ID | SR | TICKETID | Service Request | |
| MI_EVWKHIS-T | MI_EVWKHIS-T_SAP_SYSTEM_C | CMMS System | Auto populated by the Maximo System. | Auto populated by the Maximo System. | Auto populated by the Maximo System. | This is a Meridium Enterprise APM key filed. |

Maximo Work History Detail Mappings

The following tables explain the values that are used to populate Work History Detail fields when you extract Work Order failure information or Service Request information from Maximo.

Values Mapped from Maximo Work Orders failure to Meridium Enterprise APM Work History Detail Records

| Meridium Family | Meridium APM Work History Field ID | Meridium APM Work History Field Caption | Maximo Table | Maximo Internal ID | Maximo Interface Label | Comments |
|-----------------|------------------------------------|---|--------------|-----------------------------|--|----------|
| MI_DTWKHIST | MI_DTWKHIST_ASST_ID_C | Equipment ID | WORKORDER | ASSETNUM | Asset | None |
| MI_DTWKHIST | MI_DTWKHIST_EVNT_DTL_DESC_C | Work History Detail Description | WORKORDER | DESCRIPTION | Description | None |
| MI_DTWKHIST | MI_DTWKHIST_DTL_NARTV_T | Detail Narrative | WORKORDER | DESCRIPTION_LONGDESCRIPTION | This value appears in the Long Description window. | None |
| MI_DTWKHIST | MI_DTWKHIST_LOC_ID_C | Location ID | WORKORDER | LOCATION | Location | None |

| | | | | | | |
|-------------------------------------|------------------------------|-------------------|--------------------------------------|--------------------------------------|--------------------------------------|--|
| MI_DTWKHIST | MI_DTWKHIST_CNDTN_CD_C | Condition Code | WORKORDER | PROBLEMCODE | Problem Code | None |
| MI_DTWKHIST | MI_DTWKHIST_SITE_C | Site | WORKORDER | SITEID | Site | None |
| MI_DTWKHIST | MI_DTWKHIST_WRK_HISTORY_ID_C | Work History ID | WORKORDER | WONUM | Work Order | None |
| MI_DTWKHIST | MI_DTWKHIST_ORDR_ID_C | Order ID | WORKORDER | WONUM | Work Order | None |
| MI_DTWKHIST | MI_DTWKHIST_EVNT_DTL_ID_C | History Detail ID | WORKORDER | WONUM | Work Order | This is a Meridium Enterprise APM key filed. |
| MI_DTWKHISTMI_DTWKHIST_SAP_SYSTEM_C | | CMMS System | Auto populated by the Maximo System. | Auto populated by the Maximo System. | Auto populated by the Maximo System. | This is a Meridium Enterprise APM key filed. |

Values Mapped from Maximo Service Order Request to Meridium Enterprise APM Work History Detail Records

| Meridium Family | Meridium APM Work History Field ID | Meridium APM Work History Field Caption | Maximo Table | Maximo Internal ID | Maximo Interface Label | Comments |
|-----------------|------------------------------------|---|--------------|--------------------|------------------------|----------|
|-----------------|------------------------------------|---|--------------|--------------------|------------------------|----------|

| | | | | | | |
|-------------------------------------|------------------------------|---------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--|
| MI_DTWKHIS-T | MI_DTWKHIS-T_ASST_ID_C | Equipment ID | SR | ASSETNUM | Asset | None |
| MI_DTWKHIS-T | MI_DTWKHIS-T_EVNT_DTL_DESC_C | Work History Detail Description | SR | DESCRIPTION | Summary | None |
| MI_DTWKHIS-T | MI_DTWKHIS-T_LOC_ID_C | Location ID | SR | LOCATION | Location | None |
| MI_DTWKHIS-T | MI_DTWKHIS-T_SITE_C | Site | SR | SITEID | Site ID | None |
| MI_DTWKHIS-T | MI_DTWKHIS-T_RQST_ID_C | Request ID | SR | TICKETID | Service Request | None |
| MI_DTWKHIS-T | MI_DTWKHIS-T_EVNT_DTL_ID_C | History Detail ID | SR | TICKETID | Service Request | This is a Meridium Enterprise APM key filed. |
| MI_DTWKHISTMI_DTWKHIST_SAP_SYSTEM_C | | CMMS System | Auto populated by the Maximo System. | Auto populated by the Maximo System. | Auto populated by the Maximo System. | This is a Meridium Enterprise APM key filed. |

Recommendation Mappings

Values Mapped to Maximo Work Orders From Meridium Enterprise APM Recommendation Records

| Meridium Family | Meridium Field | Maximo Object Structure | Maximo Field |
|-----------------|-----------------------------|-------------------------|-----------------------------|
| MI_REC | MI_REC_TECHNICAL_NUM_C | WORKORDER | ASSETNUM |
| MI_REC | MI_REC_SHORT_DESCR_CHR | WORKORDER | DESCRIPTION |
| MI_REC | MI_REC_LONG_DESCR_TX | WORKORDER | DESCRIPTION_LONGDESCRIPTION |
| MI_REC | MI_REC_LOC_ID_CHR | WORKORDER | LOCATION |
| MI_REC | MI_REC_SITE_C | WORKORDER | SITEID |
| MI_REC | MI_REC_TARGET_COMPL_DATE_DT | WORKORDER | TARGCOMPDAE |
| CONSTANT | "WORKORDER" | WORKORDER | WOCLASS |
| CONSTANT | "PM" | WORKORDER | WORKTYPE |

Values Mapped to Maximo Service Requests From Meridium Enterprise APM Recommendation Records

| Meridium Family | Meridium Field | Maximo Object Structure | Maximo Field |
|-----------------|------------------------|-------------------------|-----------------------------|
| MI_REC | MI_REC_TECHNICAL_NUM_C | SR | ASSETNUM |
| MI_REC | MI_REC_SHORT_DESCR_CHR | SR | DESCRIPTION |
| MI_REC | MI_REC_LONG_DESCR_TX | SR | DESCRIPTION_LONGDESCRIPTION |
| MI_REC | MI_REC_LOC_ID_CHR | SR | LOCATION |

| | | | |
|----------|---------------------------------|----|------------|
| MI_REC | MI_REC_SITE_C | SR | SITEID |
| MI_REC | MI_REC_TARGET_ COMPL_DATE_DT | SR | STATUSDATE |
| CONSTANT | "SR" | SR | CLASS |


Overview of the SAP Adapters

Data extractions, also referred to as Jobs, are orchestrated through the different adapters. Depending on the type of data (i.e., Equipment, Functional Location, Work History) you want to extract, there is a corresponding job. SAP extractions are facilitated by the [APM Connect Administration Center](#) and a corresponding context file. The context file contains [filter parameters](#) that are applied to each extraction adapter Job. The filter parameters define the scope of the data extraction.

More Details

The following SAP adapters and SAP PI are available for data extractions:

- [Equipment Adapter](#): Extracts records that are used to store information about physical pieces of equipment, such as pumps, motors, and compressors.
- [Functional Location Adapter](#): Extracts records that are used to store information about locations in your organization, including but not limited to the locations at which the physical pieces of equipment are installed.
- [Work History Adapter](#): Extracts records that are used to store data about work that was performed against your locations and equipment, as well as failures that occurred for those locations and equipment. Additionally, it allows you to transfer Notifications and Orders from SAP to Meridium Enterprise APM.
- [Notification Management Adapter](#): Allows you to transfer Recommendation records from Meridium Enterprise APM to SAP in the form of Notifications.
- [Technical Characteristics Adapter](#): Allows you to transfer Functional Location characteristics and Equipment characteristics from SAP to Meridium Enterprise APM.
- [Work Management Adapter](#): Allows you to manage scheduled work in SAP and Meridium Enterprise APM.

 **Note:** The SAP PI adapters do not support Work Management harmonization.

Employ the Notification Management Adapter

This topic provides a list of all procedures related to employing the Notification Management Adapter, as well as links to the related concept and reference topics.


Create an SAP Notification from a Recommendation Record

Before you Begin


- Ensure **Create Work Request** exists in the family of the necessary **Recommendation** record and that it also exists on the datasheet.
- Ensure **Notification Type** exists in the family of the necessary **Recommendation** record and on the datasheet as an enabled field. In the baseline database, **Notification Type** is already available in all baseline **Recommendation** families that exist for the purpose of using the SAP Adapters. It is not, however, included on any baseline datasheets or configured as an enabled field. The following instructions assume, therefore, that an administrative user has enabled the field and added it to the datasheet.

Steps

1. Create a new Meridium General Recommendation record or open an existing Recommendation record.
2. Link the Recommendation record to an Equipment or Functional Location record that represents an SAP Equipment or Functional Location.

 **Note:** If you select an Equipment or Functional Location record that does not exist in SAP, after you save the record, a Notification will be created in SAP, but its Equipment or Functional Location field will be empty.

3. Select the **Create Work Request?** box.
4. In the **Notification Type** cell, specify the type of Notification that you want to create.

 **Note:** If you do not specify the type of Notification that you want to create, the Meridium Enterprise APM system will create M1 Notifications by default.

5. Select .


The record is saved.

Results

After you create a new **Recommendation** record, the adapter does the following:


- Creates a Notification in SAP.
- Populates the **Work Request Reference** cell with the ID of the corresponding SAP Notification.
- Populates the **Work Request Equipment** cell with the value in the Equipment field in the SAP Notification.

- Populates the **Work Request Functional Location** cell with the value in the Functional Location field in the SAP Notification.

 **Note:** If a Notification could not be created for any reason, a message appears, indicating the problem. In addition, you will be unable to save the **Recommendation** record until you clear the **Create Work Request?** box.

Update an SAP Notification from a Recommendation Record

Once an SAP Notification is created from a **Recommendation** record, the **Recommendation** record and the SAP Notification can be updated. This topic describes how to update an existing SAP Notification by updating the corresponding **Recommendation** record in the Meridium Enterprise APM.

 **Note:** Only **Recommendation** records with the **Create Work Request?** box can be updated.

Before You Begin

- [Create an SAP Notification from a Recommendation record.](#)

Steps

1. Open a Recommendation record that you want to update.
2. Select the field you want to update.
3. Enter the updated information.

For example, if you would like to update the description of an existing Recommendation record, select the **Description** box, and edit the text accordingly.

4. Select .

The Recommendation record is updated in the Meridium Enterprise APM, and the Notification is updated in your SAP system.

Employ the Work Management Adapter

This topic provides a list of all procedures related to employing the Work Management Adapter, as well as links to the related concept and reference topics.


Work Management Workflow

This workflow provides the basic, high-level steps for using this module. The steps and links in this workflow do not necessarily reference every possible procedure. For more procedures, see the links in the Related Information section.

Manage Scheduled Work in SAP Workflow

1. In SAP, on a Maintenance Plan, enter a value or combination of values that has been [configured to trigger the creation of a Meridium Enterprise APM Task record](#).
2. In the Administration Center, [run the Work Management Job](#).

A Task record(s) is automatically created in Meridium Enterprise APM.

 **Note:** If the Task records are created from Maintenance Plans that are associated with Equipment or Functional Locations, corresponding Equipment and Functional Location records will be created automatically and linked to the new Task records. These Equipment and Functional Location records will contain values only in key fields as defined in the [mappings](#) (e.g., Equipment ID, Functional Location Internal ID, CMMS System). You will need to [run the Equipment Extraction and Functional Location Adapters](#) to populate the remaining fields.

3. In Meridium Enterprise APM, [create an Inspection record or Calibration Event record](#).
4. Link the new record to the Inspection Task or Calibration Task record that you created by running the Work Management Job.
5. [Close the Work Order](#).
6. In Meridium Enterprise APM, if needed, [update the Confirmation record](#).

-or-

In SAP, [validate the Confirmation](#).


Manage Scheduled Work in Meridium Enterprise APM Workflow


1. In Meridium Enterprise APM, [create a Task record](#).
2. creation.
3. In Meridium Enterprise APM, [create an Inspection record](#) or [Calibration Event record](#).
4. Link the new record to the Inspection Task or Calibration Task record that you created.
5. [Close the Work Order](#).
6. If needed, in Meridium Enterprise APM, [update the Confirmation record](#).

-or-

In SAP, [validate the Confirmation](#).

Create a Task Record

 **Note:** To complete the following steps, use the Task datasheet that is configured for use with the SAP Adapter. For Inspection Task records, use the Inspection Task for SAP Integration Adapter datasheet. For Calibration Task records, use the Calibration Task for SAP Integration datasheet. These datasheets are defined on the corresponding Task family in the baseline database, but they are not set as the default datasheets.

 **Note:** To create the Task record, make sure to use the Task Builder and not the Record Manager. Otherwise, the Task record will not be linked to the Equipment or Functional Location record, and the Work Management Adapter will not work as expected.

Before You Begin

You can create an SAP Order from a Task record only if all of the following conditions are true:

- The Work Order Number field in the Task record is empty.
- The Task record was not created automatically from SAP data.


Steps

1. In Meridium Enterprise APM, create an Inspection Task or Calibration Task record.

1. In the Task record, in the **Task List** cell, select **⋮**.

The **Locate Task List** window appears.

2. In the **Search Criteria** section, enter the desired search criteria.

 **Note:** If you accept the default criteria, the search results will return *all* Task Lists.

3. Select **Search**.

The Task Lists that meet the search criteria appear in the **Search Results** section.

4. In the **Search Results** section, select the row containing the desired Task List, and then select **OK**.


The Task List field on the Task record is updated with the Task List group number.

5. In the **Last Date** cell, enter or select the last date on which the task was executed.

6. In the **Desired Interval** cell, enter the desired interval.


The value in the Next Date field is updated automatically based on the Last Date and the Desired Interval.


7. In the **Call Horizon** box, enter the desired call horizon.

 **Hint:** For details about call horizons, see the SAP Help, which is located at <http://help.sap.com/>.

8. Save the Task record.

Create an Event Record

 **Note:** The following instructions work correctly only if the SAP Interfaces - Work Management license is active.

 **Note:** When creating the Inspection record or Calibration Event record, be sure to use the process defined by the module rather than the Record Manager. Otherwise, the record will not be linked to the Equipment or Functional Location record, and the Work Management Adapter will not work as expected.

Steps

1. Using the process defined by the module, create an Inspection record or Calibration Event record. As you proceed through the Event Builder, on the **Task(s) Selection** screen, select the appropriate Task record(s). This could be:
 - A Task record that was generated from SAP.

-or-

 - A Task record that you created manually to generate an SAP Order automatically.
2. If the Event record is an Inspection record, select values in the Commencement Date and Completion Date fields. Make sure that the Completion Date is a date after the Commencement Date.

Close a Work Order

Steps

1. Access the event record linked to the [task record](#) you want to mark as complete.
2. In the **Tasks Addressed** box, select the task ID for the record you transferred from SAP by running the Work Management Adapter.
3. In the **Actual Work Time** box, enter a value for the number of hours worked to complete the task.
4. In the Event record, in the **Actual Work Time** box, enter the time (in hours) that you spent completing the work.
5. If the Event record is a Calibration Event record, select the **Calibration Close** box.

-or-

If the Event record is an Inspection record, select the Inspection **Task Complete** box.

6. Save the Event record.

The event record is saved, and the work order is closed. A confirmation record is created in Meridium Enterprise APM and in SAP.

⚠ Important: When transferring Work Management data from SAP into Meridium Enterprise APM, the **Desired Interval** field is populated with a null value. After the Plan is called, the **Next Date** field will populate with the next execution date based on calculations made by SAP.

Results

After saving the record, the following occurs:

- A Confirmation record is created and linked to the Event record and the Task records to which the Event record is linked. The number of Confirmation records created equals the number of Task records that are linked to the Event record. In addition, a Confirmation is created in SAP for each Confirmation record that is created in Meridium Enterprise APM.

If only one Confirmation record is created, the Actual Work Time in the Confirmation record matches the Actual Work Time in the Event record. If more than one Confirmation record is created, the Actual Work Time in the Event record is split evenly between those Confirmation records.

For example, if an Event record is linked to two Task records, two Confirmation records will be created. If the Actual Work Time in the Event record is 14, the Actual Work Time in each Confirmation record will be 7 (14/2).

- The Work Order Number fields in the Task records that are linked to the Event record are cleared.
- The Confirmation that is created in SAP is marked as final.

Update an SAP Confirmation by Updating the Actual Work Time in a Confirmation Record

Steps

1. Open the Confirmation record that you want to modify.
2. Modify the **Actual Work Time** value, and then save the record.

Results

- The associated SAP Confirmation is canceled in SAP, and a new SAP Confirmation is created. The counter in the new SAP Confirmation is one digit higher than the counter in the canceled SAP Confirmation.
- The Actual Work Time field in the Inspection record or Calibration Event record to which this Confirmation record is linked is updated automatically to reflect the updated value in the Confirmation record. If this is the only Confirmation record that is linked to the Inspection or Calibration Event record, the Actual Work Time in the Inspection or Calibration Event record will match the value in the Confirmation record.
- If more than one Confirmation record is linked to the Inspection or Calibration Event record, however, the Actual Work Time in the Event record is updated to be the sum of the values in the Actual Work Time fields in all of those Confirmation records.

For example, if an Event record is linked to this Confirmation record and two other Confirmation records, and the final values in the Actual Work Time fields of those Confirmation records are 7, 6, and 5, the Event record will contain the value 18 (7 + 6 + 5) in the Actual Work Time field.

Validate SAP Confirmations Against Meridium Confirmation Records

After you have created SAP Confirmations from Meridium Enterprise APM Confirmation records, you can validate the information in the SAP Confirmations against the information in the Meridium Enterprise APM Confirmation records.

Steps

1. In SAP, run the following transaction: IW43.

The window appears.

Display PM Order Confirmation: Initial Screen

Parameters

Operation confirmation number
Confirmation

Order
Order
Oper./Act.
Suboperation

Long-term order for
Funct. Location
Equipment

Confirmation counter
Counter

Indiv.capacity
Capacity Cat.
Split number

2. If you know the Confirmation number of the Confirmation that you want to validate, in the **Confirmation** text box, enter the Confirmation number, which appears in the **Confirmation Number** cell on the Confirmation datasheet in the Meridium Enterprise APM system.

-or-

If you know the Order number associated with the Confirmations that you want to validate, in the **Order** text box, enter the Order number, which appears in the **Work Order Number** cell on the Confirmation datasheet in the Meridium Enterprise APM system.

3. Select



If only one Confirmation meets the specified criteria, the **Display PM Order Confirmation: Actual Data** screen appears, displaying the values that appear on the Confirmation datasheet in the Meridium Enterprise APM system.

-or-

If more than one Confirmation meets the specified criteria, the **Display PM Order Confirmation: Confirmation Overview** screen appears, displaying a list of the Confirmations that meet the specified criteria. In the list, you can see the values that appear on the Confirmation datasheet in the Meridium Enterprise APM system.

Mange Filter Parameters in the Context File

This topic provides a list of all procedures related to applying filter parameters in the context file, as well as links to the related concept and reference topics.

Apply Common Filter Parameters

There are common filter parameters in the context file that operate in the same manner, no matter which adapter you are using to extract data. This topic describes how to configure the common filter parameters.


Before You Begin

Before you can transfer data with an adapter, you must complete the following:

- [Import an Adapter Job](#) to which filters can be applied.

Steps

1. On the machine on which you installed APM Connect, navigate to `<root:\>APMConnect\Config`.

 **Note:** If you are using multiple SAP systems, there will be multiple context files to which you will need to apply the filter parameters.

2. Right-click on the *context file* file, and then select **Edit**.

The context file opens.

3. As necessary, configure the following common parameters in the table:

| Common Filter Parameters | Description | Value Requirements | Required, Optional |
|--------------------------|--|---|--------------------|
| CHANGE_DATE_START | Date value that limits the data extracted to records changed on or after the specified date. | Dates must be entered in the following format:YYYYMMDD. | Required |
| CHANGE_DATE_END | Date value that limits the data extracted to records changed on or before the specified date. | Dates must be entered in the following format:YYYYMMDD. | Required |
| CREATE_DATE_START | Date value that will limit the data extracted to records created on or after the specified date. | Dates must be entered in the following format:YYYYMMDD. | Optional |
| CREATE_DATE_END | Date value that limits the data extracted to records created on or before the specified date. | Dates must be entered in the following format:YYYYMMDD. | Optional |
| LANGUAGE | The SAP code that represents the language. | Must be a single character. | Required |
| MAINT_PLANT | ID(s) of the Maintenance Plant whose data you want to extract. | Plant values cannot exceed four characters. | Required |
| SITE_ID | Name of the plant site whose data you want to extract. | N/A | Required |

4. Save the changes to the context file.

The common filter parameters are configured and applied to all Adapter Jobs in the APM Connect Administration Center.

Results

When Jobs are executed in the APM Connect Administration Center, APM Connect will use the common filters in the context file to determine the scope of the extraction required by that Job. Now, you can configure the filter parameters specific to the Adapter Job that you would like to run.

Example: Using the Common Filters

To extract English records created between January 1st and December 31, 2000 and changed between January 1st and December 31st, 2012 from maintenance plant 1000:

1. In the **CREATE_DATE_START** field, enter the following to reflect January 01, 2000: 20000101.
2. In the **CREATE_DATE_END** field, enter the following to reflect December 31, 2000: 20001231.
3. In the **CHANGE_DATE_START** field, enter the following to reflect January 01, 2012: 20120101.
4. In the **CHANGE_DATE_END** field, enter the following to reflect December 31, 2012: 20121231.
5. In the **LANGUAGE** field, enter the following SAP code for English: E.
6. In the **MAINT_PLANT** field, enter the following maintenance plant ID: 1000.

The necessary filter parameters are entered into the context file, as shown in the following image:

```

ContextFile.xml - Notepad
File Edit Format View Help
  <!-- Filter parameters(some more will added based on requirement) -->
  <EQUIPMENT_NO></EQUIPMENT_NO>
  <FLOC_NO></FLOC_NO>
  <NOTIFICATION_NO></NOTIFICATION_NO>
  <WORK_ORDER_NO></WORK_ORDER_NO>
  <CREATE_DATE_START>20000101</CREATE_DATE_START>
  <CREATE_DATE_END>20001231</CREATE_DATE_END>
  <CHANGE_DATE_START>20120101</CHANGE_DATE_START>
  <CHANGE_DATE_END>20121231</CHANGE_DATE_END>
  <CREATE_TIME_START></CREATE_TIME_START>
  <CREATE_TIME_END></CREATE_TIME_END>
  <CHANGE_TIME_START></CHANGE_TIME_START>
  <CHANGE_TIME_END></CHANGE_TIME_END>
  <MAINT_PLANT>1000</MAINT_PLANT>
  <EQUIPMENT_CATEGORY></EQUIPMENT_CATEGORY>
  <FLOC_CATEGORY></FLOC_CATEGORY>
  <EQUIPMENT_TYPE></EQUIPMENT_TYPE>
  <FLOC_TYPE></FLOC_TYPE>
  <NOTIFICATION_TYPE></NOTIFICATION_TYPE>
  <WORK_ORDER_TYPE></WORK_ORDER_TYPE>
  <SYSTEM_STATUS></SYSTEM_STATUS>
  <USER_STATUS></USER_STATUS>
  <EQUIPMENT_CLASS></EQUIPMENT_CLASS>
  <FLOC_CLASS></FLOC_CLASS>
  <LANGUAGE>E</LANGUAGE>
  <WORK_ORDER_SYSTEM_STATUS></WORK_ORDER_SYSTEM_STATUS>
  <WORK_ORDER_USER_STATUS></WORK_ORDER_USER_STATUS>

```

7. Save the context file.

Only records with English descriptions created in 2000 and changed in 2012 from maintenance plant 1000 will be extracted when an Adapter is run in the APM Connect Administration Center.

What's Next?

Common filters can be applied to each adapter. After the necessary common filters are configured, you can apply the following adapter specific parameters:

- [Equipment Adapter filter parameters.](#)
- [Functional Location Adapter filter parameters.](#)
- [Work History Adapter filter parameters.](#)
- [Technical Characteristic filter parameters.](#)
- [Work Management filter parameters.](#)

Apply Equipment Filter Parameters

In the context file, there are filter parameters that apply specifically to the Equipment Adapter Jobs. These filter parameters determine what types of Equipment data will be transferred from the EAM source system into the Meridium Enterprise APM. This topic outlines the functions of Equipment-specific filters, and how to apply them.


Before You Begin

Before you can manipulate the Equipment Adapter data, you must first complete the following:

- [Import the Equipment Adapter Job](#) into the APM Connect Administration Center.

Steps

1. On the machine on which you installed APM Connect, navigate to `<root:\>\APMConnect\Config`.

 **Note:** If you are using multiple SAP systems there will be multiple context files to which you will need to apply the filter parameters.

2. Right-click on the *context file* file, and then select **Edit**.
The context file opens.
3. As needed, configure the [Common Filters](#).

- As needed, configure the following Equipment Filter parameters in the table:

| Equipment Filter Parameters | Description | Value Requirements | Required or Optional |
|-----------------------------|---|--|----------------------|
| EQUIPMENT_NO | Equipment that you want to extract. | The Equipment number should not exceed 18 characters. You can not exceed 500 Equipment numbers. | Optional |
| EQUIPMENT_CATEGORY | ID of the Equipment Category that will limit the Equipment extracted | The Equipment Category should not exceed one character. | Optional |
| EQUIPMENT_CLASS | ID of the Equipment Classification that will limit the Equipment extracted. | The Equipment Class should not exceed 18 characters. If an Equipment has multiple classifications, as long as you specify one of those classifications, the Equipment record will be extracted. | Optional |
| EQUIPMENT_TYPE | ID of the Equipment Type that will limit the Equipment extracted. | The Equipment Type should not exceed 10 characters. | Optional |

- Save the changes to the context file.

Results

The Equipment filter parameters are configured, and the Equipment Adapter Job can be run in the APM Connect Administration Center. When a Job is run in the APM Connect Administration Center, the Job will look to the context files for the parameters of the extraction. If no filters are entered to limit the records extracted, all Equipment records will be extracted.

Example: SAP Equipment Data Extraction

To extract Equipment records created between December 2009 and December 2010 with Equipment numbers 1001273-1001277:

- On the machine clear the APM Connect, navigate to `<root:\>\APMConnect\Config`.
- Right-click on the *context file* file, and then select **Edit**.

The context file opens.

3. In the **CREATE_DATE_START** field, enter the following to reflect the date December 1, 2009: 20091201.
4. In the **CREATE_DATE_END** field, enter the following to reflect the date December 31, 2010: 20101231.
5. In the **EQUIPMENT_NO** field enter the following Equipment identification numbers:
000000000001001273,
000000000001001274,000000000001001275,000000000001001276,00000000000100-
1277.

The necessary filter parameters are entered in the context file, as shown in the following image:

```
<!-- Filter parameters (some more will added based on
requirement)-->
<!-- Equipment Filter criteria -->
  <EQUIPMENT_NO>
000000000001001273,000000000001001274,000000000001001275,00000000
0001001276,000000000001001277</EQUIPMENT_NO>
  <CREATE_DATE_START>20091201</CREATE_DATE_START>
  <CREATE_DATE_END>20101231</CREATE_DATE_END>
  <CHANGE_DATE_START></CHANGE_DATE_START>
  <CHANGE_DATE_END></CHANGE_DATE_END>
  <MAINT_PLANT></MAINT_PLANT>
  <EQUIPMENT_CATEGORY></EQUIPMENT_CATEGORY>
  <EQUIPMENT_TYPE></EQUIPMENT_TYPE>
  <EQUIPMENT_CLASS></EQUIPMENT_CLASS>
  <LANGUAGE>E</LANGUAGE>
```

6. Save the context file.

Only Equipment records with the IDs 1001273-1001277 created between December 2009 and December 2010 are extracted when the Job is run in the APM Connect Administration Center.

What's Next?

After you have applied the filters in the context file, you can [run the associated job in the Meridium APM Connect Administration Center](#).

Apply Functional Location Filter Parameters

In the context file, there are filter parameters that apply specifically to the Functional Location Adapter. These filter parameters determine what types of Functional Location data will be transferred from the EAM source system into the Meridium Enterprise APM. This topic outlines the functions of Functional Location-specific filters, and how to apply them.


Before You Begin

Before you can manipulate the Functional Location data, you must first complete the following:

- [Import the Functional Location Adapter Job](#) into the APM Connect Administration Center.

Steps

1. On the machine on which you installed APM Connect, navigate to `<root:\>\APMConnect\Config`.

 **Note:** If you are using multiple SAP systems there will be multiple context files to which you will need to apply the filter parameters.

2. Right-click on the *context file* file, and then select **Edit**.
The context file opens.
3. As necessary, configure the [Common Filters](#).

4. As necessary, configure the following Functional Location Filter parameters in the table:

| Functional Location Parameters | Description | Value Requirements | Required or Optional |
|--------------------------------|--|---|----------------------|
| FLOC_NO | Number that identifies the Functional Location record you want to extract. | The Functional Location number should not exceed 40 characters. You can not exceed 500 Functional Location numbers. | Optional |
| FLOC_CATEGORY | ID of the Functional Location Category that will limit the Functional Locations extracted. | The Functional Location Category should not exceed one character. | Optional |
| FLOC_CLASS | ID of the Functional Location Classification that will limit the Functional Locations extracted. | The Functional Location Class should not exceed 18 characters. | Optional |
| FLOC_TYPE | ID of the Functional Location Type that will limit the Functional Locations extracted. | The Functional Location Type should not exceed ten characters. | Optional |

5. Save the changes to the context file.

Results

The Functional Location filters parameters are configured, and the Functional Location Adapter Job can be run in the APM Connect Administration Center. When a Job is run in the APM Connect Administration Center, the Job will look to the context files for the parameters of the extraction. If no filters are entered to limit the records extracted, all Functional Location records will be extracted.

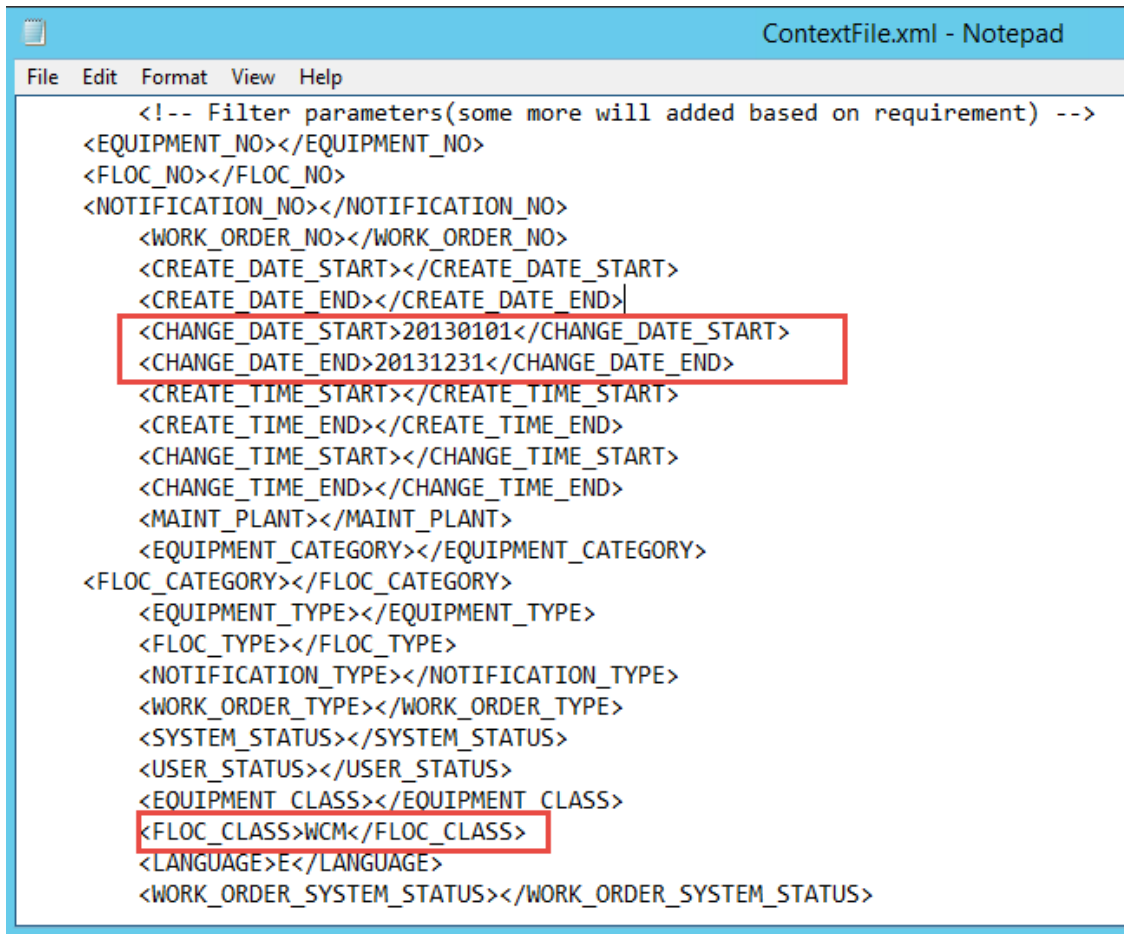
Example: SAP Functional Location Extraction

To extract Functional Location records changed between January 1 and December 31, 2013, with the Functional Location class WCM:

1. On the machine on which you installed APM Connect, navigate to `<root:\>\APMConnect\Config`.
2. Right-click on the *context file* file, and then select **Edit**.

The context file will open in notepad.

3. In the **CHANGE_DATE_START** field, enter 20130101.
4. In the **CHANGE_DATE_END** field, enter 20131231.
5. In the **FLOC_CLASS** field, enter *WCM* to limit records extracted to those with the Functional Location class of WCM, as shown in the following image:



```
<!-- Filter parameters(some more will added based on requirement) -->
<EQUIPMENT_NO></EQUIPMENT_NO>
<FLOC_NO></FLOC_NO>
<NOTIFICATION_NO></NOTIFICATION_NO>
<WORK_ORDER_NO></WORK_ORDER_NO>
<CREATE_DATE_START></CREATE_DATE_START>
<CREATE_DATE_END></CREATE_DATE_END>
<CHANGE_DATE_START>20130101</CHANGE_DATE_START>
<CHANGE_DATE_END>20131231</CHANGE_DATE_END>
<CREATE_TIME_START></CREATE_TIME_START>
<CREATE_TIME_END></CREATE_TIME_END>
<CHANGE_TIME_START></CHANGE_TIME_START>
<CHANGE_TIME_END></CHANGE_TIME_END>
<MAINT_PLANT></MAINT_PLANT>
<EQUIPMENT_CATEGORY></EQUIPMENT_CATEGORY>
<FLOC_CATEGORY></FLOC_CATEGORY>
<EQUIPMENT_TYPE></EQUIPMENT_TYPE>
<FLOC_TYPE></FLOC_TYPE>
<NOTIFICATION_TYPE></NOTIFICATION_TYPE>
<WORK_ORDER_TYPE></WORK_ORDER_TYPE>
<SYSTEM_STATUS></SYSTEM_STATUS>
<USER_STATUS></USER_STATUS>
<EQUIPMENT_CLASS></EQUIPMENT_CLASS>
<FLOC_CLASS>WCM</FLOC_CLASS>
<LANGUAGE>E</LANGUAGE>
<WORK_ORDER_SYSTEM_STATUS></WORK_ORDER_SYSTEM_STATUS>
```

6. Save the context file.

Only Functional Location records with the Functional Location class WCM that were modified between January 1 and December 31, 2013, are extracted when the Job is run in the APM Connect Administration Center.

What's Next?

After you have applied the filters in the context file, you can [run the associated job in the Meridium APM Connect Administration Center](#).

Apply Work History Filter Parameters

There are filter parameters in the context file that specifically apply to the Work History Adapter. The filter parameters determine what types of Work History data will be transferred from SAP into the Meridium Enterprise APM. This topic describes the functions of Work History-specific filters, and how to apply them.

Before You Begin

Before you can manipulate the Work History data, you must complete the following:

- [Import the Work History Adapter Job](#) into the APM Connect Administration Center.

Steps

1. On the machine on which you installed APM Connect, navigate to `<root:\>\APMConnect\Config`.
2. Right-click on *context file* file, and select **Edit**.
The context file opens.
3. As necessary, configure the [Common Filters](#).
4. As necessary, configure the following Work History parameters in the context file:

| Work History Parameters | Description | Value Requirements |
|---------------------------------|---|---|
| CHANGE_TIME_START | Time value. Retrieves records changed on or after the specified time. | Times must be entered in the following format: HHMMSS. |
| CHANGE_TIME_END | Time value. Retrieves records changed on or before the specified time. | Times must be entered in the following format: HHMMSS. |
| CREATE_TIME_START | Time value. Retrieves records created on or after the specified time. | Times must be entered in the following format: HHMMSS. |
| CREATE_TIME_END | Time value. Retrieves records created on or before the specified time. | Times must be entered in the following format: HHMMSS. |
| WORK_ORDER_SYSTEM_STATUS | Work Order systems status that limits the work orders you want to extract | Work Order System Status should not exceed four characters. |

| | | |
|-----------------------------------|--|---|
| WORK_ORDER_USER_STATUS | Work Order user status that limits the work orders you want to extract | Work Order User Status should not exceed four characters. |
| NOTIFICATION_SYSTEM_STATUS | Notification system status that limits the notifications you want to extract. | Notification system status should not exceed four characters. |
| NOTIFICATION_USER_STATUS | Notification user status that limits the notifications you want to extract. | User status should not exceed four characters. |
| NOTIFICATION_NO | Number that identifies the Notification record. | Notification Number should not exceed 12 characters. |
| WORK_ORDER_NO | Number that identifies the Work Order record. | Work Order Number should not exceed 12 characters. |
| NOTIFICATION_TYPE | Order type that limits the orders you want to extract. | Notification type should not exceed two characters. |
| WORK_ORDER_TYPE | ID of the work order that limits the orders you want to extract. | Work Order type should not exceed four characters. |
| EQUIPMENT_CATEGORY | ID of the Equipment category that limits the Equipment data extracted. | Equipment category should not exceed one character. |
| EQUIPMENT_CLASS | ID of the Equipment class that limits the Equipment data extracted. | Equipment class should not exceed 18 characters. |
| EQUIPMENT_TYPE | ID of the Equipment Type that will limit the Equipment extracted. | Equipment type should not exceed 10 characters. |
| FLOC_CATEGORY | ID of the Functional Location Category that will limit the Functional Locations extracted. | Functional Location category should not exceed one character. |
| FLOC_CLASS | ID of the Functional Location Classification that will limit the Functional Locations extracted. | Functional Location class should not exceed 18 characters. |
| FLOC_TYPE | ID of the Functional Location Type that will limit the Functional Locations extracted. | Functional Location type should not exceed 10 characters. |

Results

The context file is configured, and the Work History Adapter Job can be run in the APM Connect Administration Center. When a Job is run in the APM Connect Administration Center, the job will look to the context files for the parameters of the extraction. If no filters are entered to limit the records extracted, all Work History records for work orders and notifications will be extracted.

Example: SAP Work History Extraction

To extract Work History records created in 2014 between October 1-31st, changed between the hours of 8:00 A.M. and 5:00 P.M., with the Work Order type maintenance orders, with the Equipment Type mobile cranes:

1. On the machine on which you installed APM Connect, navigate to `<root:\>\APMConnect\Config`.
2. Right-click on the *context file* file, and select **Edit**.

The context file opens.

3. In the **CREATE_DATE_START** field, enter the following to reflect October 1, 2014: 20141001.
4. In the **CREATE_DATE_END** field, enter the following to reflect October 31, 2014: 20141031.
5. In the **CHANGE_TIME_START** field, enter the following to reflect 8:00 A.M.: 080000.
6. In the **CREATE_TIME_END** field, enter the following to reflect 5:00 P.M.: 170000.
7. In the **WORK_ORDER_TYPE** field, enter the following SAP code for Maintenance order: PAM.
8. In the **EQUIPMENT_TYPE** field, enter the following SAP code for Mobile Cranes: 007.

The necessary parameters are in the context file, as shown in the following image:

```

ContextFile.xml - Notepad
File Edit Format View Help
  <!-- Filter parameters(some more will added based on requirement) -->
  <EQUIPMENT_NO></EQUIPMENT_NO>
  <FLOC_NO></FLOC_NO>
  <NOTIFICATION_NO></NOTIFICATION_NO>
  <WORK_ORDER_NO></WORK_ORDER_NO>
  <CREATE_DATE_START>20141001</CREATE_DATE_START>
  <CREATE_DATE_END>20141031</CREATE_DATE_END>
  <CHANGE_DATE_START></CHANGE_DATE_START>
  <CHANGE_DATE_END></CHANGE_DATE_END>
  <CREATE_TIME_START></CREATE_TIME_START>
  <CREATE TIME END></CREATE TIME END>
  <CHANGE_TIME_START>080000</CHANGE_TIME_START>
  <CHANGE_TIME_END>170000</CHANGE_TIME_END>
  <MAINT_PLANT></MAINT_PLANT>
  <EQUIPMENT_CATEGORY></EQUIPMENT_CATEGORY>
  <FLOC_CATEGORY></FLOC_CATEGORY>
  <EQUIPMENT_TYPE>007</EQUIPMENT_TYPE>
  <FLOC_TYPE></FLOC_TYPE>
  <NOTIFICATION_TYPE></NOTIFICATION_TYPE>
  <WORK ORDER TYPE>PAM</WORK ORDER TYPE>
  <SYSTEM_STATUS></SYSTEM_STATUS>
  <USER_STATUS></USER_STATUS>
  <EQUIPMENT_CLASS></EQUIPMENT_CLASS>
  <FLOC_CLASS></FLOC_CLASS>
  <LANGUAGE>E</LANGUAGE>
  <WORK_ORDER_SYSTEM_STATUS></WORK_ORDER_SYSTEM_STATUS>
  <WORK_ORDER_USER_STATUS></WORK_ORDER_USER_STATUS>
  <NOTIFICATION_SYSTEM_STATUS></NOTIFICATION_SYSTEM_STATUS>
  <NOTIFICATION_USER_STATUS></NOTIFICATION_USER_STATUS>

```

9. Save the context file.

Only Work History records that are Maintenance Orders for Mobile Cranes created in October 2014, changed between the hours of 8:00 A.M. and 5:00 P.M., will be extracted when the Work History Job is run in APM Connect Administration Center.

What's Next?

After you have applied the filters in the context file, you can [run the associated job in the Meridium APM Connect Administration Center](#).

Apply Technical Characteristics Filters

In the context file, there are filter parameters that apply specifically to the Technical Characteristics Adapter Jobs. These filter parameters determine what types of Technical Characteristics data will be transferred from the EAM source system into the Meridium Enterprise APM.

Before You Begin


Before you can manipulate the Technical Characteristics Adapter data, you must [import the Technical Characteristics Adapter Job](#) into the APM Connect Administration Center.

Steps

To configure filter parameters for the Equipment Technical Characteristics Adapter:

1. On the machine on which you installed APM Connect, navigate to `<root:\>\APMConnect\Config`.
2. Right-click on the *context file* file, and then select **Edit**.
The context file opens.
3. As needed, configure the [Common Filters](#).
4. As needed, configure the following Technical Characteristics Filter parameters for *Equipment* in the table:

| Equipment Filter Parameters | Description | Value Requirements | Required/Default or Optional |
|-----------------------------|--|---|------------------------------|
| EQUIPMENT_NO | Equipment number that defines the Equipment that you want to extract | The Equipment number should not exceed 18 characters. | Optional |
| EQUIPMENT_CATEGORY | ID of the Equipment Category that will limit the Equipment extracted | The Equipment Category should not exceed one character. | Optional |

| | | | |
|-------------------------------|--|---|-----------------|
| <p>EQUIPMENT_CLASS</p> | <p>ID of the Equipment Classification that will limit the Equipment extracted. If an Equipment has multiple classifications, as long as you specify one of those classifications, the Equipment record will be extracted.</p> <div style="border: 1px solid yellow; padding: 5px; margin-top: 10px;"> <p> Note: When Technical Characteristic classifications are updated in Meridium Enterprise APM, they will override any changes made to the classifications parameter in the context file.</p> </div> | <p>The Equipment Class should not exceed 18 characters.</p> | <p>Optional</p> |
| <p>EQUIPMENT_TYPE</p> | <p>ID of the Equipment Type that will limit the Equipment extracted</p> | <p>The Equipment Type should not exceed 10 characters.</p> | <p>Optional</p> |

5. Save the changes to the context file.

Results

The Equipment Technical Characteristics filter parameters are configured, and the Equipment Technical Characteristics Adapter Job can be run in the APM Connect Administration Center. When a Job is run in the APM Connect Administration Center, the Job will look to the context files for the parameters of the extraction. If no filters are entered to limit the records extracted, all Equipment Technical Characteristics records will be extracted.

Steps

To configure filter parameters for the Functional Location Technical Characteristics Adapter:

1. On the machine on which you installed APM Connect, navigate to `<root:\>\APMConnect\Config`.
2. Right-click on the *context file* file, and then select **Edit**.
The context file opens.
3. As necessary, configure the following [Common Filters](#).

- As needed, configure the following Functional Location Technical Characteristics filter parameters in the table:

| Functional Location Parameters | Description | Value Requirements | Required/ Default or Optional |
|--------------------------------|--|---|-------------------------------|
| FLOC_NO | Functional Location number that defines the Functional Location that you want to extract. | The Functional Location number should not exceed 40 characters. | Optional |
| FLOC_CATEGORY | ID of the Functional Location Category that will limit the Functional Locations extracted. | The Functional Location Category should not exceed one character. | Optional |
| FLOC_CLASS | ID of the Functional Location Classification that will limit the Functional Locations extracted. | The Functional Location Class should not exceed 18 characters. | Optional |
| FLOC_TYPE | ID of the Functional Location Type that will limit the Functional Locations extracted. | The Functional Location Type should not exceed 10 characters. | Optional |

- Save the changes to the context file.

Results

The Functional Location Technical Characteristics filters parameters are configured, and the Technical Characteristics Adapter Job can be run in the APM Connect Administration Center. When a Job is run in the APM Connect Administration Center, the Job will look to the context files for the parameters of the extraction. If no filters are entered to limit the records extracted, all Technical Characteristics records will be extracted.

What's Next?

After you have applied the filters in the context file, you can [run the associated job in the Meridium APM Connect Administration Center](#).

Apply Work Management Filters

There is a filter parameter in the context file that applies specifically to the Work Management Adapter. The filter parameter determines what Work Management data will be transferred from SAP into the Meridium Enterprise APM.

Before You Begin

Before you can apply Work Management filters, you must [import the Work Management Adapter Job](#) into the APM Connect Administration Center.

Steps

1. On the machine on which you installed APM Connect, navigate to `<root:\>\APMConnect\Config`.
2. Right-click on the *context file* file, and then select **Edit**.
The context file opens.
3. As needed, configure the [Common Filters](#).
4. As needed, configure the Work Management filter parameter in the table:

| Work Management Filter Parameter | Description | Value Requirements | Required/Default or Optional |
|----------------------------------|--|---|------------------------------|
| MAINTENANCE_PLAN | Maintenance Plan ID number that defines the Work Management data that you want to extract. | The Maintenance Plan ID is 12 characters. | Optional |
| WMI_USE_HARMONIZE | Determines if the Work Management Adapter will use the SAP PI layer for harmonization. | true: Default value for SAP Adapters. The WMI adapter will go directly to the SAP server for harmonization false: Default value for SAP PI Adapter. This will disable work management harmonization. | Optional |

Results

The context file is configured, and the Work Management Adapter Job can be run in the APM Connect Administration Center. When a Job is run in the APM Connect Administration Center, the Job will look to the context file for the parameters of the extraction. If no filters are entered to limit the records extracted, all Work Management records will be extracted.

What's Next?

After you have applied the filters in the context file, you can [run the associated job in the Meridium APM Connect Administration Center](#).

About the SAP Adapters

This topic provides a listing of all overviews and high level explanatory information to help you understand the SAP Adapters.

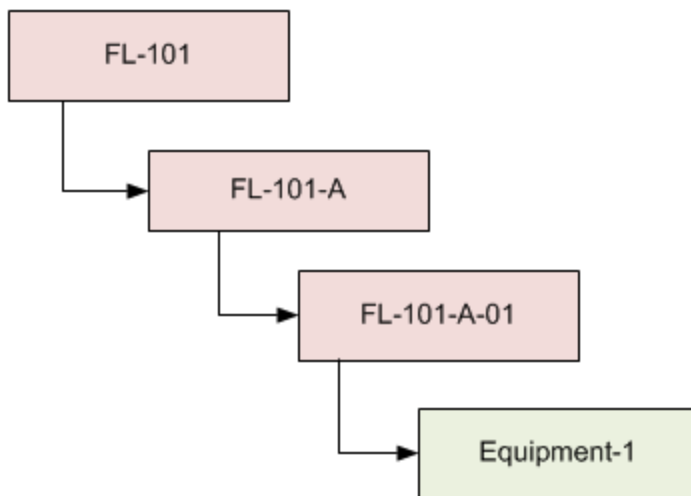
About the Equipment and Functional Location Adapters

The Equipment Adapter lets you extract Equipment items from your SAP system into your Meridium Enterprise APM system. When you do so, for each SAP Equipment item that meets the criteria defined in the extraction Job, a corresponding Equipment record is created in the Meridium Enterprise APM database.

Likewise, the Functional Location Adapter lets you extract Functional Locations from your SAP system into your Meridium Enterprise APM system. When you do so, for each Functional Location that meets the criteria defined in the extraction Job, a corresponding Functional Location record is created in the Meridium Enterprise APM database.

Because the SAP system allows you to define a hierarchy in which Functional Locations are related to other Functional Locations, and because Equipment items are also related to Functional Locations, when you run either the Equipment Adapter or the Functional Location Adapter, the SAP hierarchy is maintained. In some cases, to maintain the hierarchy, placeholder records are created in the Meridium Enterprise APM database to represent the SAP relationships.

For example, suppose that the SAP system contains the following Functional Locations and Equipment items, where the Functional Locations are shaded red, and the Equipment items are shaded green.



In this case, if you were to run the Functional Location Adapter, the following Functional Location records would be created automatically in the Meridium Enterprise APM database:

- FL-101
- FL-101-A
- FL-101-A-01

Then, if you were to run the Equipment Adapter, the following Equipment record would be created automatically in the Meridium Enterprise APM database:

- Equipment-1

This Equipment record would be linked automatically to the Functional Location record for *FL-101-A-01*.

Suppose, however, that using the same SAP data structure example, you decide to run the Equipment Adapter *before* running the Functional Location Adapter. In this case, when running the Equipment Adapter, the Equipment record *Equipment-1* would be created automatically to represent that SAP Equipment item. In addition, the following placeholder Functional Location record would also be automatically created to represent the SAP Functional Location that is directly associated with the Equipment:

- FL-101-A-01

The Equipment record would be automatically linked to the Functional Location record *FL-101-A-01*. This placeholder record would contain a value only in the Functional Location key fields. You would need to run the Functional Location Adapter to populate the remaining fields in the placeholder Functional Location record.

About the Work History Adapter

If Orders and Notifications are associated with a Technical Object, you can extract Orders and Notifications from SAP to create Work History records and Work History Detail records in Meridium Enterprise APM . To do so, you will need to run the Work History Adapter Job.

When you extract an Order (with or without Notifications), the following Work History records are created:

- One Work History record to represent the Order Header, which appears on the **HeaderData** tab in SAP. This Work History record will be created for the Technical Objects that appears on the **HeaderData** tab in SAP. This means that the Work History record will be populated with values representing those Technical Objects, and it will also be linked to the Equipment or Functional Location records representing those objects. Only this Work History record will contain cost values and estimated and actual confirmed hours.
- One Work History record per object that appears in the Order's object list (i.e., on the **Objects** tab when you are viewing the Order). These Work History records will be created for the Technical Objects that are specifically associated with those items. This means that these Work History records will be populated with values representing those Technical Objects, and they will also be linked to the Equipment or Functional Location records representing those Technical Objects.

When you extract a Notification that is not associated with an Order, one Work History record is created to represent the Notification, and this Work History record will be linked to Equipment and Functional Location records representing the Notification reference objects. Specifically:

- If the Notification has only an Equipment reference object, the Work History record for that Notification will be linked to an Equipment record.
- If the Notification has only a Functional Location reference object, the Work History record for that Notification will be linked to a Functional Location record.
- If the Notification has Equipment and Functional Location reference objects, the Work History record for that Notification will be linked to an Equipment record and a Functional Location record.

If a Notification has items, one Work History Detail record will be created to represent each item.

The following tables detail what to expect when running a Work History Job based on your SAP work order and notification combinations:

Orders Without Notifications

| After you: | ...Run this Job: | ...Result: |
|---|------------------|-----------------------------------|
| Create an Order that is not associated with a Notification. | SAP_WorkHistory | A Work History record is created. |

| After you: | ...Run this Job: | ...Result: |
|------------------------------------|---------------------|---|
| Update the Order referenced above. | SAP_ WorkHistory | The corresponding Work History record is updated. |

Orders With Notifications

Notifications Without Items:

| After you: | ...Run this Job: | ...Result: |
|---|---------------------|---|
| Create an Order that is associated with a Notification without items. | SAP_ WorkHistory | A Work History record is created to capture the data in the Order and the Notification. |
| Update only the Order. | SAP_ WorkHistory | The corresponding Work History record is updated. |
| Update only the Notification. | SAP_ WorkHistory | The corresponding Work History and Work History Detail records are updated. |
| Update both the Order and Notification. | SAP_ WorkHistory | The corresponding Work History and Work History Detail records are updated. |

Notifications With Items:

| After you: | ...Run this Job: | ...Result: |
|--|---------------------|---|
| Create a Notification with items, but do not associate it with an Order. | SAP_ WorkHistory | A Work History record and a Work History Detail record are created to capture the data in the Notification. |
| Update the Notification referenced above. | SAP_ WorkHistory | The corresponding Work History and Work History Detail records are updated. |

Example: Order With Notification: Items on Object List

Suppose the following SAP Order exists, where the red outlines indicate that:

- The Order number is *4000483*.
- The associated Notification number is *10001363*.
- The reference Technical Objects are Functional Location *ABC-PQR/12-34-56/8* and Equipment *TURBINE*.

Display Corrective Maintenance order 4000483: Central Header

Order: PM01 **4000483** Order with Notification
 Sys.Status: CRTD ESTC MANC NMAT PRC

HeaderData | Operations | Components | Costs | Partner | Objects | Addit. Data

Person responsible: PlannerGrp 100 / 1000 Main Planning Grp
 Mn.wk.ctr PRODUCTI / 1000 Production line
 Person res... 0

Notifctn: **10001363**
 Costs: 5.000,00 EUR
 PMActType: 001 Inspection
 SystCond.
 Address: Meridium Inc

Dates: Bsc start 07/27/2012 Priority
 Basic fin. 07/27/2012 Revision

Reference object: Func. Loc. **ABC-PQR/12-34-56/...** EXCHANGER LOCATION IN PLANT 1000
 Equipment: **TURBINE** Turbine.
 Assembly: MATERIAL 1 Material 1

Malfnctn data | Damage | Notif. dates

Malf.start: 07/27/2012 19:49:55 Breakdown
 MalfEnd: 00:00:00 Breakdown dur. 0,00 H

First operation: Operation: Order with Notification CcKey: Calculate duration
 WkCtr/PInt: PRODUCTI / 1000 Ctrl key: PM01 Acty Type: PRT
 Work durtn: 0 H Number: 0 Oprtn dur.: 0 H Comp.
 Person. no: 0

In addition, you can see from the Objects tab that there are items on the object list:

| Object List | | | | | | | | | | | |
|-------------|------|------------|----------|----------------------|-----------|---------------------|----------------------|------------------------|--------------|------|-------------------------|
| P... | Sort | Serial no. | Material | Material Description | Equipment | Equipment descriptn | Functional loc. | FunctLocDescrip. | Notification | N... | Description |
| | | | | | TURBINE | Turbine. | ABC-PQR/12-34-56/890 | EXCHANGER LOCATIO... | 10001363 | | Order with Notification |
| | | | | | EQABC123 | ICE SCOOPER | ABC-XYZ-DE-VW-123456 | TEST FUNCTIONAL LOC... | | | |
| | | | | | | | | | 10000604 | | Fix weld... |

If you were to extract this Order, two Work History records would be created:

- One for the Order and Notification combination.
- One for the object list item *EQABC123*.

Work History Record for the Order and Notification Combination

Suppose there is a Work History record for the Order and Notification combination, where the associated Technical Object is *TURBINE*, and the Work History record is also linked to the Equipment record *TURBINE*.

Note: The Equipment record *TURBINE* is created during the Order extraction process as a placeholder record. You would need to run the Equipment Adapter to populate the Equipment fields.

If the Notification contained items, a Work History Detail record would also be created to capture additional information about that Notification.

Work History Record for the Object List Item *EQABC123*

Suppose the Work History record for the object list item *EQABC123*, and that the Work History record is also linked to the Equipment record *EQABC123*.

Note: The Equipment record *EQABC123* and the associated Functional Location record *ABC-XYZ-DE-VW-123456* are created during the Order extraction process as placeholder records. You would need to run the Equipment Adapter and the Functional Location Adapter to populate the Equipment record and Functional Location record fields.

Example: Order Without Notification: No Items on Object List

Suppose the following SAP Order exists, where the red outlines indicate that:

- The Order number is *4000141*.
- There is no associated Notification.
- The reference Technical Object is Equipment *V100*.

Display Corrective Maintenance order 4000141: Central Header

Order PM01 4000141 Shannon Test
Sys.Status REL PCNF CSER NMAT PRC

HeaderData Operations Components Costs Partner Objects Addit. Data

Person responsible
PlannerGrp / 1000
Mn.wk.ctr PRODUCTI / 1000 Production line
Person res... 0

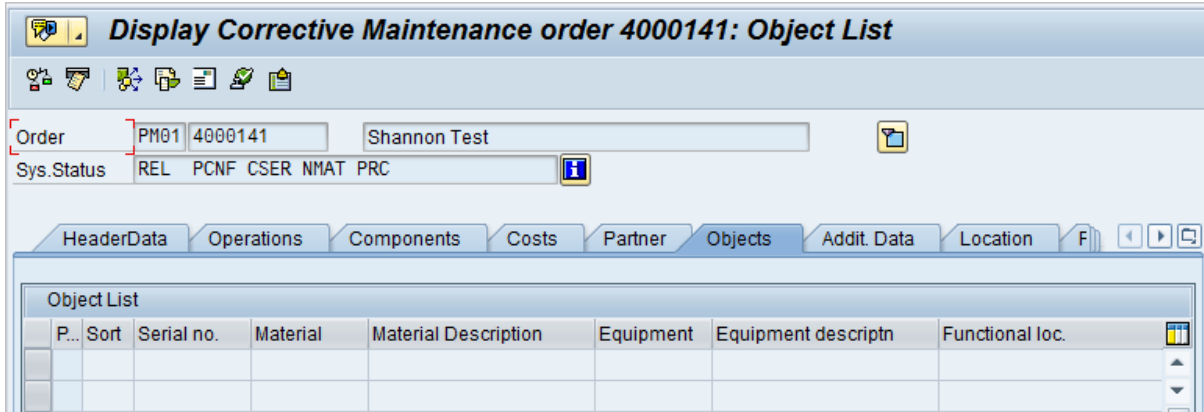
Notifctn
Costs 0,00 EUR
PMActType 001 Inspection
SystCond.
Address

Dates
Bsc start 02/16/2009 Priority
Basic fin. 02/16/2009 Revision

Reference object
Func. Loc.
Equipment V100 Overhead Accumulator
Assembly

First operation
Operation Erect scaffolding CcKey
WkCtr/PInt PRODUCTI / 1000 Ctrl key PM01 Acty Type PRT
Work durtn 0,0 Number 0 Oprtn dur. 0,0 Comp.
Person. no 0

In addition, you can see from the Objects tab that there are no items on the object list:



If you were to extract this Order, the following Work History record would be created, with the following:

- The referenced technical object is *V100*.
- The Work History record is linked to the Equipment record *V100*.

Note: The Equipment record *V100* is created during the Order extraction process as a placeholder record. You would need to run the Equipment Adapter to populate the Equipment fields.

Example: Notification Without Order: Without Notification Items

Suppose the following SAP Notification exists, where the red outlines indicate that:

- The Notification number is *10001364*.
- The reference Technical Object is Functional Location *A1*.
- There are no items.

Display PM Notification: Maintenance Request

Notification: 10001364 M1 Notification_No Items

Status: OSNO LOW

Notification | Reference object | Malfunction, breakdown | Location data | Scheduling overview

Reference object

Functional loc. A1 Location A1 for testing

Equipment

Assembly

Subject

Coding

Description: Notification_No Items

Notification - No Items

Responsibilities

Planner group: 010 / 1061 Planner Group 1

Main WorkCtr: PRODUCTI / 1000 Production line

Department resp.

Person respons.

Reported by

Notif.date: 07/27/2012 20:51:40

Start/End Dates

Required Start: 07/27/2012 20:51:40 Priority: 3-Medium

Required End: 07/30/2012 00:00:00 Breakdown

Item

Object part

Damage

Text


Cause code

Cause text

Entry 0 frm 0

If you were to extract this Notification, the Work History record would be created, with the following:

- The Work History record is associated with the Notification's Technical Object *A1*.
- The Work History record is linked to the Functional Location record *A1*.

 **Note:** The Functional Location record *A1* is created during the Notification extraction process as a placeholder record. You would need to run the Functional Location Adapter to populate the Functional Location fields.

Example: Notification Without Order: With Notification Items

Suppose the following SAP Notification exists, where the red outlines indicate that:

- The Notification number is *10001365*.
- The reference Technical Object is Functional Location *F1*.
- There are two items.

Display PM Notification: Maintenance Request

Notification
10001365
M1
Notification_With Items

Status
OSNO
LOW

Notification
Reference object
Malfunction, breakdown
Location data
Scheduling overview

Reference object

| | | | |
|-----------------|----|------------------------|--|
| Functional loc. | F1 | Functional Location F1 | |
| Equipment | | | |
| Assembly | | | |

Subject

| | | | | |
|-------------|-------------------------|--|--|--|
| Coding | | | | |
| Description | Notification_With Items | | | |
| | Notification_With Items | | | |

Responsibilities

| | | | |
|------------------|-----------------|------------|---------------------|
| Planner group | KG / 3002 | | Kroger |
| Main WorkCtr | SERVICES / 1061 | | services |
| Department resp. | | | |
| Person respons. | | | |
| Reported by | | Notif.date | 07/27/2012 20:54:57 |

Start/End Dates

| | | | | |
|----------------|------------|----------|------------------------------------|---|
| Required Start | 07/27/2012 | 20:54:57 | Priority | ▼ |
| Required End | 07/28/2012 | 00:00:00 | <input type="checkbox"/> Breakdown | |

Item

| | | | | |
|-------------|-----------|---|---------------|--|
| Object part | PM1 | 2 | Object part 2 | |
| Damage | | | | |
| Text | Text test | | | |
| Cause code | PM1 | 1 | Cause 1 | |
| Cause text | | | | |

Entry 1 frm 2


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If you were to extract this Notification, the following records would be created:

- One Work History record.
- Two Work History Detail records: one to capture additional information about the first notification item, and another to capture additional information about the second notification item.

The Work History record, would be created with the following:

- The Work History record is associated with the Notification's Technical Object *F1*.
- The Work History record is linked to the two Work History Detail records.
- The Work History record is linked to the Functional Location record *F1*.

 **Note:** The Functional Location record *F1* is created during the Notification extraction process as a placeholder record. You would need to run the Functional Location Adapter to populate the Functional Location fields.

About the Technical Characteristics Adapter

Note: You can run the Characteristics Extraction Interfaces successfully only if the SAP Technical Characteristics license is active.

In SAP, you can assign specific characteristics to Equipment and Functional Locations. Each characteristic belongs to a classification, and each classification belongs to a class type. For example, the class type Equipment might contain the classification Storage Tanks, which might contain the characteristics Diameter and Wall Thickness, as illustrated in the following image:

When you extract Equipment and Functional Locations from SAP into the Meridium Enterprise APM system, their corresponding characteristics will not be extracted into the Equipment and Functional Location records that are created during the extraction process. If you want to extract their corresponding characteristics, you will need to run the Technical Characteristics Adapter. When you run these adapters, Technical Characteristic records are created to store the characteristics that have been configured to be extracted, and these records are linked automatically to the appropriate Equipment and Functional Location records.

Note: When Technical Characteristic classifications are updated in Meridium Enterprise APM, they will override any changes made to the [classifications parameter in the context file](#).

In Meridium Enterprise APM, you can configure which characteristics you want to extract from SAP. When you do so, various actions that you perform in the Meridium Enterprise APM system and the SAP system cause specific results, as seen in the following table.

Multiple Objects Allowed

The Technical Characteristic Adapter can transfer Equipment and Functional Locations configured for Multiple Objects Allowed. This functionality is enable by context parameters in the [context file](#).

Equipment and Functional Locations are configured for Multiple Object in SAP, as shown in the following image.

This indicator tells you whether several different types of object can be classified in classes of this class type. This allows you to classify objects that are logically related to each other in the same classes.

Meridium Enterprise APM Actions and Results

| Action | Result | Notes |
|--------|--------|-------|
|--------|--------|-------|

| | | |
|--|--|--|
| <p>Select the Extract From CMMS System check box in a CMMS Characteristic record.</p> | <p>The next time the Technical Characteristics Adapter is run, the characteristic is extracted.</p> | <p>During the extraction process, a corresponding Technical Characteristic record is created.</p> |
| <p>Clear the Extract From CMMS System check box in a CMMS Characteristic record.</p> | <p>If a Technical Characteristic record has been created using this CMMS Characteristic record, it is not deleted automatically when you delete the CMMS Characteristic record.</p> <p>Instead, the next time that the Technical Characteristics Adapter is run, the corresponding Technical Characteristic record is deleted.</p> | <p>To begin extracting the characteristic again, you will need to select the Extract From CMMS System check box.</p> |
| <p>Delete a CMMS Characteristic record.</p> | <p>If a Technical Characteristic record has been created using this CMMS Characteristic record, it is not deleted automatically when you delete the CMMS Characteristic record.</p> <p>Instead, the next time that the Technical Characteristics Adapter is run, the corresponding Technical Characteristic record is deleted.</p> <p>In addition, until the CMMS Characteristic record is recreated and flagged for extraction, beginning with the next time the Technical Characteristics Adapter is run, the characteristic is no longer extracted.</p> | <p>To begin extracting the characteristic again, you will need to:</p> <ul style="list-style-type: none"> • Refresh the Meridium Enterprise APM system to reflect the current SAP characteristics, which will cause the CMMS Characteristic record to be recreated. • Select the Extract From CMMS System check box in that CMMS Characteristic record. |

| | | |
|---|--|--|
| <p>Delete a CMMS Classification record.</p> | <p>All CMMS Characteristic records that were linked to the CMMS Classification record are deleted automatically.</p> <p>If a Technical Characteristic record has been created using this CMMS Classification record, it is not deleted automatically when you delete the CMMS Classification record.</p> <p>Instead, the next time that the Technical Characteristics Adapter is run, the corresponding Technical Characteristic records are deleted automatically.</p> <p>In addition, until the CMMS Classification record is recreated and flagged for extraction, beginning with the next time the Technical Characteristics Adapter is run, characteristics belonging to that classification are no longer extracted.</p> | <p>To begin extracting characteristics belonging to this classification again, you will need to:</p> <ul style="list-style-type: none"> • Refresh the Meridium Enterprise APM system to reflect the current SAP classifications, which will cause the CMMS Classification record to be recreated automatically. • Select the Extract From CMMS System check box in the CMMS Classification record. • Refresh the Meridium Enterprise APM system to reflect the current SAP characteristics, which will cause the CMMS Characteristic records that were previously deleted to be recreated automatically. • Select the Extract From CMMS System check box in the appropriate CMMS Characteristic records. |
|---|--|--|


| | | |
|--|--|--|
| <p>Delete a CMMS Classification Type record.</p> | <p>All CMMS Classification and CMMS Characteristic records that were linked (directly or indirectly) to the CMMS Classification Type record are deleted automatically.</p> <p>If a Technical Characteristic record has been created using this CMMS Classification Type record, it is not deleted automatically when you delete the CMMS Classification Type record.</p> <p>Instead, the next time that the Technical Characteristics Adapter is run, the Technical Characteristic record is deleted automatically.</p> <p>In addition, until the CMMS Classification Type record is recreated and its CMMS Classification and CMMS Characteristic records are flagged for extraction, beginning with the next time the Technical Characteristics Adapter is run, <i>no</i> characteristics are extracted.</p> | <p>To begin extracting characteristics again, you will need to:</p> <ul style="list-style-type: none"> • Recreate the CMMS Classification Type record. Refresh the Meridium Enterprise APM system to reflect the current SAP classifications and characteristics, which will cause CMMS Classification records to be recreated. • Select the Extract From CMMS System check box in the desired CMMS Classification records. • Refresh the Meridium Enterprise APM system to reflect the current SAP classifications and characteristics, which will cause CMMS Classification records to be recreated. • Select the Extract From CMMS System check box in that CMMS Characteristic record. |
|--|--|--|

SAP Actions and Results

| Action | Result |
|---|--|
| <p>Specify a value for a characteristic that is configured to be extracted.</p> | <p>The next time the Technical Characteristics Adapter is run, a Technical Characteristic record is created and linked to the corresponding Equipment or Functional Location record.</p> |
| <p>Remove a value for a characteristic that is configured to be extracted.</p> | <p>The next time the Technical Characteristics Adapter is run, the corresponding Technical Characteristic record is updated by removing the value from the Value field.</p> |

| | |
|--|---|
| <p>Assign a new classification to an Equipment or Functional Location, and specify values for the characteristics belonging to that class.</p> | <p>The next time the Technical Characteristics Adapter is run, Technical Characteristic records representing the new characteristic values are created and linked to the corresponding Equipment or Functional Location record.</p> |
| <p>Remove the assignment of a classification from an Equipment or Functional Location record.</p> | <p>The next time the Technical Characteristics Adapter is run or you refresh the Meridium Enterprise APM system to reflect current SAP characteristics, the corresponding Technical Characteristic record is deleted.</p> |
| <p>Delete a characteristic from a classification.</p> | <p>The next time the Technical Characteristics Adapter is run, the corresponding Technical Characteristic record is deleted.</p> |

About the Work Management Adapter

 **Note:** You can run the Work Management Interface only if the SAP-Work Management Interface license is active.

The Work Management Adapter facilitates integration with SAP's planning and scheduling modules for Condition Assessment activities. The adapter allows you to manage scheduled work in SAP and Meridium.

About Task Records

If an SAP Maintenance Plan has a task List that has an Operations and Object Lists that meets the criteria defined in the /MIAPM/TASK_CNF table, when you run the Work Management Adapter in the Administration Center, task(s) record will be created in Meridium Enterprise APM. The corresponding task record will be created based on the task configuration done in SAP.

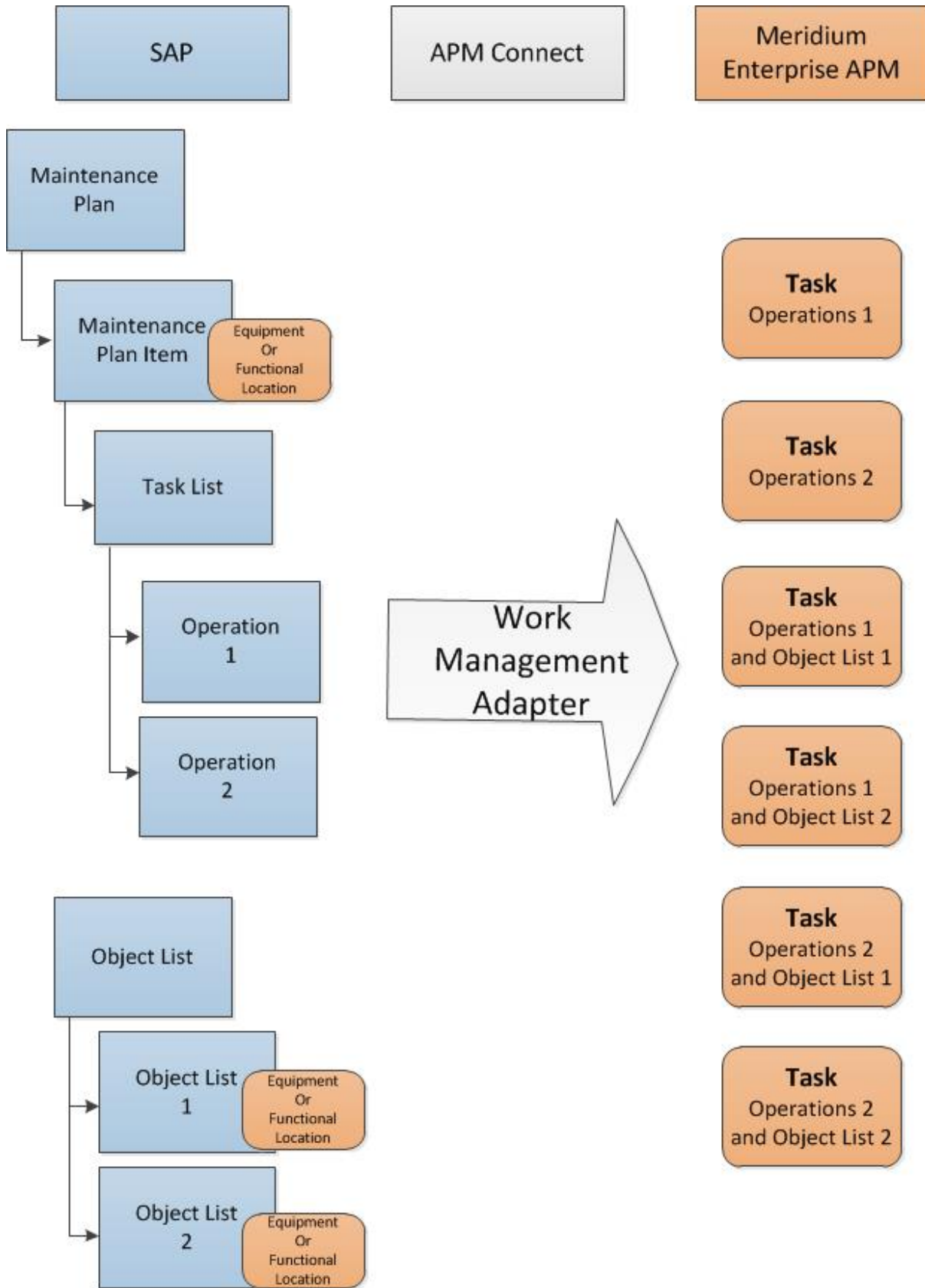
If you later modify that Maintenance Plan and then run the Work Management Adapter again, the corresponding task record will be updated automatically in Meridium Enterprise APM. Likewise, if you add an Order to the Maintenance Plan, the corresponding task record will also be updated automatically in Meridium Enterprise APM.

After executing the Work Management Adapter, it creates tasks in Meridium Enterprise APM using the following items in SAP:

- Operations
- Object list


For example, suppose you have a maintenance plan with two operations and two object lists. When you run the adapter, six tasks will be created and associated with the particular asset in Meridium Enterprise APM as show in the following image:

Overview of APM Connect



About Last and Next Date from SAP

When transferring Work Management data from SAP into Meridium Enterprise APM, the Desired Interval field is populated with a null value. The Next Date field will populate with the next execution date of the task (Meridium) or operation (SAP) when transferred to Meridium Enterprise APM.

 **Note:** Last Date and Next Date values are calculated in SAP, not in Meridium Enterprise APM.

The following chart includes the possibilities for the Last Date and Next Date fields upon transferring data from SAP into Meridium Enterprise APM task records:

| Workflow Step | Step Narrative | Last Date Field | Next Date Field |
|---|---|--------------------------------------|---|
| Plan is created, but not scheduled, and the Work Management Job is run. | The tasks of a Plan are created in Meridium when the Work Management Job is run. | Null | Null |
| Plan is scheduled, but not called, and the Work Management Job is run. | The Plan is scheduled. The task created above should be updated in Meridium. | Null | If the Plan is <i>On Hold</i> , the field will contain the next execution date. Otherwise, the field is Null. |
| Plan is called for the first time, and the Work Management Job is run. | The task previously created will be updated with information from the Work Order from SAP. | Null | Next execution date of task. Work Order started. |
| Task is executed in Meridium. | An inspection event is linked to the task. The inspection Hours field is set, and the inspection is closed. A confirmation record is created. | Date is set to date of Confirmation. | Next execution date of task. Work Order started. |

SAP Maintenance Plans Supported

The Work Management Adapter allows the SAP user to create Meridium Inspection or Calibration tasks from operations on the task list of single cycle maintenance plans and strategy plans. However, not all strategy plan types are supported. The following table lists what types are

supported:

| SAP Plan Type | Supported by the Work Management Adapter |
|----------------------------------|--|
| Single Cycle: Time-Based | Supported |
| Single Cycle: Performance-Based | Supported |
| Strategy Plan: Time-Based | Supported |
| Strategy Plan: Performance-Based | Supported |
| Multiple Counter Plan | Not Supported |

About Discontinued Task Records


If a task record was created from SAP data and you later modify the SAP data in a way that causes that task record to become obsolete, you can run the Work Management Job to resolve the differences.

When you run the adapter, the tasks are validated against the data in SAP. SAP will search for the task records with an Equipment or Functional Location, Maintenance Plan, Maintenance Plan Item, Task List, and Operation combination to check if the task is valid. If it finds one that is not valid:

- The task ID of the invalid task record will be set to ****DISCONTINUED****.
- The value in the Reason field will be pre-pended with the following:
<Date> - <User ID> - task was discontinued due to changes in SAP. Previous task ID was 'previous task ID.'

Where <Date> is the date on which the task ID was set to ****DISCONTINUED**** and <User ID> is the user name that is specified in the /MIAPM/PARAMS database table in SAP.

For example, suppose a Calibration task record was created from an Operation with the control key ZMI2. If you later change the control key and run the report, the Calibration task record will be discontinued.

 **Note:** When a task ID in a task record has already been set to ****DISCONTINUED****, if you run Work Management Adapter again and the task data is still not valid, the task record will be skipped. In other words, its Reason field will not contain more than one instance of the text ****DISCONTINUED****.

Note: If you modify the SAP data so that it corresponds to the existing task record again, running the adapter will cause Meridium Enterprise APM to update the discontinued task record instead of creating a new task record. The value in the Reason field in the updated task record will be pre-pended with the following: <Date> - <User ID> - Changes in SAP have caused this task to become active again, where <Date> is the date on which the task record was updated and <User ID> is the user name that is specified in the /MIAPM/PARAMS database table in SAP.

About Call Horizon

When the scheduled item that Meridium Enterprise APM delivers for the purpose of creating SAP Orders is executed, the Meridium Enterprise APM system performs a calculation on the Next Date and Call Horizon values in all task records. The calculated result is passed into the query Get tasks for Work Order Generation. If the result meets the criteria defined for the query column ([Task].[Next Date] - [Task].[Call Horizon]), the task record meets the remaining criteria defined in the query, and the task does not already contain a value in the Work Order Number field, an Order will be created from the task record.

Using the baseline query, an SAP Order will be created if the task record meets all query criteria (e.g., the Maintenance Plan field does not contain a value) and the calculated result meets the following criteria:

Task Next Date - Task Call Horizon = A date between the Last Executed Date and the Next Execution Date of the scheduled item.

Example

Suppose the scheduled item contains the following values:

| Last Executed Date | Next Execution Date |
|---------------------------|---------------------------|
| July 1, 2008 1:00:00 A.M. | July 2, 2008 1:00:00 A.M. |

Based on these values, an SAP Maintenance Order will be created automatically if the Next Date of the task record minus its Call Horizon is between July 1, 12:00:00 A.M. and July 2, 12:00:00 A.M.

Suppose a task record contains the following values:


| Next Date | Call Horizon |
|----------------------------|--------------|
| July 11, 2008 3:00:00 A.M. | 10 |

Using these task record values, if you subtract the Call Horizon, 10 days, from the Next Date, July 11, 2008 3:00:00 A.M., the result is July 1, 2008 3:00:00 A.M.

Because July 1, 2008 3:00:00 A.M. falls between the Last Executed Date of July 1, 2008 1:00:00 A.M. and July 2, 2008 1:00:00 A.M., the task record will be used to generate an Order (assuming that the task record meets the remaining query criteria).

In other words:

July 11, 2008 3:00:00 A.M. (Task Next Date) - 10 (Call Horizon) = July 1, 2008 3:00:00 A.M. (A date between the Last Executed Date and the Next Execution Date of the scheduled item)

 **Note:** If the scheduled item is being executed for the first time, Meridium Enterprise APM assumes a Last Executed Date of 1/1/1900. Also, if the Call Horizon field does not contain a value, the value is treated as zero (0).

About Filter Parameters

Filter parameters determine what data will be transferred from the EAM source systems to Meridium Enterprise APM, and are applied to the extraction job in the context file. There are two types of filter parameters: configuration parameters and adapter filter parameters. Each adapter has specific filters that apply only to that adapter. Additionally, there are some filter parameters that are common to all of the SAP adapters. When an adapter job executes, it will apply all common filters and those unique to the specific adapter job. This topic provides an overview of the adapter filter parameters for the following adapters:

- Equipment
- Functional Location
- Work History
- Technical Characteristics
- Work Management

Scope of the Filter Parameters

By entering a value into the parameter, you limit the scope of the extraction to the values in the parameter. If no value is entered into a parameter, all data for that parameter will be transferred from the EAM system source into the Meridium Enterprise APM.

Additionally, changes made in the context file will change the scope of all jobs connected to that context file. For example, if you changed the FLOC_CLASS value in the context file, all Functional Location jobs in the APM Connect Administration Center, associated with that context file, will change accordingly. However, you can use [more than one context file for multiple SAP systems](#).

How Times and Dates are Used

There are certain conditions that apply to some of the [common filter parameters](#), as shown in the following table:

| Condition | Expect Result | Note |
|--|---|------|
| If start date parameter is empty | then the start date defaults to 1/1/1900. | None |
| If end date parameter is empty | then the end date defaults to the current date. | None |

| | | |
|--|---|---|
| If start time parameter is empty | then the start time defaults to 00:00:00. | This only applies to the Work History Adapter , and only if the start and end dates are the same. |
| If end time parameter is empty | then the end time defaults to the current time. | This only applies to the Work History Adapter , and only if the start and end dates are the same. |
| If a date range is not entered | then the Job defaults to the date of the last successful run. | None |
| If it is the very first execution and no dates are specified | records for all dates will be extracted. | None |

Using Multiple Values

⚠ Important: If you are using multiple values, you should not exceed 500 values.

Multiple values can be entered into the parameters using comma separated values. For example, if you wanted to extract data from Equipment Classes M, S, and A, the equipment class parameter would look like the following: `<EQUIPMENT_CLASS> M,S,A.<EQUIPMENT_CLASS>`. Comma separated values can be used with the following parameters:

- Plants
- Equipment numbers
- Equipment categories
- Equipment classes
- Equipment Types
- Functional Location Numbers
- Functional Location Categories
- Function Location Classes
- Function Location Types
- Order System Status
- Order user statuses
- Notification system statuses
- Notification user statuses

- Notification Numbers
- Notification type
- Work Order type
- Work Order numbers
- Maintenance Plans

Comprehensive List of All of the Filter Parameters

The following is a list of all the adapter filter parameters:

| Common Filter Parameters | Description | Value Requirements | Required/Optional |
|-----------------------------|--|--|-------------------|
| CREATE_DATE_START | Date value. Retrieves records created on or after the specified date. | Dates must be entered in the following format: YYYYMMDD. | Optional |
| CREATE_DATE_END | Date value. Retrieves records created on or before the specified date. | Dates must be entered in the following format: YYYYMMDD. | Optional |
| CHANGE_DATE_START | Date value. Retrieves records changed on or after the specified date. | Dates must be entered in the following format: YYYYMMDD. | Required |
| CHANGE_DATE_END | Date value. Retrieves records changed on or before the specified date. | Dates must be entered in the following format: YYYYMMDD. | Required |
| MAINT_PLANT | Maintenance plant. | Plant values cannot exceed four characters. | Required |
| LANGUAGE | Two letter SAP code that represents the language. | None | Required |
| Equipment Filter Parameters | Description | Value Requirements | Required/Optional |
| EQUIPMENT_NO | Number that identifies the Equipment record. | The Equipment number should not exceed 18 characters. | Optional |

| | | | |
|--|--|---|--------------------------|
| EQUIPMENT_CATEGORY | Equipment category. | The Equipment Category should not exceed one character. | Optional |
| EQUIPMENT_TYPE | Equipment type. | The Equipment Type should not exceed 10 characters. | Optional |
| EQUIPMENT_CLASS | Equipment class. | The Equipment Class should not exceed 18 characters. | Optional |
| Functional Location Filter Parameters | | | |
| | Description | Value Requirements | Required/Optional |
| FLOC_NO | Number that identifies the Functional Location record. | The Functional Location Class should not exceed 18 characters. | Optional |
| FLOC_CATEGORY | Functional Location category. | The Functional Location number should not exceed 40 characters. | Optional |
| FLOC_TYPE | Functional Location type. | The Functional Location Type should not exceed ten characters. | Optional |
| FLOC_CLASS | Functional Location class. | The Functional Location Category should not exceed one character. | Optional |
| Work History Filter Parameters | | | |
| | Description | Value Requirements | Required/Optional |
| CREATE_TIME_START | Time value. Retrieves records created on or after the specified time. | Times must be entered in the following format: HHMMSS. | Optional |
| CREATE_TIME_END | Time value. Retrieves records created on or before the specified time. | Times must be entered in the following format: HHMMSS. | Optional |

| | | | |
|-----------------------------------|--|---|----------|
| CHANGE_TIME_END | Time value. Retrieves records changed on or before the specified time. | Times must be entered in the following format: HHMMSS. | Optional |
| CHANGE_TIME_START | Time value. Retrieves records changed on or before the specified time. | Times must be entered in the following format: HHMMSS. | Optional |
| NOTIFICATION_NO | Number that identifies the Notification record. | Notification Number should not exceed 12 characters. | Optional |
| WORK_ORDER_NO | Number that identifies the Work Order record. | Work Order Number should not exceed 12 characters. | Optional |
| NOTIFICATION_TYPE | Notification type. | Notification type should not exceed two characters. | Optional |
| WORK_ORDER_TYPE | Work Order type. | Work Order type should not exceed four characters. | Optional |
| WORK_ORDER_SYSTEM_STATUS | System status for the Work Order. | Work Order System Status should not exceed four characters. | Optional |
| WORK_ORDER_USER_STATUS | User status for the Work Order. | Work Order User Status should not exceed four characters. | Optional |
| NOTIFICATION_SYSTEM_STATUS | System status for the Notification. | Notification system status should not exceed four characters. | Optional |
| NOTIFICATION_USER_STATUS | User status for the Notification. | User status should not exceed four characters. | Optional |
| EQUIPMENT_CATEGORY | Equipment category. | Equipment category should not exceed one character. | Optional |

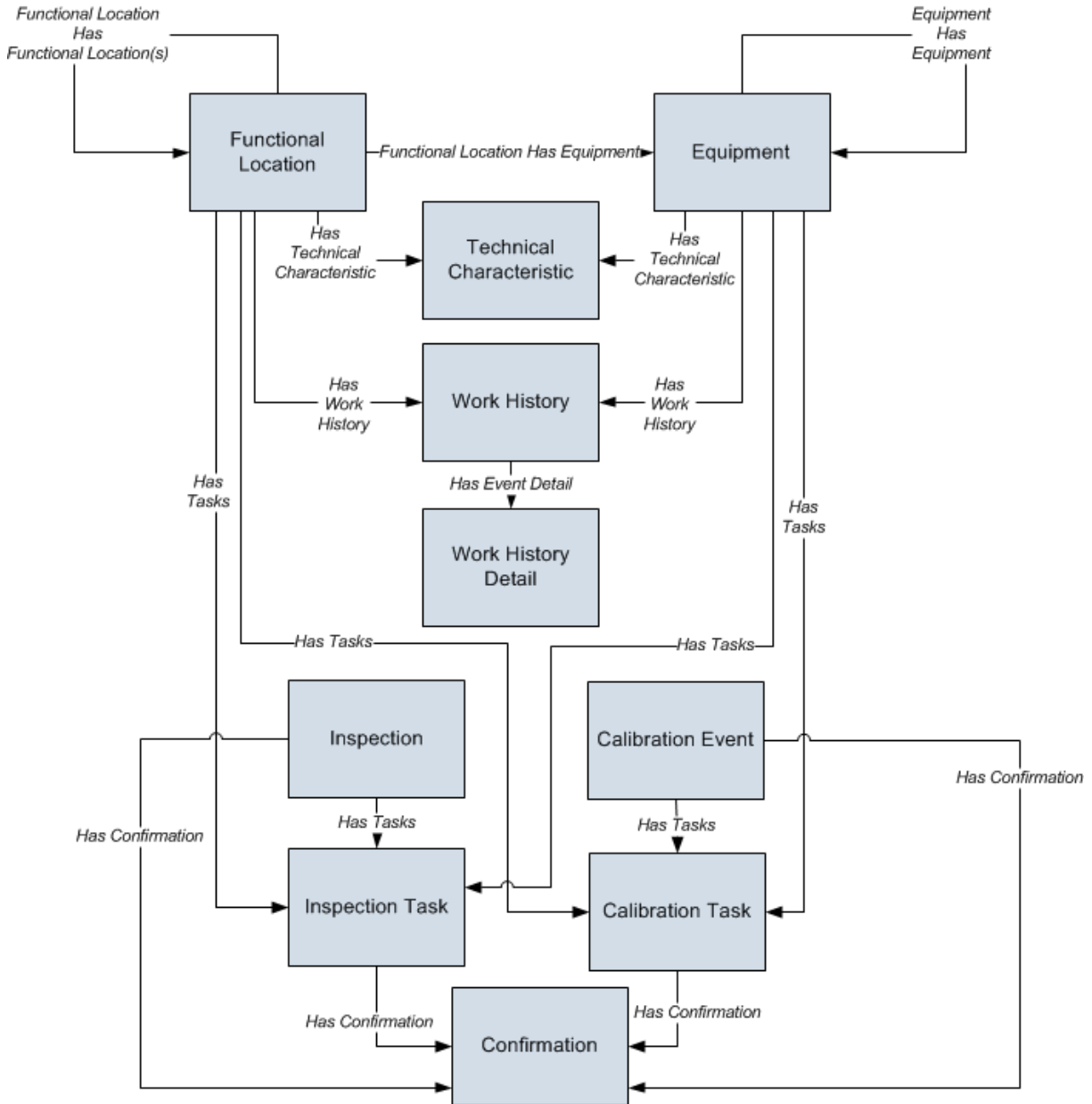
| | | | |
|--|-------------------------------|---|--------------------------|
| EQUIPMENT_TYPE | Equipment type. | Equipment type should not exceed 10 characters. | Optional |
| EQUIPMENT_CLASS | Equipment class. | Equipment class should not exceed 18 characters. | Optional |
| FLOC_CATEGORY | Functional Location category. | Functional Location category should not exceed one character. | Optional |
| FLOC_TYPE | Functional Location type. | Functional Location type should not exceed 10 characters. | Optional |
| FLOC_CLASS | Functional Location class. | Functional Location class should not exceed 18 characters. | Optional |
| Work Management Filter Parameters | Description | Value Requirements | Required/Optional |
| MAINTENANCE_PLAN | SAP Maintenance plan number. | The Maintenance Plan is 12 characters. | Optional |

Reference Information: SAP Adapters

This topic provides a listing of all detailed reference information provided for the SAP Adapters, such as command syntax, specifications, and table/field descriptions.

SAP Adapter Data Model

The following diagram shows how families used by the APM Connect SAP Adapters are related to one another:




Note: In the diagram, boxes represent entity families and arrows represent relationship families that are configured in the baseline database. You can determine the direction of the each relationship definition from the direction of the arrowhead: the box from which the arrow originates is the predecessor, and the box to which the arrow head points is the successor.

Like all Meridium Enterprise APM modules, the Meridium Enterprise APM SAP Adapters feature consists of entity families, relationship families, and business rules. When attempting to understand and make use of the SAP Adapters functionality, it can be helpful to visualize the SAP Adapters data model.

Because you should already be familiar with the concept of records and viewing records in the Meridium Enterprise APM Record Manager, as you attempt to get your bearings in the SAP Adapters feature, it may be useful to remember that the SAP Adapters feature simply lets you create, view, and manage records.

Each adapter is responsible for creating or updating one or more records that are displayed in the image. For example, when you run the Equipment Extraction Interface, Equipment records are created or updated.

 **Note:** Although, the data model image does not show the relationship, Equipment and Functional Location records are also linked to Site Reference records.

Site Filtering in the EAM Adapters

⚠ IMPORTANT: Site Reference records must preexist in your Meridium Enterprise APM System, before you can use the EAM Adapters to populate the site key. Additionally, the site entered into the context file must match the exact value in the corresponding Site Reference record.

⚠ IMPORTANT: The user who is running the EAM Adapters jobs, must have permissions in Meridium Enterprise APM to access that site to which the records being loaded will be assigned. Additionally, those user's credentials must be entered into the context file. If the user's account is not configured for the appropriate site, then the data load will fail, and they will receive an error.

The EAM Adapters are used to populate the Site Reference on Equipment and Functional Location records in Meridium Enterprise APM. The adapters populate the MI_SITE_KEY system field with the ENTY_KEY system field associated with the Site Reference value to be populated. On asset records, the Site Reference is stored in the MI_SITE_KEY field, a system field in Meridium Enterprise APM. The EAM Adapters uses the Site Name (MI_SITE_NAME) to translate the value to the corresponding Site Key and populate the MI_SITE_KEY field; therefore, you do not need to know the key to be able to populate the site reference. This functionality is important because this value can change from one database to another.

When records are loaded using the Equipment or Function Location Adapters, the system will assign the site key (MI_SITE_KEY) to the assets using the value designated in the [context file](#). The following parameters are used to designate the Site Reference value:

- **SITE_REFERENCE_EQUIP:** Used to populate the Site Reference Key on Equipment records being loaded into Meridium Enterprise APM. The Site Reference Key determines to which Site the Equipment record(s) will be assigned.
- **SITE_REFERENCE_FLOC:** Used to populate the Site Reference Key on Functional Location records loaded into Meridium Enterprise APM. The Site Reference Key determines to which Site the Functional Location record(s) will be assigned.

📄 Note: The values entered into these parameters should match, because Equipment records are linked to Functional Location records. Therefore, they should have the same site.

These parameters accept three types of values to determine the site reference value.

- Site Name:** You can enter the site name directly as defined on the preexisting Site Reference record (i.e., Site 100).
- Column Name:** You can use the character # and enter a column value to set the site reference. The following columns can be used:

- SAP columns:
 - MI_EQUIP000_PLNNG_PLNT_C
 - MI_EQUIP000_SAP_SYSTEM_C
 - MI_EQUIP000_MAINT_PLANT_C
 - MI_FNCLOC00_MAINT_PLNT_C
 - MI_FNCLOC00_PLNNG_PLNT_C
 - MI_FNCLOC00_SAP_SYSTEM_C
- Maximo columns:
 - MI_FNCLOC00_SITE_C
 - MI_EQUIP000_SITE_C

For example, if you wanted to use your SAP maintenance plant field as your Meridium Enterprise APM site reference, you would enter #MI_EQUIP000_MAINT_PLANT_C#.


- c. **Null:** You can leave the value as null. The site key will be null if a site reference value is not mapped in between the tags.

If the assets being loaded into Meridium Enterprise APM are global records, meaning they will not be filtered according to site, then the Site Reference parameters can be left blank. Once the records are loaded with a null value in the Site Reference parameters, the asset records will be designated as Global.

Once the adapters are run, records designated to be transferred into Meridium Enterprise APM, will be assigned to the site defined in the Site Reference parameters.

In addition to Equipment and Functional Location records loaded by the EAM adapters, Work History records and shell records are impacted by site reference functionality as detailed in the following table.

| Action | Result |
|---|--|
| If the Work History Adapter is run after the Equipment or Functional Location Adapter... | The Work History records will inherit the site key of their parent Functional Location or Equipment records. |
| If the Work History Adapter is run before the Equipment or Functional Location Adapter... | The site key will be Global, and a shell record will be created for Equipment and Functional Location. |
| If a shell record is created while loading data... | The site key will be Global. |

 **Note:** If you are using [multiple SAP Systems](#), you must set up a context file for each system, and designate the appropriate site(s) for each EAM Systems.

Family Field Descriptions

This topic provides a list of all detailed reference information provided for Family Field Descriptions, such as command syntax, specifications, and table/field descriptions.

CMMS Characteristic

CMMS Characteristic records are used by the SAP Adapters to facilitate data extracts and loads to and from SAP.

This topic provides an alphabetical list and description of the fields that exist for the CMMS Characteristic. The information in the table reflects the baseline state and behavior of these fields.

This family is enabled for site filtering, which means that records in this family can be assigned to a specific site, and will then only be accessible to users who are assigned to the same site and have the appropriate license and family privileges. See the Site Filtering section of the documentation for more information on using this feature.

| Field | Data Type | Description | Behavior and Usage |
|-----------------------------------|-----------|---|---|
| Characteristic Description | Character | The description of the characteristic (as it is defined in the SAP system). | This field is disabled. |
| Characteristic Name | Character | The ID of the characteristic (as it is defined in the SAP system). | On the datasheet, the value in this field is formatted as a hyperlink, which you can select to open the CMMS Characteristic by itself, outside of the context of its master CMMS Classification record. This field is disabled. |
| Class Group | Character | The SAP class group to which this characteristic belongs. | The value in this field is set automatically, and this field is disabled. |
| Classification | Character | The classification to which this characteristic belongs. | On the datasheet, the value in this field is formatted as a hyperlink, which you can select to open the CMMS Classification record representing the classification to which this characteristic belongs. This field is disabled. |

| | | | |
|--|------------------|--|---|
| <p>CMMS System ID</p> | <p>Character</p> | <p>The ID of the SAP System from which this characteristic will be extracted.</p> | <p>This field is populated automatically and used internally by the Meridium Enterprise APM system. This field is not available on the baseline datasheets.</p> |
| <p>Extract From CMMS System</p> | <p>Boolean</p> | <p>A value that identifies whether or not this characteristic will be extracted.</p> | <p>On the datasheet, you can select this check box if you want to extract this characteristic.</p> |

CMMS Classification

CMMS Classification records are available on the baseline Classification Type Classifications master-detail datasheet, the table explains how these fields behave when you are viewing CMMS Classification records in the context of this master-detail record.

This topic provides an alphabetical list and description of the fields that exist for the CMMS Classification family. The information in the table reflects the baseline state and behavior of these fields.

This family is enabled for site filtering, which means that records in this family can be assigned to a specific site, and will then only be accessible to users who are assigned to the same site and have the appropriate license and family privileges. See the Site Filtering section of the documentation for more information on using this feature.

| Field | Data Type | Description | Behavior and Usage |
|-----------------------------------|-----------|---|--|
| Class Group | Character | The SAP class group to which this classification belongs. | The value in this field is set automatically, and this field is disabled. |
| Classification | Character | The ID of the classification (as it is defined in the SAP system). | On the datasheet, the value in this field is formatted as a hyperlink, which you can select to see all of the characteristics that belong to this classification. This field is disabled. |
| Classification Description | Character | The description of the classification (as it is defined in the SAP system). | This field is disabled. |
| CMMS System | Number | This value is used internally by the Meridium Enterprise APM system. | This field is not available on the baseline datasheets. |
| CMMS System ID | Character | The value in the System ID field in the EAM System record whose Name field contains the value that is stored in the CMMS System field in this record. | This field is populated automatically and used internally by the Meridium Enterprise APM system. This field is not available on the baseline datasheets. |

| | | | |
|--|------------------|--|---|
| <p>Extract From CMMS System</p> | <p>Logical</p> | <p>A value that identifies whether or not characteristics for this classification will be extracted from the SAP system.</p> | <p>On the datasheet, you can select this check box if you want to extract characteristics belonging to this classification.</p> |
| <p>Internal Classification Number</p> | <p>Character</p> | <p>This value is used internally by the Meridium Enterprise APM system.</p> | <p>The value in this field is set automatically, and this field is disabled.</p> |

CMMS Classification Type

CMMS Classification Type records are used by the SAP Adapters to facilitate data extracts and loads to and from SAP.

This topic provides an alphabetical list and description of the fields that exist for the CMMS Classification Type. The information in the table reflects the baseline state and behavior of these fields.

This family is enabled for site filtering, which means that records in this family can be assigned to a specific site, and will then only be accessible to users who are assigned to the same site and have the appropriate license and family privileges. See the Site Filtering section of the documentation for more information on using this feature.

| Field | Data Type | Description | Behavior and Usage |
|---------------------------------|-----------|--|---|
| Classification Type | Character | The item whose characteristics will be extracted. | On the datasheet, this field displays a list, from which you can select one of the following values: <ul style="list-style-type: none"> • Equipment • Functional Location This field is required. |
| Classification Type Code | Character | A value that is used internally by the Meridium Enterprise APM system. | This value is set automatically. This field is not available on the baseline datasheets. |
| CMMS System | Number | The SAP system from which characteristics will be extracted. | On the datasheet, the CMMS System list contains the values that are stored in the Name field in all EAM System records. The list is populated automatically with the value in the Name field in the EAM System record whose Default EAM System field contains the value True. |

| | | | |
|-----------------------|-----------|---|--|
| CMMS System ID | Character | The value in the System ID field in the EAM System record whose Name field contains the value that you selected in CMMS System list in this CMMS Classification Type record. | This field is populated automatically and used internally by the Meridium Enterprise APM system. This field is not available on the baseline datasheets. |
|-----------------------|-----------|---|--|

EAM System

EAM System records are used to store information about your SAP Systems to facilitate data extracts and loads to and from SAP.

This topic provides an alphabetical list and description of the fields that exist for the SAP System family and appear on the baseline SAP System datasheet. The information in the table reflects the baseline state and behavior of these fields.

This family is not enabled for site filtering, which means that records in this family can be accessed by any user with the appropriate license and family privileges. See the Site Filtering section of the documentation for more information.

| Field | Data Type | Description | Behavior and Usage |
|----------------------------|-----------|--|---|
| Connection String | Character | The connection information for the SAP system. | In new EAM System records, you will need to delete all angle brackets and: Replace the text SAP_SERVER_IP with the IP address of the SAP Server. Replace the text SAP_SYSTEM_NUMBER with the SAP System number. Replace the text SAP_CLIENT_NUMBER with the SAP Client number. |
| Connection Type | Character | The type of connection that will be used to connect to the EAM system. | The default value is RFC. This field is not available on the baseline datasheet. |
| Default EAM System? | Logical | A value that indicates whether this EAM system should be used by default when transferring data between your Meridium Enterprise APM system and your SAP system. | On the datasheet, you can select the check box to identify this SAP system as the Default EAM System. |
| Encrypted Password | Character | The password to the SAP system. | On the datasheet, you can select the button to display the Enter SAP System Password dialog box, where you can type the desired password. The password that you type will be encrypted and displayed as asterisks on the datasheet. |

| | | | |
|------------------|-----------|---|--|
| ITS URL | Character | The URL to the ITS Server. | In new EAM System records, you will need to delete the angle brackets and replace the text <code>its_or_integrated_its_server_url</code> with the appropriate URL. |
| Name | Character | The name of the SAP system. | You can type any name, but we recommend that you use the format <code><SYSID>-<CLIENT></code> , where <code><SYSID></code> is the System ID of the SAP system and <code><CLIENT></code> is the Client number. By doing so, the value in the Name field will match the value that will be populated automatically in the System ID field. |
| System ID | Character | The ID of the SAP system. | This field is populated automatically after you test the connection to the SAP system using the Test Connection link on the Associated Pages menu. Specifically, the System ID field is populated automatically with the name of the SAP system, using the format <code><SYSID>-<CLIENT></code> , where <code><SYSID></code> is the System ID of the SAP system and <code><CLIENT></code> is the Client number. |
| User ID | Character | The User ID of a user that can log into the SAP system. | None. |

Technical Characteristic

Technical Characteristics records are used to store information about your SAP Technical Characteristics to facilitate data extracts and loads to and from SAP.

This topic provides an alphabetical list and description of the fields that exist for the Technical Characteristic family and appear on the baseline SAP System datasheet. The information in the table reflects the baseline state and behavior of these fields.

This family is enabled for site filtering, which means that records in this family can be assigned to a specific site, and will then only be accessible to users who are assigned to the same site and have the appropriate license and family privileges. See the Site Filtering section of the documentation for more information on using this feature.

| Field | Data Type | Description | Behavior and Usage |
|-------|-----------|---|--|
| Name | Character | The name of the characteristic. | None |
| Value | Character | The value assigned to the characteristic. | If multiple values are assigned to a characteristic in SAP, all of those values will be displayed in the Value field, separated by commas. |

SAP Transactions-Quick Reference

The following table provides a list of SAP transactions and their functions:

| This transaction: | ...Lets you: |
|------------------------|--|
| /n/MIAPM/MIPRO | View a list of Meridium-specific steps that can be performed in SAP. |
| /n/MIAPM/MANAGE_PARAMS | Access and manage the /MIAPM/PARAMS table. |
| /n/MIAPM/MANAGE_PI_CNF | Access and manage the /MIAPM/PI_PARAMS table, where you can specify your PI Server (e.g., name and port number). |
| /n/MIAPM/MANAGE_TSKCNF | Access the /MIAPM/TASK_CNF table. |
| SM37 | Check the status of a background process. |
| IW43 | Validate SAP Confirmations against that data in Meridium Enterprise APM Confirmation records. |

SAP Values Mapped to Equipment Records

The following table explains the SAP fields that are used to populate the baseline Equipment fields when you extract SAP Equipment to create Equipment records in Meridium Enterprise APM:

| Meridium Family ID | Meridium Field ID | Meridium Field Caption | SAP Table | SAP Field ID | SAP Field Caption |
|--------------------|-------------------------------|-------------------------------|-----------|--------------|-------------------------------|
| MI_EQUIP000 | MI_EQUIP000_CAT_PROF_C | Catalog Profile | EQUZ | RBNR | Catalog Profile |
| MI_EQUIP000 | MI_EQUIP000_CAT_PROF_DESC_C | Catalog Profile Description | T352B_T | RBNRX | Catalog Profile Description |
| MI_EQUIP000 | MI_EQUIP000_CHANGE_DATE_D | CMMS Last Changed Date | EQUI | AEDAT | SAP Last Changed Date |
| MI_EQUIP000 | MI_EQUIP000_CONSTN_TYP_C | Construction Type | EQUZ | SUBMT | Construction Type |
| MI_EQUIP000 | MI_EQUIP000_CONSTN_TYP_DESC_C | Construction Type Description | MAKT | MAKTX | Construction Type Description |
| MI_EQUIP000 | MI_EQUIP000_CREATE_DATE_D | CMMS Creation Date | EQUI | ERDAT | SAP Creation Date |
| MI_EQUIP000 | MI_EQUIP000_CRITI_IND_C | Criticality Indicator | ILOA | ABCKZ | Criticality Indicator |

| | | | | | |
|-------------|-------------------------------|-----------------------------------|---------|--|-----------------------------------|
| MI_EQUIP000 | MI_EQUIP000_CRITI_IND_DESC_C | Criticality Indicator Description | T370C_T | ABCTX | Criticality Indicator Description |
| MI_EQUIP000 | MI_EQUIP000_EQUIP_ID_C | Equipment ID | EQUI | EQUNR | Equipment ID |
| MI_EQUIP000 | MI_EQUIP000_EQUIP_LNG_DESC_T | Equipment Long Description | EQUI | Retrieved using FM READ_TEXT with ID=LTXT, OBJECT=EQUI | Equipment Long Description |
| MI_EQUIP000 | MI_EQUIP000_EQUIP_SHRT_DESC_C | Equipment Short Description | EQKT | EQKTX | Equipment Short Description |
| MI_EQUIP000 | MI_EQUIP000_EQUIP_TECH_NBR_C | Equipment Technical Number | EQUZ | TIDNR | Equipment Technical Number |
| MI_EQUIP000 | MI_EQUIP000_EQUIP_VNDR_C | Equipment Vendor | EQUI | ELIEF | Equipment Vendor |
| MI_EQUIP000 | MI_EQUIP000_FNC_LOC_C | Functional Location | ILOA | TPLNR | Functional Location |
| MI_EQUIP000 | MI_EQUIP000_FNC_LOC_DESC_C | Functional Location Description | IFLOTX | PLTXT | Functional Location Description |
| MI_EQUIP000 | MI_EQUIP000_INV_NO_C | Inventory Number | EQUI | INVNR | Inventory Number |

| | | | | | |
|-------------|--------------------------------|------------------------------|---------|-------|------------------------------|
| MI_EQUIP000 | MI_EQUIP000_MAIN_WRK_CN_DESC_C | Main Work Center Description | CRTX | KTEXT | Main Work Center Description |
| MI_EQUIP000 | MI_EQUIP000_MAIN_WRK_CNR_C | Main Work Center | CRHD | ARBPL | Main Work Center |
| MI_EQUIP000 | MI_EQUIP000_MFR_C | Manufacturer | EQUI | HERST | Manufacturer |
| MI_EQUIP000 | MI_EQUIP000_MOD_NO_C | Model Number | EQUI | TYPBZ | Model Number |
| MI_EQUIP000 | MI_EQUIP000_OBJ_TYP_C | Object Type | EQUI | EQART | Object Type |
| MI_EQUIP000 | MI_EQUIP000_OBJ_TYP_DESC_C | Object Type Description | T370K_T | EARTX | Object Type Description |
| MI_EQUIP000 | MI_EQUIP000_PLANG_GRP_C | Planner Group | EQUZ | INGRP | Planner Group |
| MI_EQUIP000 | MI_EQUIP000_PLANG_GRP_DESC_C | Planner Group Description | T024I | INNAM | Planner Group Description |
| MI_EQUIP000 | MI_EQUIP000_PLNNG_PLNT_C | Planning Plant | EQUZ | IWERK | Planning Plant |

| | | | | | |
|-------------|-------------------------------|----------------------------|-----------------------|-------|---|
| MI_EQUIP000 | MI_EQUIP000_PLNNG_PLNT_DESC_C | Planning Plant Description | T001W | NAME1 | Planning Plant Description |
| MI_EQUIP000 | MI_EQUIP000_PO_NO_C | Purchase Order Number | EQBS | KDAUF | Purchase Order Number |
| MI_EQUIP000 | MI_EQUIP000_PRCH_D | Purchase Date | EQUI | ANSDT | Purchase Date |
| MI_EQUIP000 | MI_EQUIP000_PRT_NO_C | Part Number | EQUZ | MAPAR | Part Number |
| MI_EQUIP000 | MI_EQUIP000_SAP_CATEG_C | Category | EQUI | EQTYP | SAP Category |
| MI_EQUIP000 | MI_EQUIP000_SAP_CATEG_DESC_C | Category Description | T370U | TYPTX | SAP Category Description |
| MI_EQUIP000 | MI_EQUIP000_SAP_CLASS_C | SAP Class | KLAH | CLASS | SAP Class |
| MI_EQUIP000 | MI_EQUIP000_SAP_CLASS_DESC_C | SAP Class Description | SWOR | KSCHL | SAP Class Description |
| MI_EQUIP000 | MI_EQUIP000_SAP_SYSTEM_C | CMMS System | <SY-SID> + <SY-MANDT> | | Name of SAP R/3 System - R/3 System, client number from logon |
| MI_EQUIP000 | MI_EQUIP000_SN_C | Equipment Serial Number | EQUI | SERGE | Serial Number |

| | | | | | |
|-------------|--------------------------------|-------------------------------|---------|-------|-------------------------------|
| MI_EQUIP000 | MI_EQUIP000_SYS_ST_C | System Status | TJ02T | TXT04 | System Status |
| MI_EQUIP000 | MI_EQUIP000_SZ_C | Size/Dimension | EQUI | GROES | Size/Dimension |
| MI_EQUIP000 | MI_EQUIP000_TECH_DRW_NO_C | Technical Drawing Number | EQUI | HZEIN | Technical Drawing Number |
| MI_EQUIP000 | MI_EQUIP000_VLD_FRM_DAT_D | Valid From Date | EQUZ | DATAB | Valid From Date |
| MI_EQUIP000 | MI_EQUIP000_WBS_ELMNT_C | WBS Element | ILOA | POST1 | WBS Element |
| MI_EQUIP000 | MI_EQUIP000_WRNTY_EXPR_D | Warranty Expired Date | BGMKOBJ | GWLEN | Warranty Expired Date |
| MI_EQUIP000 | MI_EQUIP000_YR_CONSTRD_N | Year Constructed | EQUI | BAUJJ | Year Constructed |
| MI_EQUIP000 | MI_EQUIP000_MAINT_PLANT_C | Maintenance Plant | ILOA | SWERK | Maintenance Plant |
| MI_EQUIP000 | MI_EQUIP000_MAINT_PLANT_DESC_C | Maintenance Plant Description | T001W | NAME1 | Maintenance Plant Description |

| | | | | | |
|-------------|-------------------------------|---------------------------|------|-------|---------------------------|
| MI_EQUIP000 | MI_EQUIP000_PLANT_SECTION_C | Plant Section | ILOA | BEBER | Plant Section |
| MI_EQUIP000 | MI_EQUIP000_PLANT_SECT_DESC_C | Plant Section Description | T357 | FING | Plant Section Description |
| MI_EQUIP000 | MI_EQUIP000_SORT_FIELD_C | Sort Field | ILOA | EQFNR | Sort Field |

SAP Values Mapped to Functional Location Records

The following table explains the SAP fields that are used to populate the baseline Functional Location fields when you extract SAP Functional Locations to create Functional Location records in Meridium Enterprise APM:

| Meridium Family ID | Meridium Field ID | Meridium Field Caption | SAP Table | SAP Field | SAP Field Caption |
|--------------------|---------------------------|-----------------------------|-----------|-----------|------------------------------|
| MI_FNCLOC00 | MI_FNCLOC00_BUS_AREA_C | Business Area | ILOA | GSBER | Business Area |
| MI_FNCLOC00 | MI_FNCLOC00_BUS_AREA_D_C | Business Area Description | TGSBT | GTEXT | Business Area Description |
| MI_FNCLOC00 | MI_FNCLOC00_CAT_PROF_C | Catalog Profile | IFLOT | RBNR | Catalog Profile |
| MI_FNCLOC00 | MI_FNCLOC00_CAT_PROF_D_C | Catalog Profile Description | T352B_T | RBNRX | Catalog Profile Description |
| MI_FNCLOC00 | MI_FNCLOC00_CATEG_C | Category | IFLOT | FLTYP | Category |
| MI_FNCLOC00 | MI_FNCLOC00_CATEG_D_C | Category Description | T370F_T | TYPTX | Category Description |
| MI_FNCLOC00 | MI_FNCLOC00_CHANGE_DATE_D | CMMS Last Changed Date | IFLOT | AEDAT | SAP Last Changed Date |
| MI_FNCLOC00 | MI_FNCLOC00_CO_AREA_C | CO Area | ILOA | KOKRS | Controlling Area |
| MI_FNCLOC00 | MI_FNCLOC00_CO_AREA_D_C | CO Area Description | TKA01 | BEZEI | Controlling Area Description |

| | | | | | |
|-------------|------------------------------|-----------------------------------|---------|---|-------------------------------------|
| MI_FNCLOC00 | MI_FNCLOC00_CO_CD_C | Company Code | ILOA | BUKRS | Company Code |
| MI_FNCLOC00 | MI_FNCLOC00_CO_CD_D_C | Company Code Description | T001 | BUTXT | Company Code Description |
| MI_FNCLOC00 | MI_FNCLOC00_CONST_TYP_C | Construction Type | IFLOT | SUBMT | Constr Type Material of Object |
| MI_FNCLOC00 | MI_FNCLOC00_CONST_TYP_DESC_C | Construction Type Description | MAKT | MAKTX | Constr Type Material of Object Desc |
| MI_FNCLOC00 | MI_FNCLOC00_CREATE_DATE_D | CMMS Creation Date | IFLOT | ERDAT | SAP Creation Date |
| MI_FNCLOC00 | MI_FNCLOC00_CRTCAL_IND_C | Criticality Indicator | ILOA | ABCKZ | ABC Indicator |
| MI_FNCLOC00 | MI_FNCLOC00_CRTCAL_IND_D_C | Criticality Indicator Description | T370C_T | ABCTX | ABC Indicator Description |
| MI_FNCLOC00 | MI_FNCLOC00_CST_CNR_C | Cost Center | ILOA | KOSTL | Cost Center |
| MI_FNCLOC00 | MI_FNCLOC00_CST_CNR_D_C | Cost Center Description | CSKT | KTEXT | Cost Center Description |
| MI_FNCLOC00 | MI_FNCLOC00_FNC_LOC_C | Functional Location | IFLOT | Computed from TPLNR using FM CONVERSION_EXIT_TPLNR_OUTPUT | FunctLocation |

| | | | | | |
|-------------|--------------------------------|--------------------------------------|---------|---|-------------------------------|
| MI_FNCLOC00 | MI_FNCLOC00_FNC_LOC_DESC_C | Functional Location Description | IFLOTX | PLTXT | Description |
| MI_FNCLOC00 | MI_FNCLOC00_FNC_LOC_LNG_DESC_C | Functional Location Long Description | IFLOT | Retrieved using FM READ_TEXT with ID=LTXT, OBJECT=IFLOT | Long Text |
| MI_FNCLOC00 | MI_FNCLOC00_INSTLD_ALWBL_C | Installation Allowed | IFLOT | IEQUI | Installation Allowed |
| MI_FNCLOC00 | MI_FNCLOC00_INTERNAL_ID_C | Functional Location Internal ID | IFLOT | TPLNR | FunctLocation |
| MI_FNCLOC00 | MI_FNCLOC00_LOCAT_C | Location | ILOA | STORT | Location |
| MI_FNCLOC00 | MI_FNCLOC00_LOCAT_DESC_C | Location Description | T499S | KTEXT | Location Description |
| MI_FNCLOC00 | MI_FNCLOC00_MAINT_PLNT_C | Maintenance Plant | ILOA | SWERK | Maintenance Plant |
| MI_FNCLOC00 | MI_FNCLOC00_MAINT_PLNT_D_C | Maintenance Plant Description | T001W | NAME1 | Maintenance Plant Description |
| MI_FNCLOC00 | MI_FNCLOC00_OBJ_TYP_C | Object Type | IFLO | EQART | Object Type |
| MI_FNCLOC00 | MI_FNCLOC00_OBJ_TYP_DESC_C | Object Type Description | T370K_T | EARTX | Object Type Description |

| | | | | | |
|-------------|----------------------------|----------------------------|-------|-------|----------------------------|
| MI_FNCLOC00 | MI_FNCLOC00_PLNNG_PLNT_C | Planning Plant | IFLOT | IWERK | Planning Plant |
| MI_FNCLOC00 | MI_FNCLOC00_PLNNG_PLNT_D_C | Planning Plant Description | T001W | NAME1 | Planning Plant Description |
| MI_FNCLOC00 | MI_FNCLOC00_PLNT_SECT_C | Plant Section | ILOA | BEBER | Plant Section |
| MI_FNCLOC00 | MI_FNCLOC00_PLNT_SECT_D_C | Plant Section Description | T357 | FING | Plant Section Description |
| MI_FNCLOC00 | MI_FNCLOC00_ROOM_C | Room | ILOA | MSGRP | Room |
| MI_FNCLOC00 | MI_FNCLOC00_SORT_FLD_C | Sort Field | ILOA | EQFNR | Sort Field |
| MI_FNCLOC00 | MI_FNCLOC00_STRUC_INDIC_C | Structure Indicator | IFLOT | TPLKZ | StrIndicator |
| MI_FNCLOC00 | MI_FNCLOC00_SUPR_FNC_LOC_C | Superior Function Location | IFLOT | TPLMA | SupFunctLoc |
| MI_FNCLOC00 | MI_FNCLOC00_SYS_STATUS_C | System Status | TJ02T | TXT04 | System Status |
| MI_FNCLOC00 | MI_FNCLOC00_WRK_CNTR_C | Work Center | CRHD | ARBPL | Work Center |

| | | | | | |
|-------------|--------------------------------|---------------------------|-------|-------|---------------------------|
| MI_FNCLOC00 | MI_FNCLOC00_WRK_CNTR_DESC_C | Work Center Description | CRTX | KTEXT | Work Center Description |
| MI_FNCLOC00 | MI_FNCLOC00_PLANNER_GROUP_C | Planner Group | IFLOT | INGRP | Planner Group |
| MI_FNCLOC00 | MI_FNCLOC00_PLANNER_GRP_DESC_C | Planner Group Description | T024I | INNAM | Planner Group Description |
| MI_FNCLOC00 | MI_FNCLOC00_SAP_CLASS_C | Class | KLAH | CLASS | Class |
| MI_FNCLOC00 | MI_FNCLOC00_SAP_CLASS_DESC_C | Class Description | SWOR | KSCHL | Class Description |

SAP Values Mapped to Work History Records

The following tables explain the SAP fields that are used to populate the baseline Work History fields when you extract Orders and Notifications from SAP. The tables are divided into sections, depending on the source of the Work History records. Keep in mind that Work History records can be created from:

- Orders with Notifications
- Orders without associated Notifications
- Notifications without associated Orders

Values Mapped to Records that were Created from Orders with Notifications

| Meridium Family ID | Meridium Field ID | Meridium Field Caption | SAP Table | SAP Field | SAP Field Caption |
|--------------------|-------------------------------|--------------------------------|-----------|-----------|---------------------------------|
| MI_EVWKHIST | MI_EVWKHIST_ASST_CTGRY_DESC_C | Equipment Category Description | T370U | TYPTX | Equipment category description |
| MI_EVWKHIST | MI_EVWKHIST_ASST_TECH_ID_C | Asset Tech ID | EQUZ | TIDNR | Technical identification number |
| MI_EVWKHIST | MI_EVWKHIST_ASST_TYP_DESC_C | Equipment Type Description | T370K_T | EARTX | Text for Object Type |
| MI_EVWKHIST | MI_EVWKHIST_BRKDN_IND_F | Breakdown Indicator | VIQMEL | MSAUS | Breakdown Indicator |
| MI_EVWKHIST | MI_EVWKHIST_EFFCT_CD_C | Effect Code | VIQMEL | AUSWK | Effect on Operation |

| | | | | | |
|-------------|-------------------------------|-------------------------------|--|---------------|----------------------------------|
| MI_EVWKHIST | MI_EVWKHIST_EFFECT_DESC_C | Effect Description | T357A_T | AUSWKT | Text - Effect on Operation |
| MI_EVWKHIST | MI_EVWKHIST_EVENT_DATE_DESC_C | Event Date Description | Populated with static value of "Notification Date" | | |
| MI_EVWKHIST | MI_EVWKHIST_FAILR_MODE_CD_C | Failure Mode Code | VIQMEL | QMCOD | Coding |
| MI_EVWKHIST | MI_EVWKHIST_FAILR_MODE_DESC_C | Failure Mode Description | QPCT | KURZTEXT | Short Text for Code |
| MI_EVWKHIST | MI_EVWKHIST_MECH_AVAIL_D | Mechanically Available Date | VIQMEL | AUSBS, AUZTB | End of Malfunction (Date/Time) |
| MI_EVWKHIST | MI_EVWKHIST_MECH_DWN_TIME_N | Mechanical Down Time | VIQMEL | AUSZT | Breakdown Duration |
| MI_EVWKHIST | MI_EVWKHIST_MECH_UNAVL_D | Mechanically Unavailable Date | VIQMEL | AUSVN, AUZTV | Start of Malfunction (Date/Time) |
| MI_EVWKHIST | MI_EVWKHIST_RQST_CHNG_DT_D | Request Last Change Date | VIQMEL | AEDAT, AEZEIT | Date/Time of Last Change |

| | | | | | |
|-------------|------------------------------|------------------------------|--------|---------------|---|
| MI_EVWKHIST | MI_EVWKHIST_RQST_CRT_DT_D | Request Creation Date | VIQMEL | ERDAT, ERZEIT | Date/Time on which the record was created |
| MI_EVWKHIST | MI_EVWKHIST_RQST_DESC_C | Request Description | VIQMEL | QMTXT | Short Text |
| MI_EVWKHIST | MI_EVWKHIST_RQST_ID_C | Request ID | VIQMEL | QMNUM | Notification Number |
| MI_EVWKHIST | MI_EVWKHIST_RQST_PRTY_C | Request Priority | VIQMEL | PRIOK | Priority |
| MI_EVWKHIST | MI_EVWKHIST_RQST_PRTY_DESC_C | Request Priority Description | T356_T | PRIOKX | Priority Text |
| MI_EVWKHIST | MI_EVWKHIST_RQST_SYS_STAT_C | Request System Status | TJ02T | TXT04 | Individual status of an object (short form) |
| MI_EVWKHIST | MI_EVWKHIST_RQST_TYP_CD_C | Request Type Code | VIQMEL | QMART | Notification Type |
| MI_EVWKHIST | MI_EVWKHIST_RQST_TYP_DESC_C | Request Type Description | TQ80_T | QMARTX | Notification Type Texts |

| | | | | | |
|-----------------|--|------------------------|-----------------------------|-------|--|
| MI_ EVWKHIST | MI_ EVWKHIST_ RQST_USER_ STAT_C | Request User Status | TJ30T | TXT04 | Individual status of an object (short form) |
| MI_ EVWKHIST | MI_ EVWKHIST_ SAP_ SYSTEM_C | CMMS Sys- tem | SY-SYD + "-" + SY- MANDT | | Name of SAP R/3 System - R/3 Sys- tem, client number from logon |

Values Mapped to Records that were Created from Orders Without Notifications

| Meridium Family ID | Meridium Field ID | Meridium Field Cap- tion | SAP Table | SAP Field | SAP Field Cap- tion |
|-----------------------|---|-----------------------------------|--------------|---------------------|--|
| MI_ EVWKHIST | MI_ EVWKHIST_ MAINT_ COMPL_D | Maintenance Completion Date | VIAUFKST | GETRI, GEUZI | Actual finish date/- time |
| MI_ EVWKHIST | MI_ EVWKHIST_ MAINT_CST_ N | Maintenance Cost | PMCO | £(WRT00 - WRT16) | Sum of (Period value in ledger cur- rency) |
| MI_ EVWKHIST | MI_ EVWKHIST_ MAINT_CST_ UOM_C | Maintenance Cost UOM | PMCO | COCUR | Maintenance Cost UOM |
| MI_ EVWKHIST | MI_ EVWKHIST_ MAINT_ START_D | Maintenance Start Date | VIAUFKST | GSTRI, GSUZI | Actual start date/- time |
| MI_ EVWKHIST | MI_ EVWKHIST_ RQST_ CHNG_DT_D | Request Last Change Date | VIQMEL | AEDAT, AEZEIT | Date/Time of Last Change |

| | | | | | |
|-------------|------------------------------|------------------------------|--------|---------------|---|
| MI_EVWKHIST | MI_EVWKHIST_RQST_CRT_DT_D | Request Creation Date | VIQMEL | ERDAT, ERZEIT | Date/Time on which the record was created |
| MI_EVWKHIST | MI_EVWKHIST_RQST_DESC_C | Request Description | VIQMEL | QMTXT | Short Text |
| MI_EVWKHIST | MI_EVWKHIST_RQST_ID_C | Request ID | VIQMEL | QMNUM | Notification Number |
| MI_EVWKHIST | MI_EVWKHIST_RQST_PRTY_C | Request Priority | VIQMEL | PRIOK | Priority |
| MI_EVWKHIST | MI_EVWKHIST_RQST_PRTY_DESC_C | Request Priority Description | T356_T | PRIOKX | Priority Text |
| MI_EVWKHIST | MI_EVWKHIST_RQST_SYS_STAT_C | Request System Status | TJ02T | TXT04 | Individual status of an object (short form) |
| MI_EVWKHIST | MI_EVWKHIST_RQST_TYP_CD_C | Request Type Code | VIQMEL | QMART | Notification Type |
| MI_EVWKHIST | MI_EVWKHIST_RQST_TYP_DESC_C | Request Type Description | TQ80_T | QMARTX | Notification Type Texts |

| | | | | | |
|-------------|-------------------------------|-------------------------------|---------|--------------|---|
| MI_EVWKHIST | MI_EVWKHIST_RQST_USER_STAT_C | Request User Status | TJ30T | TXT04 | Individual status of an object (short form) |
| MI_EVWKHIST | MI_EVWKHIST_EFFCT_CD_C | Effect Code | VIQMEL | AUSWK | Effect on Operation |
| MI_EVWKHIST | MI_EVWKHIST_EFFCT_DESC_C | Effect Description | T357A_T | AUSWKT | Text - Effect on Operation |
| MI_EVWKHIST | MI_EVWKHIST_FAILR_MODE_CD_C | Failure Mode Code | VIQMEL | QMCOD | Coding |
| MI_EVWKHIST | MI_EVWKHIST_FAILR_MODE_DESC_C | Failure Mode Description | QPCT | KURZTEXT | Short Text for Code |
| MI_EVWKHIST | MI_EVWKHIST_BRKDN_IND_F | Breakdown Indicator | VIQMEL | MSAUS | Breakdown Indicator |
| MI_EVWKHIST | MI_EVWKHIST_MECH_DWN_TIME_N | Mechanical Down Time | VIQMEL | AUSZT | Breakdown Duration |
| MI_EVWKHIST | MI_EVWKHIST_MECH_UNAVL_D | Mechanically Unavailable Date | VIQMEL | AUSVN, AUZTV | Start of Malfunction (Date/Time) |

| | | | | | |
|-------------|--------------------------|-----------------------------|--------------------------|--------------|---|
| MI_EVWKHIST | MI_EVWKHIST_MECH_AVAIL_D | Mechanically Available Date | VIQMEL | AUSBS, AUZTB | End of Malfunction (Date/Time) |
| MI_EVWKHIST | MI_EVWKHIST_SAP_SYSTEM_C | CMMS System | SY-HOST + "-" + SY-MANDT | | Name of SAP R/3 System - R/3 System, client number from logon |

Values Mapped to Records that were Created from Notifications Without Associated Orders

| Meridium Family ID | Meridium Field ID | Meridium Field Caption | SAP Table | SAP Field | SAP Field Caption |
|--------------------|--------------------------------|------------------------------------|-----------|-----------|------------------------------|
| MI_EVWKHIST | MI_EVWKHIST_ORDR_SYS_CND_DES_C | Order System Condition Description | T357M_T | ANLZUX | Text on Operating Condition |
| MI_EVWKHIST | MI_EVWKHIST_ORDR_CALL_NBR_C | Order Call Number | VIAUFKST | ABNUM | Maintenance plan call number |
| MI_EVWKHIST | MI_EVWKHIST_ORDR_MAINT_ITEM_C | Order Maintenance Item | VIAUFKST | WAPOS | Maintenance item |
| MI_EVWKHIST | MI_EVWKHIST_ORDR_MAINT_PLAN_C | Order Maintenance Plan | VIAUFKST | WARPL | Maintenance plan |

| | | | | | |
|-----------------|--|--|------------------------------|------------------|---|
| MI_ EVWKHIST | MI_ EVWKHIST_ SAP_ SYSTEM_C | CMMS Sys- tem | SY-HOST + "-" + SY- MANDT | | Name of SAP R/3 System - R/3 System, client number from logon |
| MI_ EVWKHIST | MI_ EVWKHIST_ RQST_ CHNG_DT_D | Request Last Change Date | VIQMEL | AEDAT, AEZEIT | Date/Time of Last Change |
| MI_ EVWKHIST | MI_ EVWKHIST_ RQST_CRT_ DT_D | Request Creation Date | VIQMEL | ERDAT, ERZEIT | Date/Time on which the record was created |
| MI_ EVWKHIST | MI_ EVWKHIST_ RQST_ DESC_C | Request Description | VIQMEL | QMTXT | Short Text |
| MI_ EVWKHIST | MI_ EVWKHIST_ RQST_ID_C | Request ID | VIQMEL | QMNUM | Notification Num- ber |
| MI_ EVWKHIST | MI_ EVWKHIST_ RQST_PRTY_ C | Request Pri- ority | VIQMEL | PRIOK | Priority |
| MI_ EVWKHIST | MI_ EVWKHIST_ RQST_PRTY_ DESC_C | Request Pri- ority Descrip- tion | T356_T | PRIOKX | Priority Text |
| MI_ EVWKHIST | MI_ EVWKHIST_ RQST_SYS_ STAT_C | Request Sys- tem Status | TJ02T | TXT04 | Individual status of an object (short form) |

| | | | | | |
|-------------|-------------------------------|--------------------------|---------|----------|---|
| MI_EVWKHIST | MI_EVWKHIST_RQST_TYP_CD_C | Request Type Code | VIQMEL | QMART | Notification Type |
| MI_EVWKHIST | MI_EVWKHIST_RQST_TYP_DESC_C | Request Type Description | TQ80_T | QMARTX | Notification Type Texts |
| MI_EVWKHIST | MI_EVWKHIST_RQST_USER_STAT_C | Request User Status | TJ30T | TXT04 | Individual status of an object (short form) |
| MI_EVWKHIST | MI_EVWKHIST_EFFECT_CD_C | Effect Code | VIQMEL | AUSWK | Effect on Operation |
| MI_EVWKHIST | MI_EVWKHIST_EFFECT_DESC_C | Effect Description | T357A_T | AUSWKT | Text - Effect on Operation |
| MI_EVWKHIST | MI_EVWKHIST_FAILR_MODE_CD_C | Failure Mode Code | VIQMEL | QMCOD | Coding |
| MI_EVWKHIST | MI_EVWKHIST_FAILR_MODE_DESC_C | Failure Mode Description | QPCT | KURZTEXT | Short Text for Code |
| MI_EVWKHIST | MI_EVWKHIST_BRKDN_IND_F | Breakdown Indicator | VIQMEL | MSAUS | Breakdown Indicator |

| | | | | | |
|-----------------|---|-------------------------------------|--------|-----------------|--|
| MI_ EVWKHIST | MI_ EVWKHIST_ MECH_DWN_ TIME_N | Mechanical Down Time | VIQMEL | AUSZT | Breakdown Dur- ation |
| MI_ EVWKHIST | MI_ EVWKHIST_ MECH_ UNAVL_D | Mechanically Unavailable Date | VIQMEL | AUSVN, AUZTV | Start of Mal- function (Date/Time) |
| MI_ EVWKHIST | MI_ EVWKHIST_ MECH_ AVAIL_D | Mechanically Available Date | VIQMEL | AUSBS, AUZTB | End of Mal- function (Date/Time) |

SAP Values Mapped to Work History Detail Records

The following table explains the SAP fields that are used to populate the baseline Work History Detail fields when you extract Orders and Notifications from SAP:

Note: If a Technical Object in the object list is associated with a Notification that has items, separate Work History Detail records will be created for each of those items. The Work History Detail records will be linked to the Work History record that was created using that Technical

| Meridium Family ID | Meridium Field ID | Meridium Field Caption | SAP Table | SAP Field | SAP Field Caption |
|--------------------|-------------------------------|--------------------------------|-----------|---------------|--------------------------------|
| MI_DTWKHIST | MI_DTWKHIST_ASST_CLASS_C | Equipment Class | KLAH | CLASS | Class Number |
| MI_DTWKHIST | MI_DTWKHIST_ASST_CLASS_DESC_C | Equipment Class Description | SWOR | KSCHL | Keywords |
| MI_DTWKHIST | MI_DTWKHIST_ASST_CTGRY_C | Equipment Category | EQUI | EQTYP | Equipment category |
| MI_DTWKHIST | MI_DTWKHIST_ASST_CTGRY_DESC_C | Equipment Category Description | T370U | TYPTX | Equipment category description |
| MI_DTWKHIST | MI_DTWKHIST_ASST_ID_C | Equipment ID | VIQMEL | EQUNR | Equipment number |
| MI_DTWKHIST | MI_DTWKHIST_ASST_TYP_C | Equipment Type | EQUI | EQART | Type of Technical Object |
| MI_DTWKHIST | MI_DTWKHIST_ASST_TYP_DESC_C | Equipment Type Description | T370K_T | EARTX | Text for Object Type |
| MI_DTWKHIST | MI_DTWKHIST_CAUSE_CD_C | Cause Code | QMUR | URCOD | Cause Code |
| MI_DTWKHIST | MI_DTWKHIST_CAUSE_DESC_C | Cause Description | QPCT | KURZTEXT | Short Text for Code |
| MI_EVWKHIST | MI_DTWKHIST_CHANGE_DATE_D | CMMS Last Changed Date | VIAUFS | AEDAT, AEZEIT | SAP Last Changed Date |

| | | | | | |
|-------------|-------------------------------|---------------------------------|--------------|---------------------|------------------------------------|
| MI_DTWKHIST | MI_DTWKHIST_CNDTN_CD_C | Condition Code | QMFE | FECOD | Problem |
| MI_DTWKHIST | MI_DTWKHIST_CNDTN_DESC_C | Condition Description | QPCT | KURZTEXT | Short Text for Code |
| MI_EVWKHIST | MI_DTWKHIST_CREATE_DATE_D | CMMS Creation Date | VIAUFKS | ERDAT, ERZEIT | SAP Creation Date |
| MI_DTWKHIST | MI_DTWKHIST_DTL_NARTV_T | Detail Narrative | QMFE | LTXT | |
| MI_DTWKHIST | MI_DTWKHIST_EVNT_DTL_DESC_C | Work History Detail Description | VIQMEL | QMTXT | Short Text |
| MI_DTWKHIST | MI_DTWKHIST_EVNT_DTL_ID_C | Work History Detail ID | QMFE, VIQMEL | QMNUM, AUFNR, FENUM | Notification Number - Order Number |
| MI_DTWKHIST | MI_DTWKHIST_LOC_ID_C | Location ID | VIQMEL | TPLNR | Functional Location |
| MI_DTWKHIST | MI_DTWKHIST_MAINT_ACTN_CD_C | Maintenance Action Code | QMMA | MNCOD | Activity Code |
| MI_DTWKHIST | MI_DTWKHIST_MAINT_ACTN_DESC_C | Maintenance Action Description | QPCT | KURZTEXT | Short Text for Code |
| MI_DTWKHIST | MI_DTWKHIST_MAINT_ITEM_CD_C | Maintainable Item Code | QMFE | OTEIL | Part of Object |
| MI_DTWKHIST | MI_DTWKHIST_MAINT_ITEM_DESC_C | Maintainable Item Description | QPCT | KURZTEXT | Short Text for Code |
| MI_DTWKHIST | MI_DTWKHIST_ORDR_ID_C | Order ID | viaufks | AUFNR | Order Number |
| MI_DTWKHIST | MI_DTWKHIST_RQST_ID_C | Request ID | VIQMEL | QMNUM | Notification Number |
| MI_DTWKHIST | MI_DTWKHIST_WRK_HISTRY_ID_C | Work History ID | viaufks | QMNUM | Notification Number |

| | | | | | |
|-------------|------------------------------|----------------------------|------|----------|--------------------|
| MI_DTWKHIST | MI_DTWKHIST_MARKED_FOR_DEL_F | Record marked for deletion | QMFE | KZLOESCH | Delete Data Record |
|-------------|------------------------------|----------------------------|------|----------|--------------------|

SAP Values Mapped to Technical Characteristics

The following table explains the SAP fields that are used to populate the baseline Technical Characteristic fields when you extract SAP characteristics to create Technical Characteristic records in Meridium Enterprise APM.

| Meridium Enterprise APM Field Name | Meridium Enterprise APM Field Name | SAP Table | SAP Field ID |
|------------------------------------|------------------------------------|----------------------------|--|
| Data Type | MI_TECHCHAR_TYPE_C | CABN | ATFOR |
| Length of Data Type | MI_TECHCHAR_NUM_CHARS_N | CABN | ANZST |
| Number of Decimal Places | MI_TECHCHAR_NUM_DEC_PLACES_N | CABN | ANZDZ |
| Description | MI_TECHCHAR_DESC_C | CABN | ATBEZ |
| Character Value | MI_TECHCHAR_CHAR_VALUE_C | AUSP | ATWRT/ATFLB/ATFLV |
| Numeric Value | MI_TECHCHAR_NUMERIC_VALUE_N | AUSP | ATWRT/ATFLB/ATFLV |
| Multiple Value Characteristic | MI_TECHCHAR_MULTI_VALUE_C | AUSP + TCURC T006 | ATWRT/ATFLB/ATFLV + ISOCD MSEH6 |
| CMMS System | MI_TECHCHAR_SAP_SYSTEM_C | None | <SY-SID> + <SY-MANDT> |
| Name | MI_TECHCHAR_NAME_C | CABN | ATNAM |
| Currency Value | MI_TECHCHAR_CURR_VALUE_N | AUSP | ATWRT/ATFLB/ATFLV |
| Equipment ID | MI_TECHCHAR_EQUIP_ID_C | EQUI | EQUNR |
| Functional Location ID | MI_TECHCHAR_FLOC_ID_C | IFLOT | TPLNR |

| | | | |
|--|-------------------------------|----------------------------|--|
| Technical Characteristics ID | MI_TECHCHAR_ID_C | CABNT | ATINN |
| Unit of Measurement | MI_TECHCHAR_UOM_C | TCURC T006 | ISOCD MSEH6 |
| Restrictable Characteristic Indicator | MI_TECHCHAR_IS_RESTRICTABLE_F | CABN | ATGLA |
| Technical Characteristic Value Description | MI_TECHCHAR_VALUE_DESC_C | CABNT | ATBEZ |
| Interval Value | MI_TECHCHAR_INTERVAL_VALUE_C | AUSP + TCURC T006 | ATWRT/ATFLB/ATFLV + ISOCD MSEH6 |

SAP Values Mapped to Work Management

The following table explains the SAP fields that are used to populate the baseline Work Management fields when you extract SAP characteristics to create Work Management records in Meridium Enterprise APM.

| Meridium Family ID | Meridium Field ID | SAP Table | SAP Field | SAP Field Caption | Mapping Formula |
|-------------------------|--------------------------------|---------------|----------------|---------------------------------|--|
| MI_TASKCALB/MITASKIN-SP | MI_TASK_MAINT_PLAN_NBR_C | MPLA | WARP-L | Maintenance Plan | WARPL |
| MI_TASKCALB/MITASKIN-SP | MI_TASK_MAINT_ITEM_NBR_C | MPOS | WAPOS | Maintenance item | WAPOS |
| MI_TASKCALB/MITASKIN-SP | MI_TASK_TASK_LIST_TYPE_C | PLKO | PLNTY | Task List Type | PLNTY |
| MI_TASKCALB/MITASKIN-SP | MI_TASK_TASK_LIST_GROUP_C | PLKO | PLNNR | Key for Task List Group | PLNNR |
| MI_TASKCALB/MITASKIN-SP | MI_TASK_TASK_LIST_GROUP_CNTR_C | PLKO | PLNAL | Group Counter | PLNAL |
| MI_TASKCALB/MITASKIN-SP | MI_TASK_OPERATION_NBR_C | PLPO | VORN-R | Operation/Activity Number | VORN-R |
| MI_TASKCALB/MITASKIN-SP | MI_TASK_DESC_TX | VIMPOS / PLKO | EQU-NR / TPLNR | Equipment / Functional Location | Concatenate EQU-NR or TPLNR with "-" and PLPO.LTX-A1 + PLPO.LTX-A2 |

| | | | | | |
|-------------------------|---------------------------|------|-------------------|---------------------------|---------------------------------|
| MI_TASKCALB/MITASKIN-SP | MI_TASK_ID | PLPO | LTXA1, LTXA2 | Operation/Activity Number | LTXA1 + LTXA2 |
| MI_TASKCALB/MITASKIN-SP | MI_TASK_DESIR_INTER_NBR | Null | Null | Null | Null |
| MI_TASKCALB/MITASKIN-SP | MI_TASK_DESIR_INTER_UOM_C | Null | Null | Null | Null |
| MI_TASKCALB/MITASKIN-SP | MI_TASK_MIN_INTER_NBR | Null | Null | Null | Null |
| MI_TASKCALB/MITASKIN-SP | MI_TASK_MIN_INTER_UOM_C | Null | Null | Null | Null |
| MI_TASKCALB/MITASKIN-SP | MI_TASK_MAX_INTER_NBR | Null | Null | Null | Null |
| MI_TASKCALB/MITASKIN-SP | MI_TASK_MAX_INTER_UOM_C | Null | Null | Null | Null |
| MI_TASKCALB/MITASKIN-SP | MI_TASK_CHANGE_DATE_D | PLPO | AEDA-T | SAP Last Changed Date | AEDAT |
| MI_TASKCALB/MITASKIN-SP | MI_TASK_CREATE_DATE_D | PLPO | ANDA-T | SAP Creation Date | ANDAT |
| MI_TASKCALB/MITASKIN-SP | MI_TASK_MAINT_PLANT_C | MPOS | SWER-K | SAP Maintenance Plant | SWERK |
| MI_TASKCALB/MITASKIN-SP | MI_TASK_SAP_SYSTEM_C | None | SY-SID, SY-MAND-T | SAP System | Concatenate SY-SID and SY-MANDT |

Recommendation Values Mapped to SAP

The following table explains the Recommendation fields that are used to populate SAP Notification fields when you use the Notification Management Adapter.

| Meridium Field ID | Meridium Field Caption | SAP Table ID | SAP Field ID | BAPI Structure | BAPI Field | SAP Field Caption | Notes |
|------------------------|----------------------------|--------------|--------------|--------------------|------------|------------------------|---|
| MI_REC_SHORT_DESCR_CHR | Recommendation Headline | VIQM-EL | QMT-XT | BAPI20-80_NOTHD-RI | SHORT-TEXT | Short Text | None |
| MI_REC_LOC_ID_CHR | Functional Location ID | VIQM-EL | TPLN-R | BAPI20-80_NOTHD-RI | FUNCT-LOC | Functional Location | None |
| MI_REC_ASSET_ID_CHR | Asset ID | VIQM-EL | EQU-NR | BAPI20-80_NOTHD-RI | EQUIPME-NT | Equipment number | None |
| MI_REC_LONG_DESCR_TX | Recommendation Description | | | | | Notification Long Text | Multiple Recommendation values are concatenated to determine what to map to the Notification Long Text field. |

| | | | | | | | |
|---------------------|------|---------|--------|--------------------|-------------|---|---|
| MI_REC_NOTIF_TYPE_C | "M1" | VIQM-EL | QMA-RT | | NOTIF_TYPE | Noti-fication Type | By default, the Notification Type field in SAP is always populated with the value M1. You can, however, configure the Meridium Enterprise APM system to create other notification types. |
| | | | None | BAPI20-80_NOTHD-RI | REPORTE-DBY | Name of Per-son Reporting Noti-fication | The Reported By field is populated in SAP with the first twelve characters of the user ID of the Security User that was logged in to the Meridium Enterprise APM when the Notification was created. |

The following fields are updated in the Recommendation record based on data from the created Notification.

| Meridium Field ID | Meridium Field Cap-tion | SAP Table ID | SAP Field ID | BAPI Structure | BAPI Field | SAP Field ID | Notes |
|-----------------------|-------------------------|--------------|--------------|----------------|------------|---------------------|-------|
| MI_REC_WK_REQ_REF_CHR | Work Request Reference | VIQMEL | QMNUM | | | Notification Number | None |
| MI_REC_WR_EQUIP_C | Work Request Equipment | VIQMEL | EQUNR | | | Equipment number | None |

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| | | | | | | | |
|-------------------------|---|--------|-------|--|--|------------------------|------|
| MI_REC_ WR_LOC_ C | Work Request Functional Location | VIQMEL | TPLNR | | | Functional Location | None |
|-------------------------|---|--------|-------|--|--|------------------------|------|

Task Values Mapped to SAP

When you use the Work Management Interface to create Orders from Meridium Enterprise APM Task records, several values in the Meridium Enterprise APM Task record are passed to the SAP Order and its associated Operations. The following table explains the Task fields whose values are passed to the SAP Function Module /MIAPM/MAINTAIN_ORDER (which calls the SAP BAPI BAPI_ALM_ORDER_MAINTAIN).

| Meridium Enterprise APM Field Caption | BAPI Structure | SAP BAPI Field |
|---|--------------------------|--------------------|
| Work Order Type | BAPI_ALM_ORDER_HEADERS_I | ORDER_TYPE |
| Task Description | BAPI_ALM_ORDER_HEADERS_I | SHORT_TEXT |
| Task List Type | None | TASKLIST_TYPE |
| Task List Group | None | TASKLIST_GROUP |
| Task List Group Counter | None | TASKLIST_GROUP_CTR |
| Task Details | None | IT_TEXT_LINES |
| Work Order Number | None | ORDER_NUMBER |
| The Meridium Enterprise APM system maps a value from the Equipment record to which the Task record is linked, based upon the configuration of the query Get SAP ID for Equipment, which is stored in the Catalog folder \\Public\Meridium\Modules\SAP Integration Interfaces\Queries. | BAPI_ALM_ORDER_HEADERS_I | EQUIPMENT |
| The Meridium Enterprise APM system maps a value from the Functional Location record to which the Task record is linked, based upon the configuration of the query Get SAP ID for Functional Location, which is stored in the Catalog folder \\Public\Meridium\Modules\SAP Integration Interfaces\Queries. | None | FUNCT_LOC |

After these values are passed to the SAP BAPI, the Function Module then sends additional data from the associated SAP Task List to the SAP Order, as described in the following table.

| Task List Field | BAPI Structure | Order Field |
|-------------------------------------|------------------------------|-------------|
| WERKS | BAPI_ALM_ORDER_HEADERS_ I | PLANT |
| ARBPL | BAPI_ALM_ORDER_HEADERS_ I | MN_WK_CTR |
| None. The value 4 is always mapped. | BAPI_ALM_ORDER_HEADERS_ I | SCHED_TYPE |
| IWERK | BAPI_ALM_ORDER_HEADERS_ I | PLANPLANT |

Also, for each Operation that belongs to the Task List, a corresponding Operation will belong to the Order. The following table identifies the values that are mapped from each Operation that is attached to the Task List to each Operation that is attached to the Order.

| Task List Field | BAPI Structure | Order Field |
|-----------------|------------------------------|------------------------|
| ARPBL | BAPI_ALM_ORDER_ OPERATION | WORK_CNTR |
| VORNR | BAPI_ALM_ORDER_ OPERATION | ACTIVITY |
| STEUS | BAPI_ALM_ORDER_ OPERATION | CONTROL_KEY |
| WERKS | BAPI_ALM_ORDER_ OPERATION | PLANT |
| LTXA1 | BAPI_ALM_ORDER_ OPERATION | DESCRIPTION |
| TXTSP | BAPI_ALM_ORDER_ OPERATION | LANGU |
| KTSCH | BAPI_ALM_ORDER_ OPERATION | STANDARD_TEXT_ KEY |
| LOANZ | BAPI_ALM_ORDER_ OPERATION | NO_OF_TIME_ TICKETS |
| LOART | BAPI_ALM_ORDER_ OPERATION | WAGETYPE |
| QUALF | BAPI_ALM_ORDER_ OPERATION | SUITABILITY |

| | | |
|-------|--------------------------|---------------------|
| LOGRP | BAPI_ALM_ORDER_OPERATION | WAGEGROUP |
| SORTL | BAPI_ALM_ORDER_OPERATION | SORT_FLD |
| LIFNR | BAPI_ALM_ORDER_OPERATION | VENDOR_NO |
| BMSCH | BAPI_ALM_ORDER_OPERATION | QUANTITY |
| MEINH | BAPI_ALM_ORDER_OPERATION | BASE_UOM |
| PREIS | BAPI_ALM_ORDER_OPERATION | PRICE |
| PEINH | BAPI_ALM_ORDER_OPERATION | PRICE_UNIT |
| SAKTO | BAPI_ALM_ORDER_OPERATION | COST_ELEMENT |
| WAERS | BAPI_ALM_ORDER_OPERATION | CURRENCY |
| INFNR | BAPI_ALM_ORDER_OPERATION | INFO_REC |
| EKORG | BAPI_ALM_ORDER_OPERATION | PURCH_ORG |
| EKGRP | BAPI_ALM_ORDER_OPERATION | PUR_GROUP |
| MATKL | BAPI_ALM_ORDER_OPERATION | MATL_GROUP |
| ANZZL | BAPI_ALM_ORDER_OPERATION | NUMBR_OF_CAPACITIES |
| PRZNT | BAPI_ALM_ORDER_OPERATION | PERCENT_OF_WORK |
| INDET | BAPI_ALM_ORDER_OPERATION | CALC_KEY |
| LARNT | BAPI_ALM_ORDER_OPERATION | ACTTYPE |

| | | |
|-------|--------------------------|------------------------|
| ANLZU | BAPI_ALM_ORDER_OPERATION | SYSTCOND |
| ISTRU | BAPI_ALM_ORDER_OPERATION | ASSEMBLY |
| VERTN | BAPI_ALM_ORDER_OPERATION | INT_DISTR |
| PLIFZ | BAPI_ALM_ORDER_OPERATION | PLND_DELRY |
| DAUNO | BAPI_ALM_ORDER_OPERATION | DURATION_NORMAL |
| DAUNE | BAPI_ALM_ORDER_OPERATION | DURATION_NORMAL_UNIT |
| EINSA | BAPI_ALM_ORDER_OPERATION | CONSTRAINT_TYPE_START |
| EINSE | BAPI_ALM_ORDER_OPERATION | CONSTRAINT_TYPE_FINISH |
| ARBEI | BAPI_ALM_ORDER_OPERATION | WORK_ACTIVITY |
| ARBEH | BAPI_ALM_ORDER_OPERATION | UN_WORK |
| AUFKT | BAPI_ALM_ORDER_OPERATION | EXECFACTOR |
| SLWID | BAPI_ALM_ORDER_OPERATION | FIELD_KEY |
| USR00 | BAPI_ALM_ORDER_OPERATION | USR00 |
| USR01 | BAPI_ALM_ORDER_OPERATION | USR01 |
| USR02 | BAPI_ALM_ORDER_OPERATION | USR02 |
| USR03 | BAPI_ALM_ORDER_OPERATION | USR03 |
| USR04 | BAPI_ALM_ORDER_OPERATION | USR04 |

| | | |
|-------|------------------------------|-------|
| USR05 | BAPI_ALM_ORDER_ OPERATION | USR05 |
| USE05 | BAPI_ALM_ORDER_ OPERATION | USE05 |
| USR06 | BAPI_ALM_ORDER_ OPERATION | USR06 |
| USE06 | BAPI_ALM_ORDER_ OPERATION | USE06 |
| USR08 | BAPI_ALM_ORDER_ OPERATION | USR08 |
| USR09 | BAPI_ALM_ORDER_ OPERATION | USR09 |
| USR10 | BAPI_ALM_ORDER_ OPERATION | USR10 |
| USR11 | BAPI_ALM_ORDER_ OPERATION | USR11 |

Manage Jobs in the Administration Center

This topic provides a list of all procedures related to running jobs in the Meridium APM Connect Administration Center, as well as links to the related concept and reference topics.

Schedule a Job

Using the APM Connect Administration Center, you can extract items from the EAM source systems to create and update records in the Meridium Enterprise APM. While you can run a Job any time you want to extract new or updated items from the EAM source by executing a [Run-Now Job](#), you will probably want to schedule the items to be extracted automatically based on the schedule parameters. This method ensures synchronization between your EAM database and your Meridium Enterprise APM database. This topic describes how to schedule a recurring Job in the APM Connect Administration Center.

Note: You can not run two Jobs of the same kind at the same time. For example, you cannot run two Equipment Jobs at the same time.

Before You Begin

Before you can schedule a Job, you must complete the following:

- Ensure that a Job is [imported](#) in the **Job Conductor**.
- Apply the filter parameters for the Job you want to execute in the context file.

Steps

1. From the **Menu** pane, in the **Conductor** section, select **Job Conductor**.

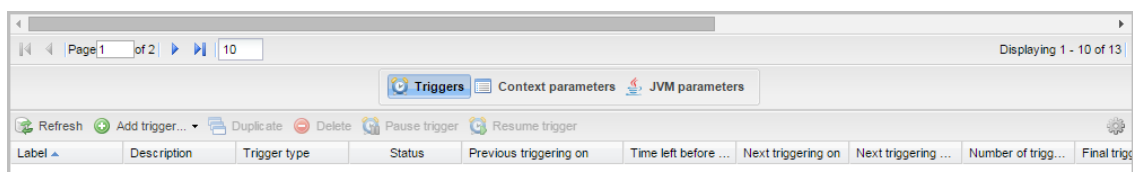
The **Job Conductor** pane appears, displaying the Jobs that can be executed.

2. Select the Job you want to schedule.

Note: If the Job you want to execute is not in the workspace, you must [import the Job](#) into the **Job Conductor**.

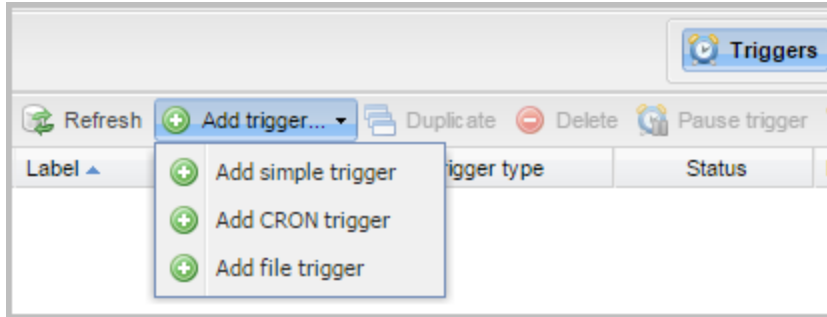
3. At the bottom of the **Job Conductor** workspace, select **Triggers**.

The **Triggers** section appears.



4. In the **Triggers** section, select **Add trigger**.

A drop-down menu appears, displaying the options for the types of triggers you can add.



The following trigger is applicable to APM Connect data extractions:

- **CRON trigger:** A time-based trigger that generates the Job and executes it multiple times at a specified date and time. Cron Trigger is most widely used because it allows the user to set the repetition of execution with more accuracy. For example, a Cron trigger can be set in such a way that it is executed every 10 minutes starting from 10 A.M. to 11 A.M. on every Friday in January, March, August, and December in the year 2015.

5. Select the **Add CRON trigger** button.

The **Add CRON trigger** section appears on the right side of the page.

6. Enter the trigger details using the following guidelines:

- **Label:** Enter a name for the trigger.
- **Description:** Enter a description for the trigger.
- **Time zone strategy:** Select JobServer time.
- **Minutes:** Enter the time interval (in minutes) after which the execution needs to be repeated.
- **Hours:** Enter the time (in hours) when the execution should begin.
- **Days of month:** Enter the days of the month on which the Job should be executed.
- **Months:** Enter the months during which the Job should be executed.
- **Days of week:** Enter the days of the week on which the Job should be executed.
- **Years:** Enter the year during which the Job should be executed.


7. Select **Save**.

The new trigger is created and appears in the **Triggers** section.

The Job is scheduled.

Execute a Run-Now Job


While you can use the APM Connect Administration Center to [schedule Jobs](#) to run on a recurring basis, you can run a previously scheduled Job at any time to extract new or updated items. This topic describes how to execute a Run-Now Job.

 **Important:** You cannot run two Jobs of the same kind at the same time. For example, you cannot run two Equipment Jobs at the same time.

Steps

To Execute a Run-Now Job:

1. In the **Job Conductor** workspace, select the Scheduled Job that you want to run.

 **Note:** If database tables or fields were changed since you last ran a Job, run the CreateStaticData Job first.


2. Select **Run**.

The Job is run.

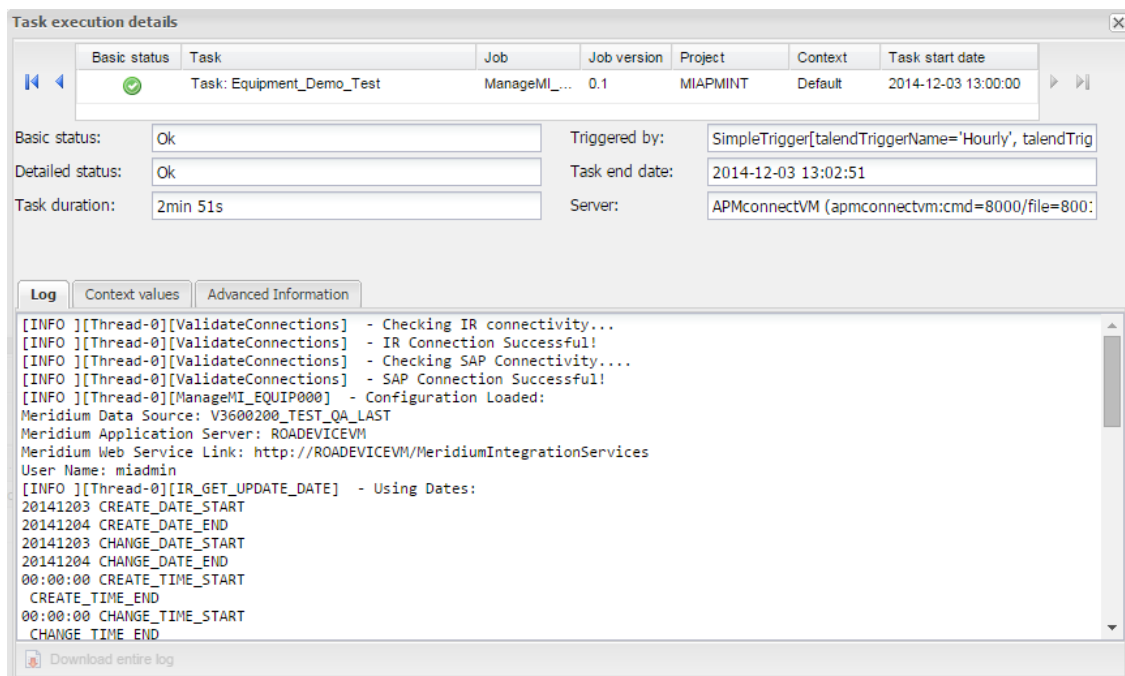
View the Execution Log

You can view the execution log for information about the Job execution such as its status, ID, trigger type, and other details. The log also contains information about the errors and warnings that occurred during the execution process. The execution details are available for any Job that appears in the **Job Conductor** workspace. This topic describes how to view the execution log.

Steps

1. In the **Job Conductor** workspace, select the  button next to the Job whose execution details you want to view.

The **Task execution details** window appears, displaying the details of the latest execution.



The screenshot shows the 'Task execution details' window. At the top, there is a table with columns: Basic status, Task, Job, Job version, Project, Context, and Task start date. The row shows a green checkmark for 'Basic status', 'Task: Equipment_Demo_Test', 'ManageMI_...', '0.1', 'MIAPMINT', 'Default', and '2014-12-03 13:00:00'. Below the table, there are fields for 'Basic status: Ok', 'Detailed status: Ok', 'Task duration: 2min 51s', 'Triggered by: SimpleTrigger[talendTriggerName='Hourly', talendTrig', 'Task end date: 2014-12-03 13:02:51', and 'Server: APMconnectVM (apmconnectvm:cmd=8000/file=800:'. At the bottom, there are tabs for 'Log', 'Context values', and 'Advanced Information'. The 'Log' tab is selected, showing a list of log entries such as '[INFO][Thread-0][ValidateConnections] - Checking IR connectivity...', '[INFO][Thread-0][ValidateConnections] - IR Connection Successful!', '[INFO][Thread-0][ValidateConnections] - Checking SAP Connectivity...', '[INFO][Thread-0][ValidateConnections] - SAP Connection Successful!', '[INFO][Thread-0][ManageMI_EQUIP000] - Configuration Loaded:', 'Meridium Data Source: V3600200_TEST_QA_LAST', 'Meridium Application Server: ROADEVICEVM', 'Meridium Web Service Link: http://ROADEVICEVM/MeridiumIntegrationServices', 'User Name: miadmin', '[INFO][Thread-0][IR_GET_UPDATE_DATE] - Using Dates:', '20141203 CREATE_DATE_START', '20141204 CREATE_DATE_END', '20141203 CHANGE_DATE_START', '20141204 CHANGE_DATE_END', '00:00:00 CREATE_TIME_START', 'CREATE_TIME_END', '00:00:00 CHANGE_TIME_START', and 'CHANGE TIME END'. A 'Download entire log' button is at the bottom left.

You can view three types of information in the **Task execution details** window:

- In the **Log** section, view the sequence of execution, error messages, and warning messages.
- In the **Context values** section, view the values that were passed into the parameters of the executed Job.
- In the **Advanced Information** section, view information about the executed Job.


Update Existing Jobs

Occasionally, changes will be made to the .zip files associated with an adapter Job. When changes are made to the adapter through a .zip file, the existing Job must be updated by reimporting the .zip file. This topic describes how to update an existing Job.

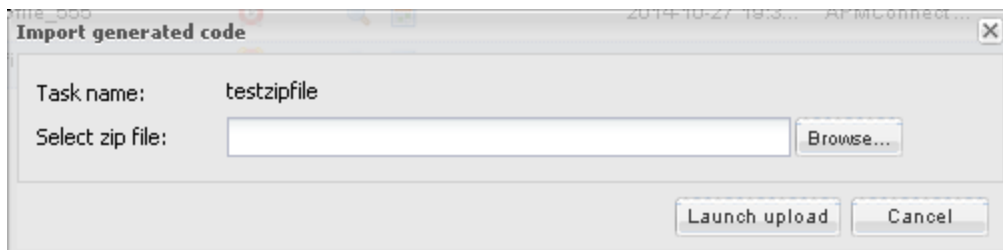
Steps

1. In the **Job Conductor** workspace, select the Job for which the file has been updated.
2. On the **Job Conductor** toolbar, select **Delete**.

Note: If you do not delete the existing Job, the Job will not update properly, and the Job can not be executed.

3. On the **Job Conductor** toolbar, select **Add**.
The **Execution task** pane is activated.
4. In the **Execution task** pane, in the **Label** box, enter a label for the Job.
5. In the **Description** box, enter a description for the Job.
6. Select the **Active** check box.
7. In the **Job** section, select .

The **Import generated code** window appears.



8. Select **Browse** to navigate to the file containing the adapter Jobs that have been updated.
9. Select the appropriate file.
10. On the **Import generated code** window, select **Launch upload**.
11. The **Project**, **Branch**, **Name**, **Version**, and **Context** text boxes are automatically populated with appropriate values.
12. In the **Execution Server** list, select the server on which the Job should be executed.
13. Select **Save**.

The updated adapter Jobs are imported into the APM Connect Administration Center.

APM Connect Administrative Help

This topic provides a list of help topics related to the APM Connect administrative settings

[Related Information](#)

APM Connect EAM Jobs

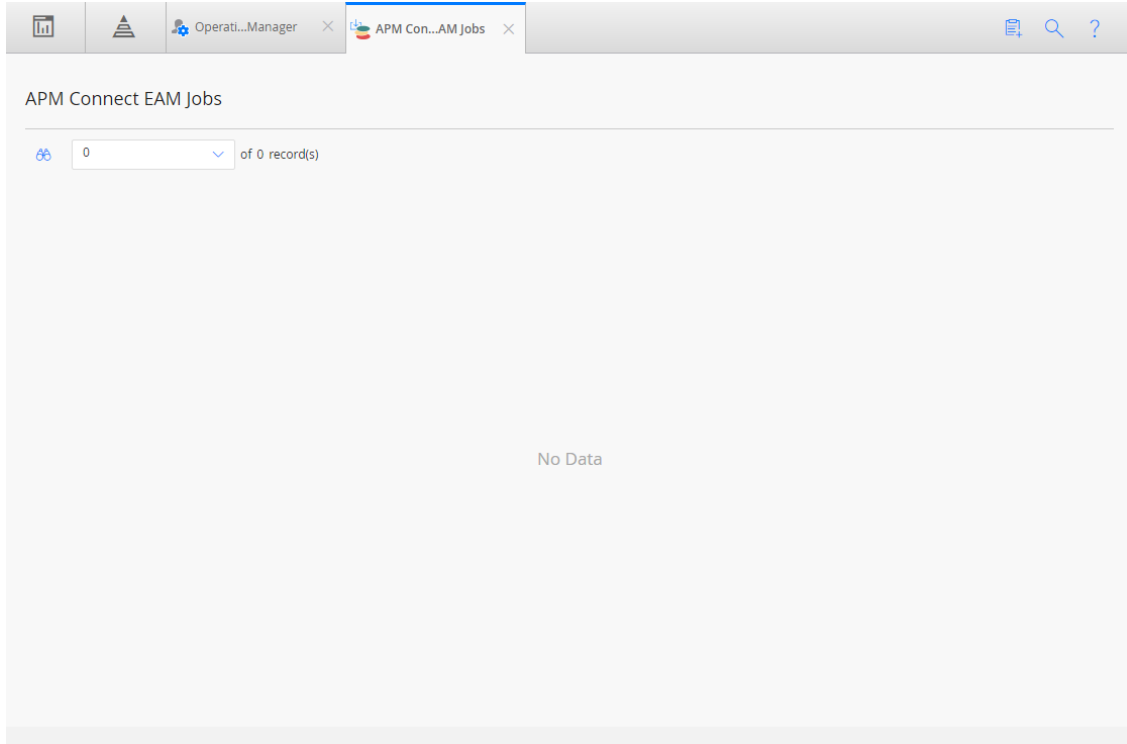
The APM Connect EAM Jobs contains a result grid to access the details of the EAM SAP Cloud jobs. Additionally, from the APM Connect EAM Jobs you can access the Interface Log record for each SAP Cloud job.

Access APM Connect EAM Jobs

Steps

1. Access **Operations Manager**, and then select **APM Connect EAM Jobs**.

The **APM Connect EAM Jobs** page appears.




Access the Details of an EAM Job

You can view the details of EAM Adapter jobs such as status, time and date, and the associated interface log record.

Steps

1. [Access the APM Connect EAM Jobs](#).
2. In the **Status and Log** column, view the status conditions of each job.

| Status | Description |
|-------------|--|
| Complete | Data has been imported successfully into Meridium Enterprise APM. |
| Errors | Upload is complete with one or more errors indicated. |
| In Progress | Data import staged successfully; preparing to import into Meridium Enterprise APM. |
| Waiting | Data import is queued and will begin the import. |

3. In the **Status and Log** column, select  on the row corresponding to the EAM job for which you want to access the log.

The log file is downloaded.

4. To access the Interface Log record for a specific job, in the **Job ID** column select the job ID that you want to open.

The **Record Manager** page appears, displaying the datasheet for the selected job.

5. To view the information contained in the **Log Text**, select the  in the **Log Text** box.

A window appears, displaying details about the job such as error messages, warnings concerning the data load, and general information regarding the data records that were loaded.

APM Connect

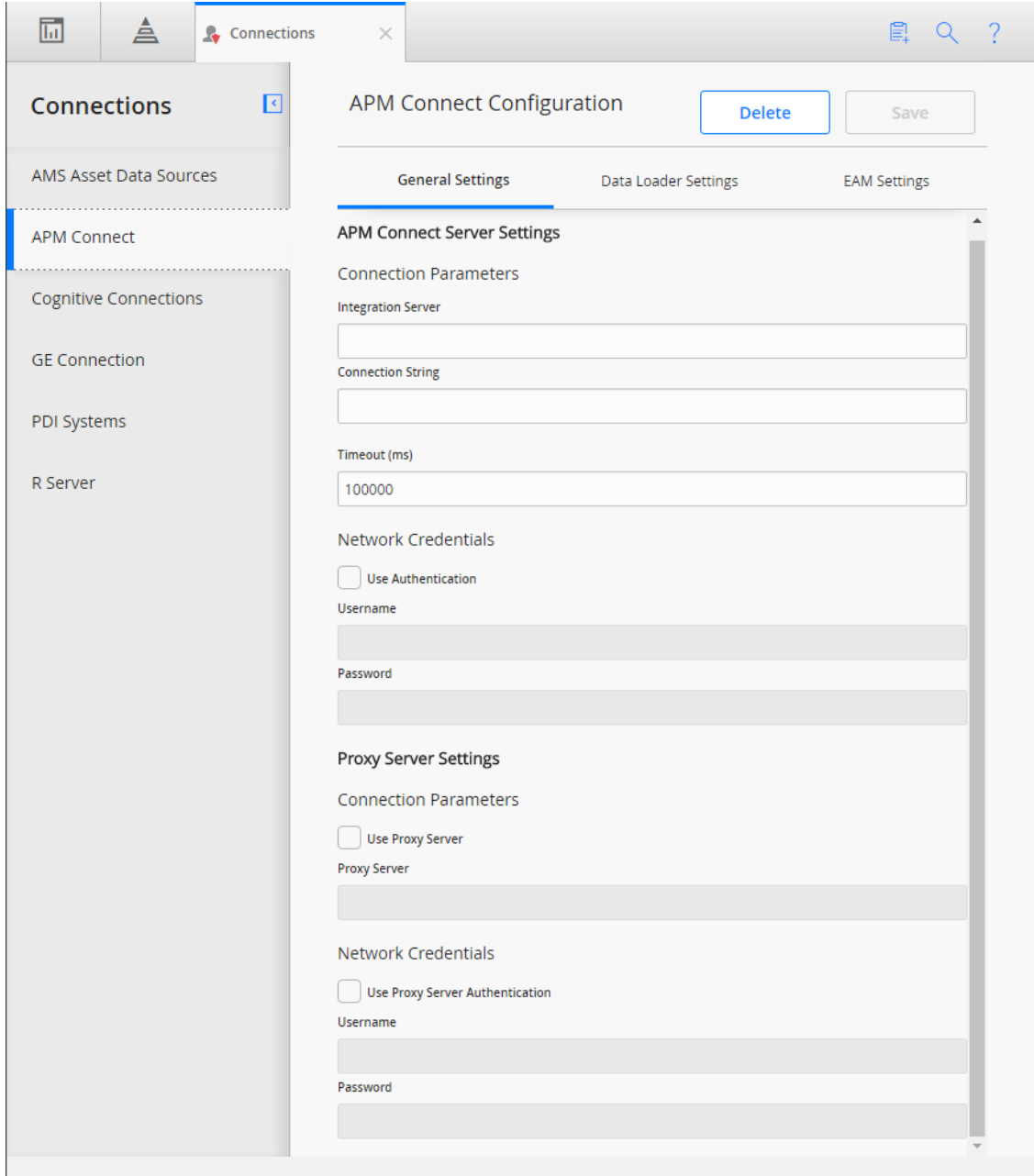
In **APM Connect** in the **Connections** section of **Operations Manager**, you can manage the connections used by the APM Connect Adapters. The APM Connect Adapters facilitate data transfers to and from Meridium Enterprise APM.

Access APM Connect

Steps

1. Access **Operation Manger**, select **Connections**, and then select **APM Connect**.

The **APM Connect Configuration** page appears.



Establish Connection from Meridium Enterprise APM

To load data into Meridium Enterprise APM using the APM Connect Data Loaders or the EAM Adapters. You must establish the connection between your APM Connect component and Meridium Enterprise APM.


Steps

1. [Access APM Connect](#).


The **APM Connect Configuration** workspace appears.

2. In the **APM Connect Configuration** workspace, configure the parameters on the [APM Connect Connection Record](#) in the following sections.

- **General Settings**: Established the connection between the APM Connect server and Meridium Enterprise APM.

 **IMPORTANT**: The **General Settings** section must be configured if you are using either the Data Loaders or the EAM adapters.

- **Data Loaders Settings**: Stores the staging database parameters and the remote file server settings.
- **EAM Settings**: Used to [schedule work orders](#), which determine how frequently work orders will be transferred to your SAP.

 **Note**: These settings are only required for the SAP adapters.

3. Select **Save**.

The connection between APM Connect and Meridium Enterprise APM is established.

Schedule Work Orders

Steps


1. [Access APM Connect](#).

The **APM Connect Configuration** page appears.

2. Select **EAM Settings**.


The **EAM Settings** page appears.

3. In the **Scheduling Properties** section, select **Edit Schedule**.

 **Note:** If there is a previously schedule item, a schedule summary will be displayed next to **Edit Schedule**. If there is no scheduled item, **Not scheduled** will be displayed next to the **Edit Schedule** button.

3. On the **Edit Schedule** window, select the **Recurrence** check box.

4. In the **Time Zone** box, select the appropriate time zone.

5. In the **Start** box, select  to schedule the start date and time.

- a. Select one of the following as appropriate:

- **The current date:** Select this option to use the current time and date as the starting point.
- **Clear:** Select this option to clear the current selection.
- **<Date>:** Select this option to use the selected date as the start date.

- b. Select , and then select the appropriate time.

- c. Select **Close**.

6. In the **Every** section, in the interval box, enter the numeric value for how often you want the generation to occur.

7. In the **Every** section, in the units box, select the interval unit (i.e., minutes, hours, years, etc).

8. In the **Every** section, in the begin box, select one of the following:

- **From start time:** Select this option to start the recurrence from the previously selected start time.
- **After last occurrence:** Select this option to begin the generation after the last time the job ran.

9. In the **End** box, based on when you want the recurrence to end, use the drop-down to select one of the following:

- **Never:** If you select this option, then the recurrence will not end.
- **After:** If you select this option, then you will enter a number of occurrences after which the generation will end.
- **Time & Date:** Select this option to use the calendar to select a time and date when the generation will end.

10. Select **OK**.

The schedule summary appears next to the **Edit Schedule**. Additionally, the scheduled item can be viewed in **Operations Manager** in **Scheduling**.

What's Next?

- [Return to the SAP Adapter workflow](#) for the next step in the deployment process.

APM Connect Connection Records

The **APM Connect Connection** page stores information about connections used by APM Connect. Specifically, it manages the connection between Meridium Enterprise APM and APM Connect components. This topic provides an alphabetical list and description of the fields that exist for the APM Connect Connection page. The information in the table reflects the baseline state and behavior of these fields.

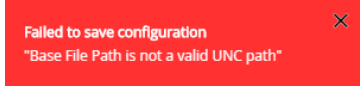
General Setting

| Field | Data Type | Description | Behavior and Usage |
|--------------------|-----------|--|--|
| Connection String | String | The URL indicating the APM Connect server host and port used to connect Meridium Enterprise APM and the APM Connect sever. | <p>This field is required.</p> <p>The connection string is a combination of the APM Connect Connection parameters <code>APM_CONNECT_HOST</code> and <code>APM_CONNECT_PORT</code> as defined in the context file.</p> <p>For example, if the host was <i>apmconnect</i> and the port was <i>8040</i>, the connection string would be <i>http://apmconnect:8040/</i>.</p> |
| Integration Server | String | The location of the APM Connect server. | This field is required. |
| Password | String | The password for the APM Connect network. | This field is required only if you are using network authentication. |
| Password | String | The password of the proxy server. | This field is required only if you are using proxy server authentication. |

| | | | |
|---------------------------------|---------|---|--|
| Proxy Server | String | The location of the proxy server. | This field is required only if you are using proxy server authentication. |
| Timeout (ms) | Numeric | The time in milliseconds before the connection between the APM Connect server and Meridium Enterprise APM will timeout. | The default value is 100,000 ms, and is populated automatically. |
| Use Authentication | Boolean | Indicates whether or not authorization will be used. | If the check box is selected, then authentication will be used, and you must enter the network user name and password. |
| Use Proxy Server | Boolean | Indicates the whether or not to use a proxy server. | If the check box is selected, then the proxy server will be used. |
| Use Proxy Server Authentication | Boolean | Indicates whether or not authentication will be used to the proxy server. | If the check box is selected, then authentication will be used for the proxy server. |
| Username | String | The user name for the APM Connect network. | This field is required only if you are using network authentication. |
| Username | String | The user name for the proxy server. | This field is required only if you are using proxy server authentication. |

Data Loader Settings

| Field | Data Type | Description | Behavior and Usage |
|-------|-----------|-------------|--------------------|
|-------|-----------|-------------|--------------------|

| | | | |
|------------------------------|---------|--|---|
| Base File Path | String | The path to the file server. | <p>This field is required.</p> <p>An example of a valid server path is <code>\\host-server\share\subfolder</code>. If an invalid server path is entered, you will receive an error message.</p>  |
| Database Name | String | The database name of the Data Loader staging (IR) database. | None. |
| Host Name | String | The host name of the Data Loaders staging (IR) database. | None. |
| Password | String | The Data Loader staging database (IR) password. | None. |
| Password | String | The password of the file server. | None. |
| Use File Path Authentication | Boolean | Indicates whether or not to use authentication when accessing the file server. | If selected, authentication will be used for the file path. |
| UserName | String | The Data Loader staging database (IR) user name. | None. |
| Username | String | The user name of the file server. | None. |

EAM Settings

| Field | Data Type | Description | Behavior and Usage |
|--------------------------------|-----------|--|---|
| Work Order Generation Schedule | Boolean | Stores the scheduling mechanism for transferring work orders to SAP. | To determine the schedule, you must schedule work orders. |