APM Connect DL V1.5.3

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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 Process Integration: Enables the SAP PI Adapters.
- SAP Technical Characteristics: Enables the SAP Technical Characteristics Adapter.
- SAP Work Management: Enables the SAP Work Management Adapter

The following 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](#)

Recommended Software

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

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

Browser Requirements

- Google Chrome or Mozilla Firefox

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

- **SAP Backend System**: An SAP server machine with an ECC system. The following versions are supported:
    - SAP ECC 6.0 (Enhancement Packs [EhP] 1 through 7)
- **SAP Database**: A database that contains the SAP data model and data.
- **SAP Internet Transaction Server (ITS)**: Version 6.20 or higher.

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

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:
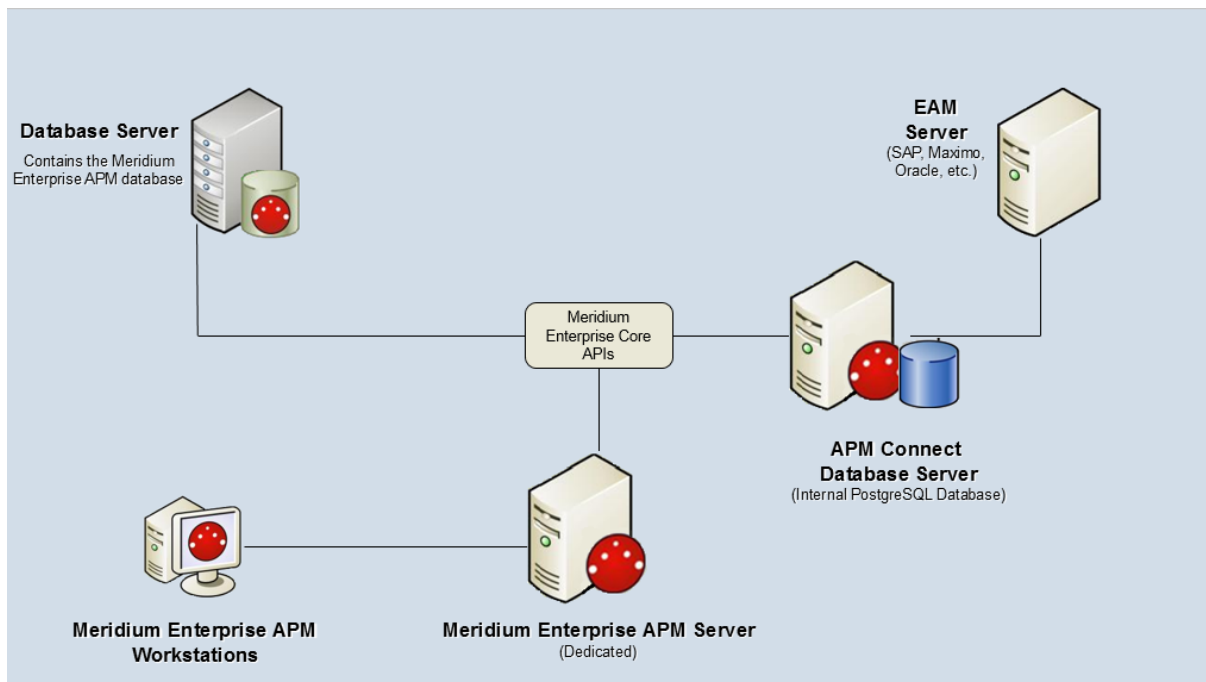
External Database Configuration

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.
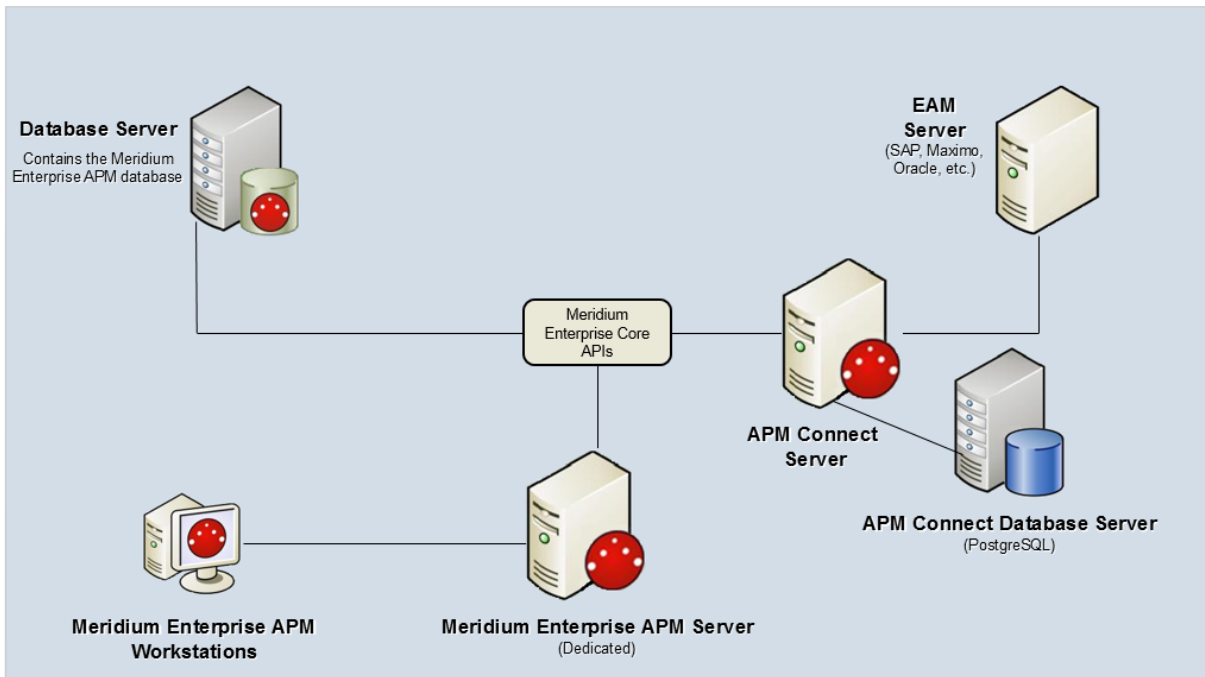
Deploying APM Connect

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.

Deploying 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 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 or 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. All steps are required unless otherwise noted.

Step	Task	Notes
1	Install the ASI for ABAP add-on.	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.	None.
3	Configure SAP permissions.	None.
4	Follow the remaining ASI deployment steps in the ASI module.	None.

Upgrade ASI for SAP to V4.1.6.0

The following tables outline the steps that you must complete to upgrade this module.

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 any version V4.1.0.0 through V4.1.5.1

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 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 V3.6.0.10.0

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 V3.5.1 through V3.5.1.9.0

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 V3.5.0.1.6.0

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
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

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:

   - **Installation Files**: If you are installing the ASI ABAP Add-On.

     -or-

   - **Upgrade Files**: If you are upgrading 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 **Installation Package** menu, point to **Load Packages**, and then select **From Application Server**.
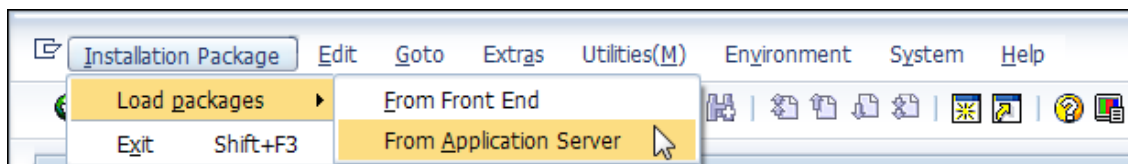
   A message appears, asking if you want to upload OCS packages from the ECS inbox.

8. Select **Yes**.

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

9. Select the .PAT file(s) 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. *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** tab appears.

13. Select **Continue**.

14. Select **Continue** again.

    > ℹ **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](#)

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 Common Components

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

Access the APM Connect Administration Center

The APM Connect Administration Center is 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.

   > ⓘ **Hint:** APM Connect is most compatible with Google Chrome or Mozilla Firefox web browsers. We do 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. The APM Connect Administration Center **Database configuration** window appears.
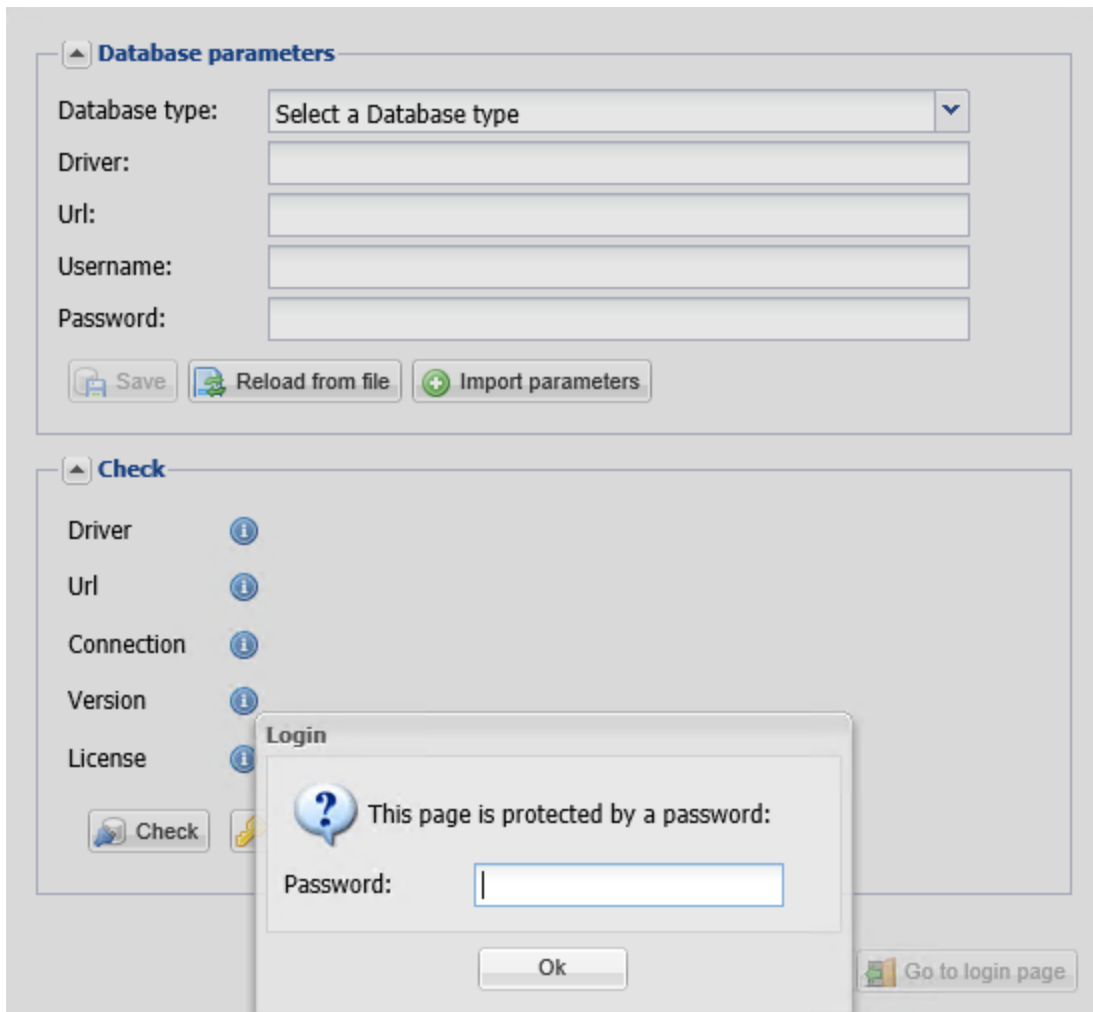
4. In the **Password** box, enter the following password: *admin*.

5. Select **OK**.

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

6. Select **Set new License**.

7. Select **Browse**.

8. Navigate to the license file you received with your APM Connect installation package, and open it.

9. Select **Upload**.

   The **License** window appears.
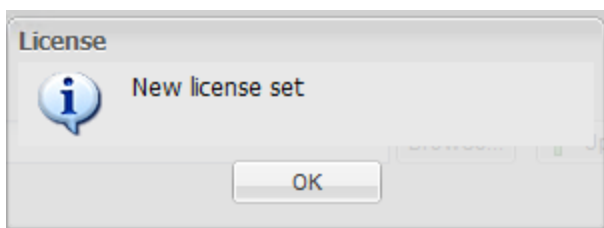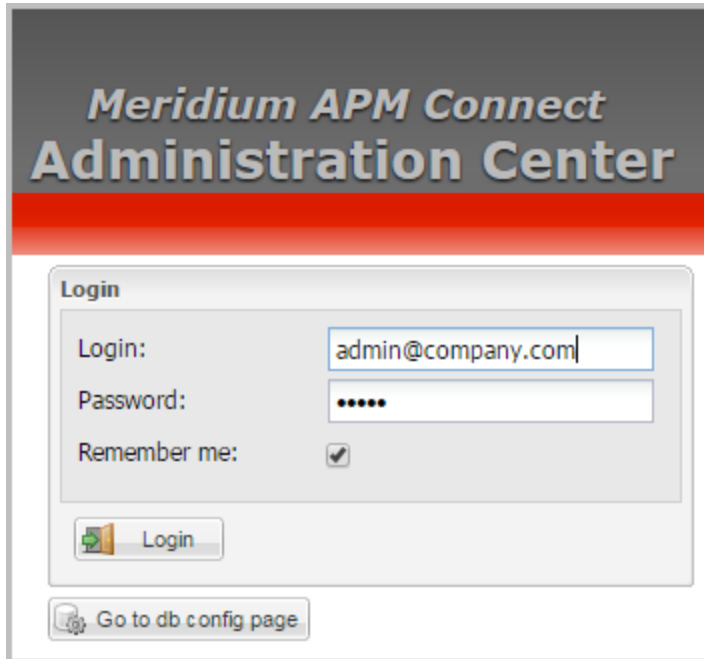
10. Select **OK**.

> ⚠️ **Important**: If your license does not validate, you can <u>validate your license manually</u>.

11. Select **Go to login page**.

    The **Login** page appears.

12. In the **Login** box, enter the default username: *admin@company.com*

13. In the **Password** box, enter the default password: *admin*.

14. Select **Login**.

    The APM Connect Administration Center **Welcome** page appears.

    The APM Connect Administration Center is successfully deployed.

15. Exit the browser.

What's Next?

- Return to the <u>SAP Adapter workflow</u> for the next step in the deployment process.
- Return the <u>Maximo Adapter workflow</u> for the next steps in the deployment process.

  -or-
- Return to the <u>Data Loader workflow</u> for the next step in the deployment process.

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.
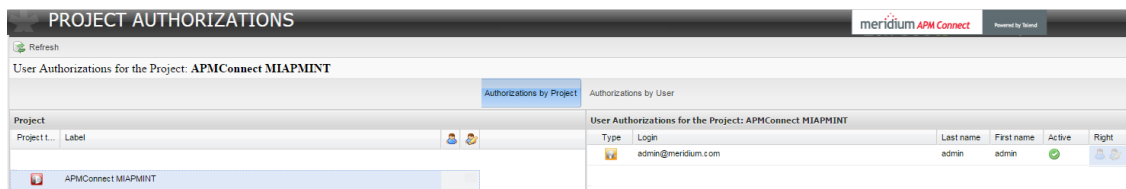
   The **Project** section lists all the projects to which you can add users.

   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] 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] icon in the column labeled **Right** next to the user you want to add.

   > [i] **Note:** 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?

- 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.

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. Open a web browser.

   > ⓘ **Hint:** APM Connect is most compatible with Google Chrome or Mozilla Firefox web browsers. We do 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. From the **Menu** pane, in the **Settings** section, select the **Configuration** tab.

   The **Configuration** pane appears.

Steps: Configure the Administration Center for EAM Adapters

To configure SVN parameters:

> 📄 **Note:** If you are installing APM Connect with a Basic or Plus License, skip configuring this parameter and proceed to configuring the next parameter.

1. Select the **Svn (7 Parameters)** group to expand the workspace.

2. According to the information in the following table, enter the necessary parameters:

Parameter	Description	Recommended or Default Value
Server location URL	URL location of the SVN server.	http://localhost/svn/MIAPMINT
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 pass-word	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:
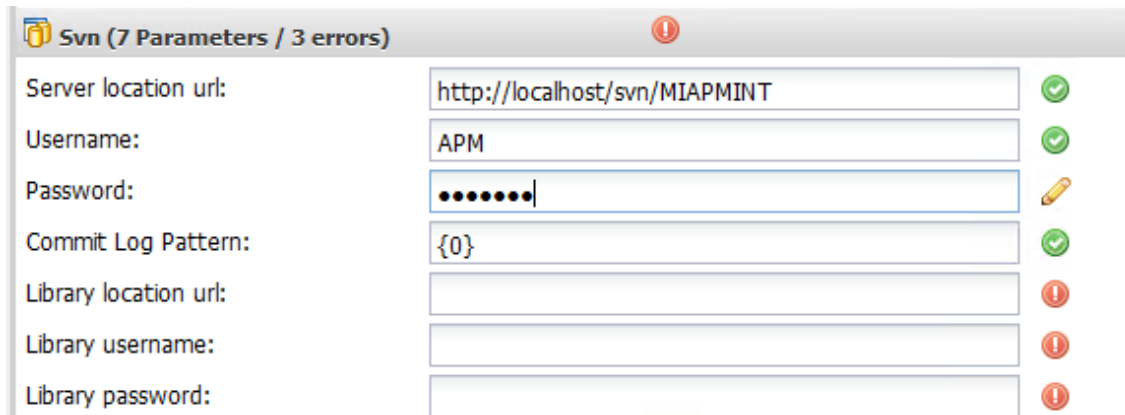
To configure CommandLine parameters:

> **Note:** If you are installing APM Connect with a Basic or Plus License, skip configuring this parameter and proceed to configuring the next parameter.

1. From the **Menu** pane, in the **Settings** section, select the **Configuration** tab.

2. Select the **CommandLine/primary (5 Parameters)** group to expand the workspace.

3. 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:

To configure Job Conductor parameters:

1. From the **Menu** pane, in the **Settings** section, select the **Configuration** tab.

2. Select the **Job conductor (3 Parameters)** group to expand the workspace.

3. According to the information in the following table, enter the necessary parameters:

Parameter	Description	Recommended or Default Value
Generated jobs folder	The path to the folder with the Job execution archives.	\<root:>\APMConnect\Utilities\jobserver\generated_jobs
Tasks logs folder	The path to the folder with the Job execution logs.	\<root:>\APMConnect\Utilities\jobserver\execution_logs
Quartz servlet	Shows the status of the Job Conductor.	The value will be *Initialized* or *Not Initialized*

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

To configure Monitoring parameters:

> 🛈 **Note:** Configuring this parameter is optional.

1. From the **Menu** pane, in the **Settings** section, select the **Configuration** tab.

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

3. According to the information in the following table, enter the necessary parameters:

Parameter	Description	Recommended or Default Value
Kibana URL	The URL address of the Kibana application.	http://\<DNS name>/kibana

> 🛈 **Note:** The Kibana URL cannot contain *localhost*.

To configure Log4j parameters:

1. From the **Menu** pane, in the **Settings** section, select the **Configuration** tab.

2. Select the **Log4j (4 Parameters)** group to expand the workspace.

3. According to the information in the 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.	<root:>/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.	<root:>/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 APM Connect Administration Center parameters are configured.

Steps: Configure the Administration Center for Data Loaders

To configure Job Conductor parameters:

1. From the **Menu** pane, in the **Settings** section, select the **Configuration** tab.

2. Select the **Job conductor (3 Parameters)** group to expand the workspace.

3. According to the information in the following table, enter the necessary parameters:

Parameter	Description	Recommended or Default Value
Generated jobs folder	The path to the folder with the Job execution archives.	<root:>\APMConnect\Utilities\jobserver\generated_jobs
Tasks logs folder	The path to the folder with the Job execution logs.	<root:>\APMConnect\Utilities\jobserver\execution_logs
Quartz servlet	Shows the status of the Job Conductor.	The value will be *Initialized* or *Not Initialized*

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

To configure Monitoring parameters:

> **Note:** Configuring this parameter is optional.

1. From the **Menu** pane, in the **Settings** section, select the **Configuration** tab.

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

3. According to the information in the following table, enter the necessary parameters:

Parameter	Description	Recommended or Default Value
Kibana URL	The URL address of the Kibana application.	http://<DNS name>/kibana

> **Note:** The Kibana URL cannot contain *localhost*.

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

To configure Log4j parameters:

1. From the **Menu** pane, in the **Settings** section, select the **Configuration** tab.

2. Select the **Log4j (4 Parameters)** group to expand the workspace.

3. According to the information in the 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.	<root:>/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.	<root:>/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 APM Connect Administration Center parameters are configured.

What's Next?

- Return to the SAP Adapter workflow for the next step in the deployment process.
- Return to the Maximo Adapter for the next step in the deployment process.
  -or-
- Return to the Data Loader workflow for the next step in the deployment process.

Configure the Execution Server

This topic describes how to configure the Execution server in the APM Connect Administration Center.

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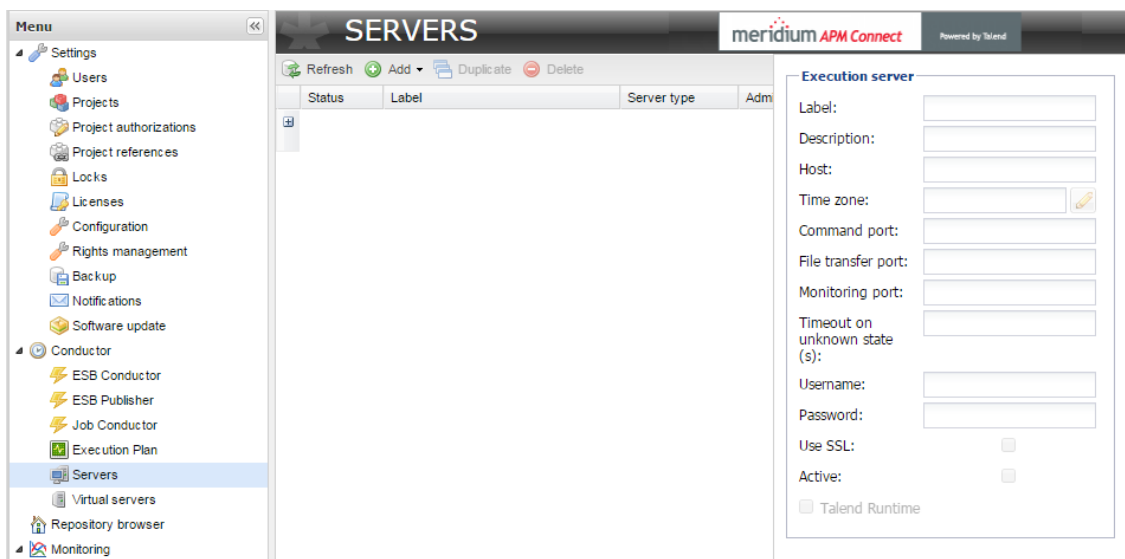
2. Select the **Add** drop-down menu, and then select **Add server**.

3. In the **Execution server** pane, enter the server information in the following list as necessary:

Value	Description	Recommended or Default Value	Required
Label	Enter the name of the server.	Value is unique to the user.	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	8000	Y
File transfer port	Enter the port for file transfer.	8001	Y
Monitoring port	Enter the port for monitoring	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 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.

   The server has been configured.

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 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

To prepare the repository:

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**.

4. The **Context parameters** section appears, configure the following parameter:

Context Parameter	Description
CONFIG_FILE_DIRECTORY	The file path to context files for the jobs.
PG_ADMIN_USERNAME	The user name for the PostGresSQL IR.
PG_ADMIN_PASSWORD	The password for the PostGresSQL 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 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, from the **Menu** pane, in the **Settings** section, select the **Projects** tab.

2. Select **Add**.

   The **Projects** pane appears.

3. Enter the project information into the empty fields as necessary 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.	Must match the release project name.
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	Determines how to submit the latest change made to the project and the repository. Changes are committed via the following methods: • **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.

Svn lock mode	Determines the SVN lock type. The following lock types can be applied: • **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 con-textual menu.	Value not required for non- Studio license users.	Value not required.
Svn User log	If selected, the user will be prompted to enter their own commit log for each commit.	Value not required for non- Studio license users.	Value not required.

4. Select **Save**.

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

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.

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 *Encrypt String_0.1.zip*, and 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 you want to encrypt in the **Enter the text to be encrypted:** box.

4. Select **OK**.

5. In the command prompt, copy the text between the banners that was generated.

6. Open the context file.

7. In the parameter you want to encrypt, paste the generated text.

8. Append the parameter the with, 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. Repeat Steps 2-9 for all of the passwords you want to encrypt.

    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.

Install and Start the APM Runtime Container

Steps

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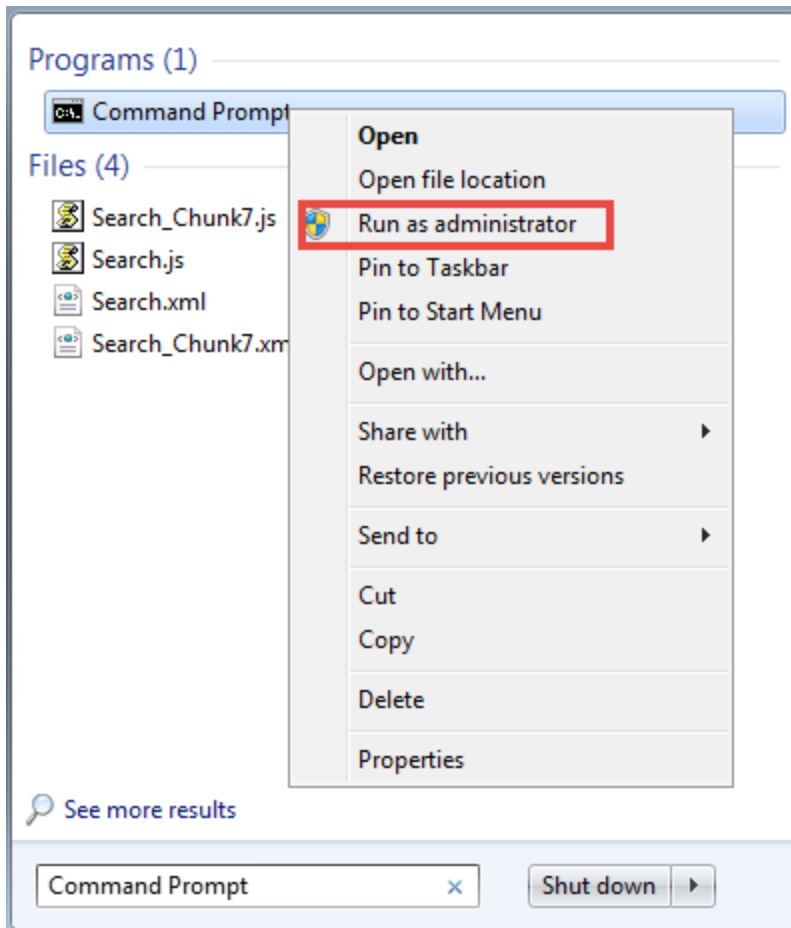
   The **Administrator: Command Prompt** window appears.

4. Change the directory to: *<root:>\APMConnect\Utilities\runtime\bin.*

5. In the **Command Prompt**, after the new directory path, enter: *trun.*

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

    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 6 and receive an error message in the Command Prompt, try the command again in a few minutes.

7. Enter *wrapper:install -s AUTO_START -n APM-CONTAINER -d APM-Container -D "APM Container Service".*
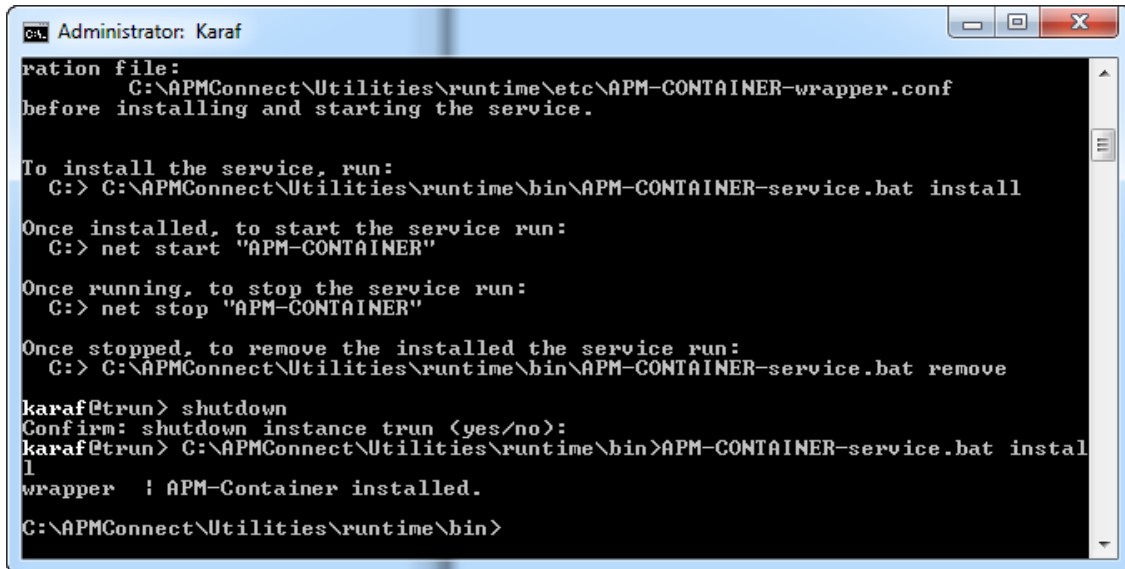
    A service wrapper feature is now installed into the Runtime Container, and a batch file is created in your local APM folder.

    > 🛈 **Hint:** On your local computer, navigate to your APM Connect folder: <root:>\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*.

8. In the Command Prompt, after **karaf@trun>**, enter *shutdown*, and then enter *yes* to confirm you want to shut down karaf.

    Karaf is shut down.

9. In the Command Prompt, enter the following: *<root:>\APMConnect\Utilities\runtime\bin>APM-CONTAINER-service.bat install.*

The APM Container is installed.

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

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.

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**.

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 [icon].

   The **Import generated code** window appears.
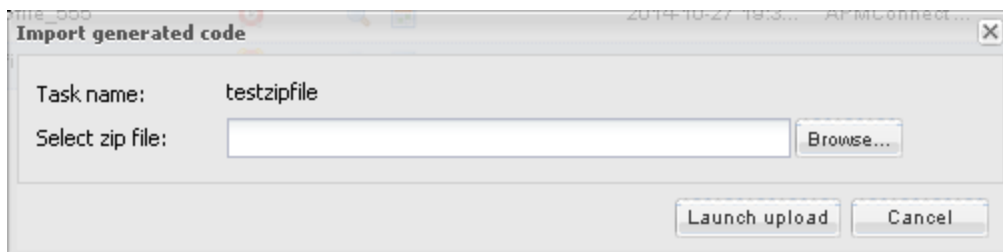
7. Select **Browse** to navigate to the folder containing the Adapter Jobs labeled <root:>//APMConnect/jobs/Framework_Jobs.

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	Corresponding Project	Description

create_dinoloader_db ⓘ **Note:** This job must be executed before you can initiate any data imports using the data loaders.	DL_RELEASE_ <X_X_X>	Creates IR database for DinoLoader.
ManageTaxonomy	DL_RELEASE_ <X_X_X>	Loads Taxonomy records to Meridium APM.
ManageEquipmentAndFunctionalLocation	DL_RELEASE_ <X_X_X>	Loads Equipment and Functional Location records into Meridium APM.
ManageWorkHistory	DL_RELEASE_ <X_X_X>	Loads Work History and Work History Detail records to Meridium APM.
ManageRCM	DL_RELEASE_ <X_X_X>	Loads RCM records to Meridium APM.
ManageRCMFMEA	DL_RELEASE_ <X_X_X>	Loads FMEA records to Meridium APM.
ManageTMLGroup	DL_RELEASE_ <X_X_X>	Loads Thickness Monitoring records to Meridium APM.
ManageInspections	DL_RELEASE_ <X_X_X>	Loads Inspection records to Meridium APM.

Maximo Adapter Jobs

SAP Adapter Jobs

Job Name	Corresponding Project	Description

SAP Stand Alone Deployment Jobs		
CreateStaticData	RELEASE_<X_X_X>	Loads lookup tables.
CreateIntermediateRepository	RELEASE_<X_X_X>	Creates IR database.
SAP_Equipment	RELEASE_<X_X_X>	Loads Equipment records to Meridium Enterprise APM.
IR_Equipment_APM_load	RELEASE_<X_X_X>	Restarts failed Equipment load from point of failure.
SAP_FunctionalLocation	RELEASE_<X_X_X>	Loads Functional Location records to Meridium Enterprise APM.
IR_FLOC_APM_Load	RELEASE_<X_X_X>	Restarts failed Functional Location load from point of failure.
SAP_WorkHistory	RELEASE_<X_X_X>	Loads Work History records to Meridium Enterprise APM.
IR_WorkHistory_To_APM_load	RELEASE_<X_X_X>	Restarts failed Work History load from point of failure.
SAP Wrapped Deployment Jobs		
SAP_Master_Interface	RELEASE_<X_X_X>	Wrapper job for all SAP Adapters interfaces allowing easy configuration of multiple SAP.
CreateIntermediateRepository	RELEASE_<X_X_X>	Creates IR database.

Miscellaneous EAM Jobs	RELEASE_<X_X_X>	
LOAD_BULK_ID	RELEASE_<X_X_X>	Allows large amounts of Asset IDs to be loaded into Meridium Enterprise APM.

SAP PI Adapter Jobs

SAP PI Jobs	Corresponding Project	Description
Create Intermediate Repository	RELEASE_<X_X_X>	Creates IR database.
IR_Equipment_APM_load	RELEASE_<X_X_X>	Restarts failed Equipment load from point of failure.
IR_FLOC_APM_Load	RELEASE_<X_X_X>	Restarts failed Functional Location load from point of failure.
IR_WorkHistory_To_APM_load	RELEASE_<X_X_X>	Restarts failed Work History load from point of failure.
SAP_PI_CreateStaticData	RELEASE_<X_X_X>	Loads lookup tables.
SAP_PI_Equipment	RELEASE_<X_X_X>	Loads Equipment records to Meridium Enterprise APM.
SAP_PI_FuncationalLocation	RELEASE_<X_X_X>	Loads Functional Location records to Meridium Enterprise APM.
SAP_PI_Maseter_Interface	RELEASE_<X_X_X>	Wrapper job for all SAP PI Adapters interfaces allowing easy configuration of multiple SAP.
SAP_PI_WorkHistory	RELEASE_<X_X_X>	Loads Work History records to Meridium Enterprise APM.

Miscellaneous EAM Jobs	Corresponding Project	Description
LOAD_BULK_ID	RELEASE_<X_X_X>	Allows large amounts of Asset IDs to be loaded into Meridium Enterprise APM.

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

   The **Project**, **Branch**, **Name**, **Version**, and **Context** fields 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 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.

Link an EAM System to a Site

1. In the Meridium Enterprise APM, search for the EAM Systems record representing the site with which you want to associate an EAM system, and then open the record.

2. Change the Record Manger filtering options to **All Possible Families**, and then select **Site Reference**.

3. Select, and then select **Add New Record**.

   The Site Reference Datasheet appears.

4. In the Name: box, enter the name of the EAM Site you want to link the EAM system record.

   The EAM system record is associated with the EAM Site.

What's Next?

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

Run the APM Connect Installer

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

Before You Begin

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

- Access the APM Connect Installation package DVD.

- Meet APM Connect system requirements.

Steps:

To run the installer:

1. On the machine on which you placed the APM Connect installation package, navigate to and open the *Installer* folder.

2. Open setup file

   The **Setup-APM Connect** window appears.
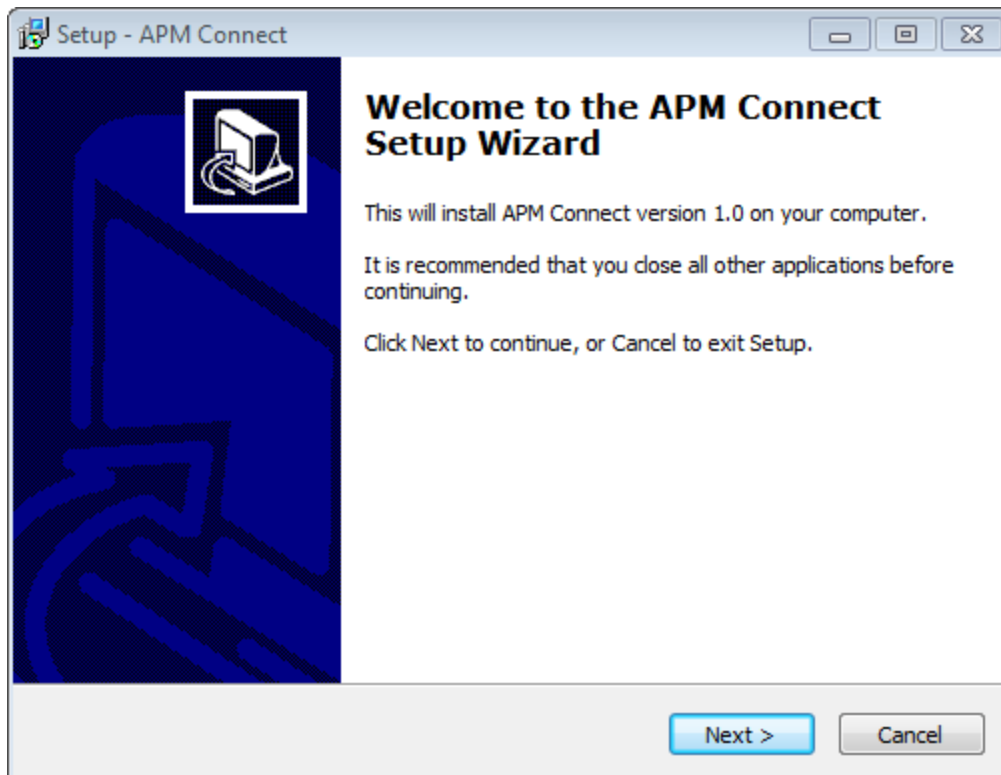
3. Select **Next**.

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, prompting you to select the location where APM Connect will be installed. By default, APM Connect will be installed to the following folder: <root:>\APMConnect.

6. 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 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.
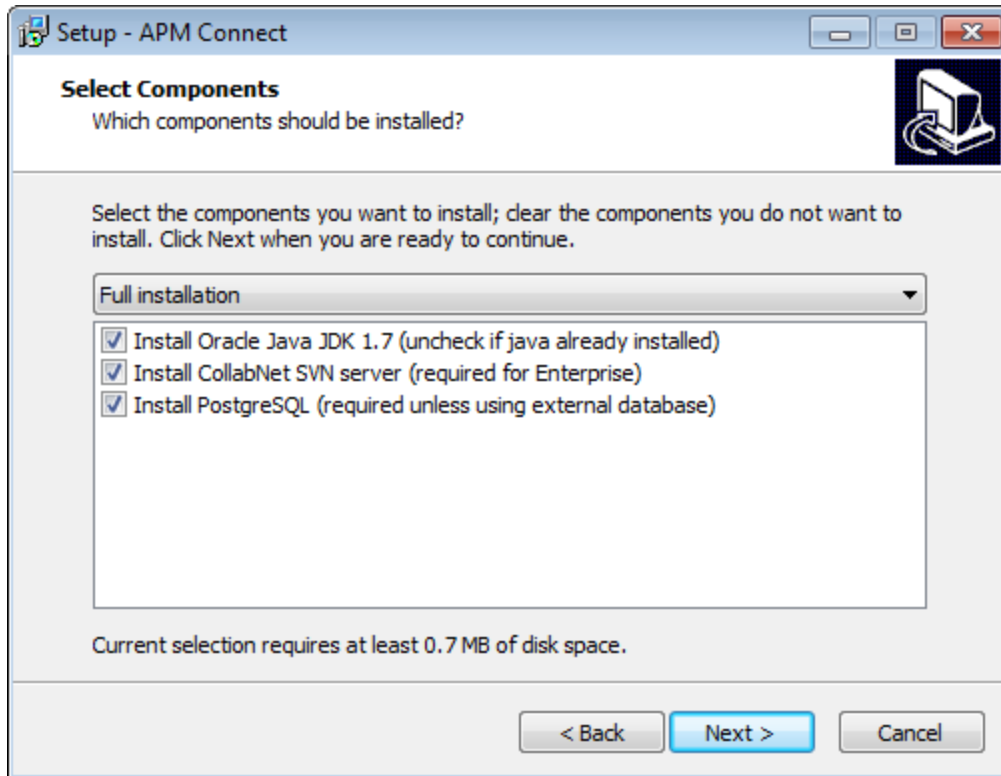
7. If you want to install all components, select **Next**.

> ⚠ **Important:** These instructions assume you want to install all components.

-or-

Clear the following boxes as necessary:

- If Java JDK 1.7 is already installed on your machine, clear the **Install Oracle Java JDK 1.7** box.

  > ℹ **Note:** If the **Install Oracle Java JDK 1.7** check box is cleared, Java environment variables will still need to be configured.

- If you are installing APM Connect with a Basic or Plus License, clear the **Install CollabNet SVN Server** box.

- If you are using an external database configuration, clear the **Install PostgreSQL** box.

8. Select **Next**.

The **Select Additional Tasks** screen appears.
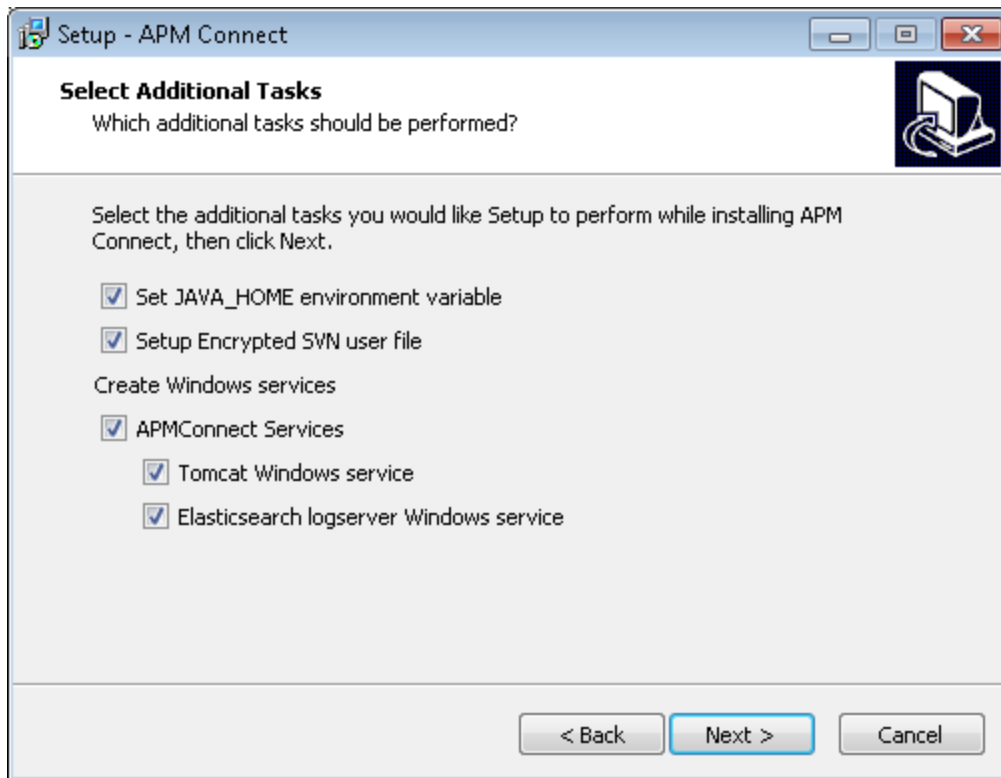
9. If you want perform all additional tasks, select **Next**.

> ⚠ **Important:** These instructions assume that all boxes remain checked.

-or-

Clear the following boxes as necessary, and then select **Next**:

- If Java is already installed, and an environment variable does not need to be created, clear the **Set JAVA_HOME environment variable** box.

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

- If users do not need to be created for the SVN, clear the **Setup Encrypted SVN user file** check box.

  > ⓘ **Note:** If on the previous screen the **Install CollabNet SVN Server** box was cleared, the **Setup Encrypted SVN user file** box will not appear.

- If the APM Connect Services do not need to be installed, clear the **APMConect Services** box.

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

The **Ready to Install** screen appears.
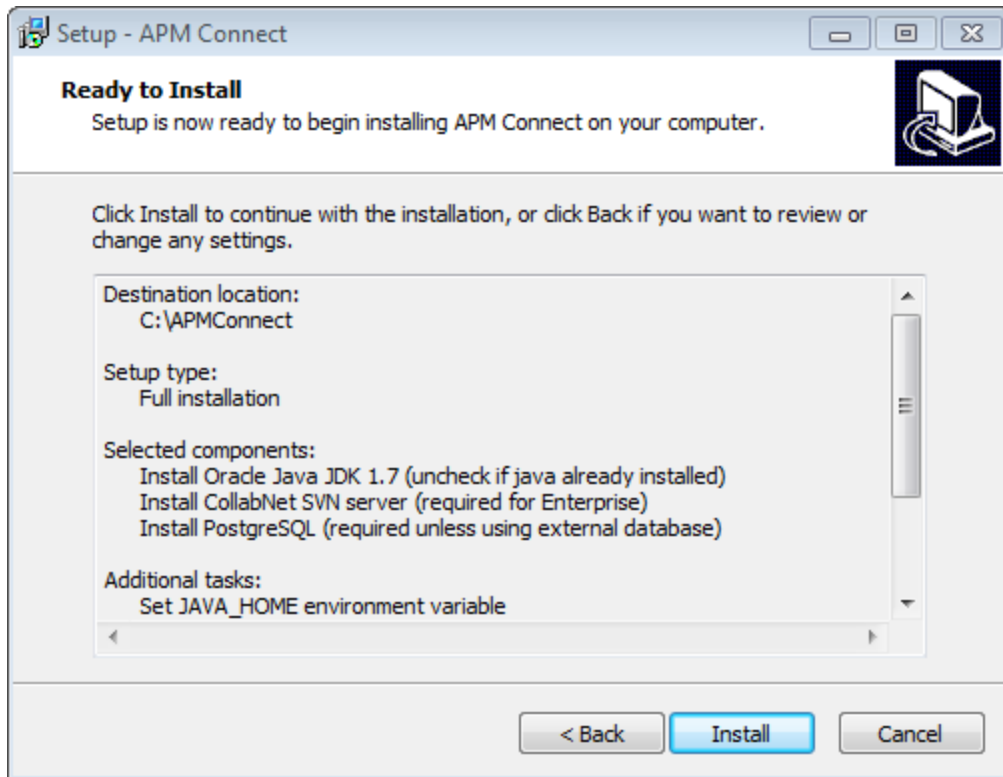
10. Review the items to be installed, and then select **Install**.

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.
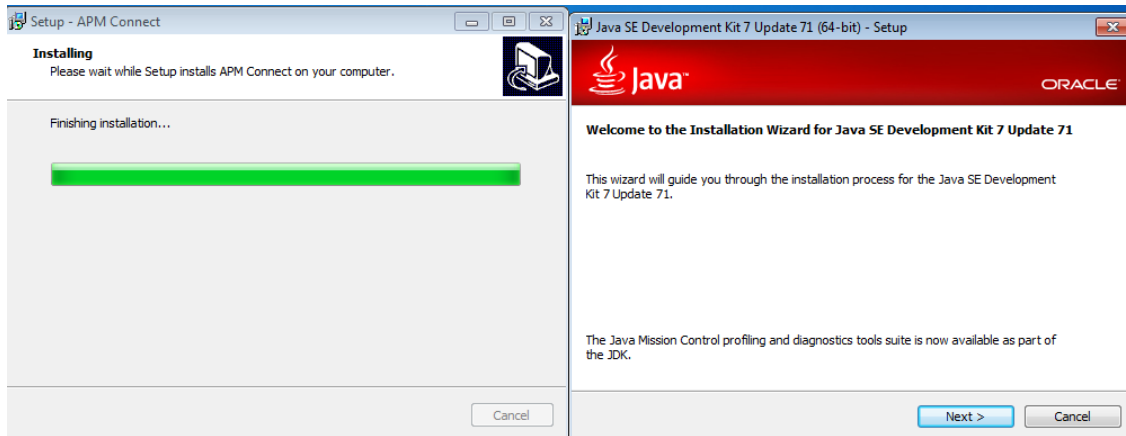
11. On the **Welcome to the Installation Wizard for Java SE Development Kit 7 Update 71** screen, select **Next**.

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

12. Select **Next**.

    The Java installation **Status** bar appears.

    The **Install to:** screen appears.

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

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

    -or-

    If you want to change the location where the software will be installed, select **Change...**, and navigate to the location where you want to install Java. The folder path that you select will be displayed in place of the default folder path. When you are satisfied with the install- ation location, select **Next**.
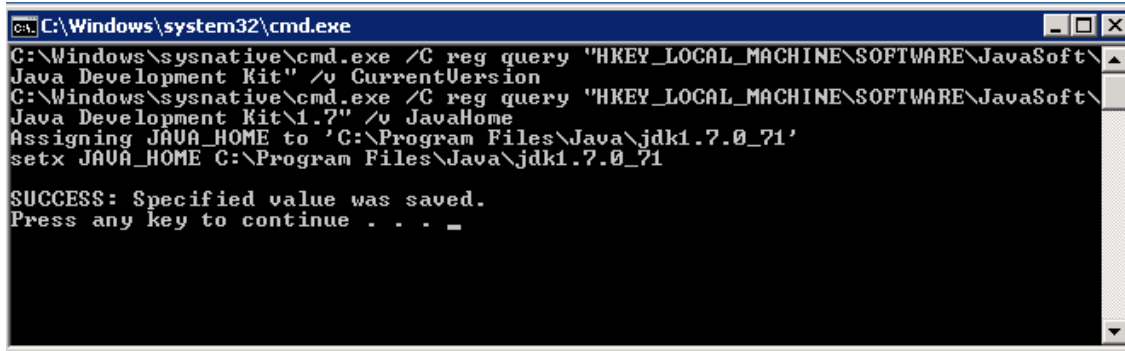
    The **Status** screen reappears showing the **Status** progress bar.

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

14. 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 in troubleshooting section.

15. Press any key to continue.

    The Command Prompt closes.

    The **Installing** screen reappears briefly.

    The **Setup - PostgreSQL Wizard** appears.
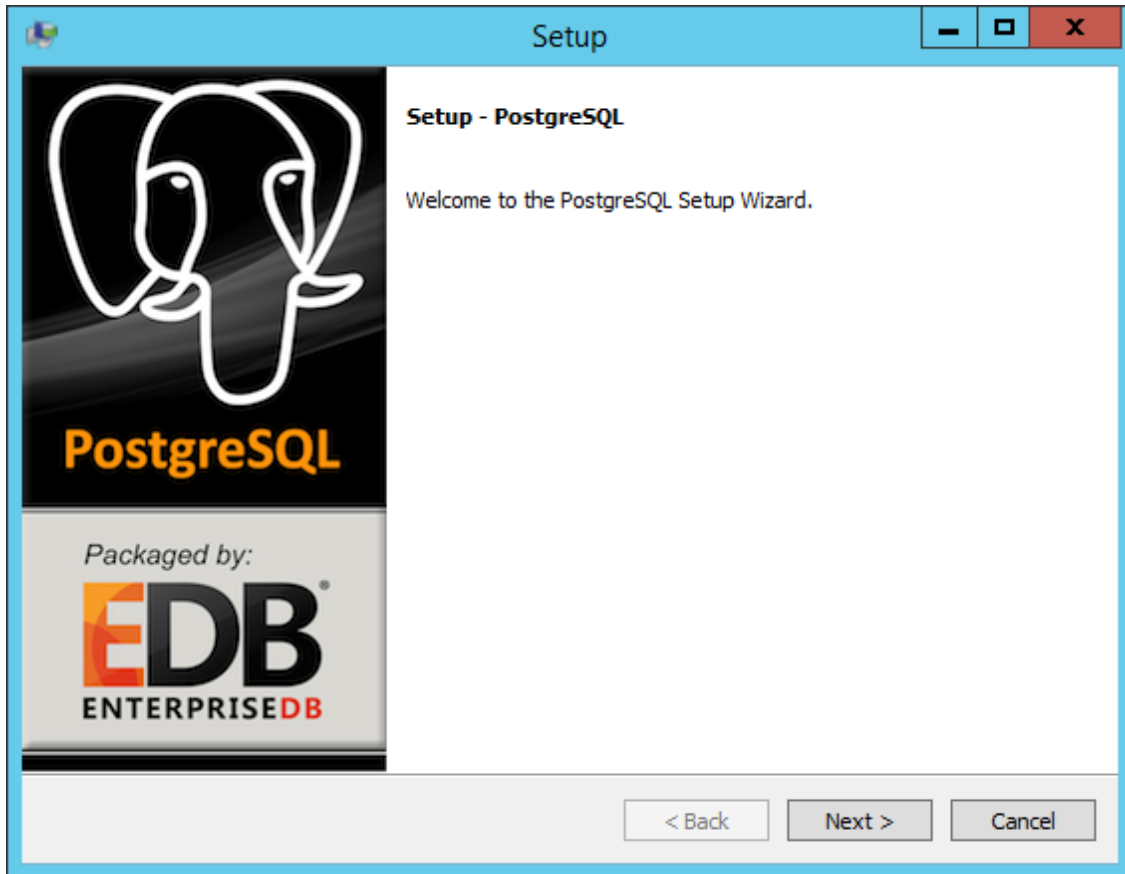
16. Select **Next**.

    The **Installation Directory** screen appears, prompting you to select the location where PostgreSQL for APM Connect will be installed. By default, PostgreSQL will be saved to the following folder: C:\Program Files\PostgreSQL\9.3.

17. If you are satisfied with the default location, leave the folder file path as is.

    -or-

    If you want to change the location where the software will be installed, select the 🗁 button, and then navigate to the location where you want to install PostgreSQL for APM Connect. The folder path that you select will be displayed in place of the default folder path.

18. Select **Next**.

    The **Data Directory** screen appears.

19. In the **Data Directory** box, enter the directory in which data will be stored.

20. Select **Next**.

The **Password** screen appears.

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

> ⓘ **Hint:** This password will be used as a service account for PostgresSQL, 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.

22. Select **Next**.

The **Port** screen appears.

23. 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 you prefer the server to listen on, and select **Next**.

The **Advanced Options** screen appears.

24. Select **Next**.

The **Ready to Install** screen appears.

25. Select **Next**.

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

After the installation bar indicates the installation is complete, the **Completing the PostgreSQL Setup Wizard** screen appears.

26. Clear the **Stack Builder may be used to download and install additional tools, drivers and applications to complement your PostgreSQL installation** box.
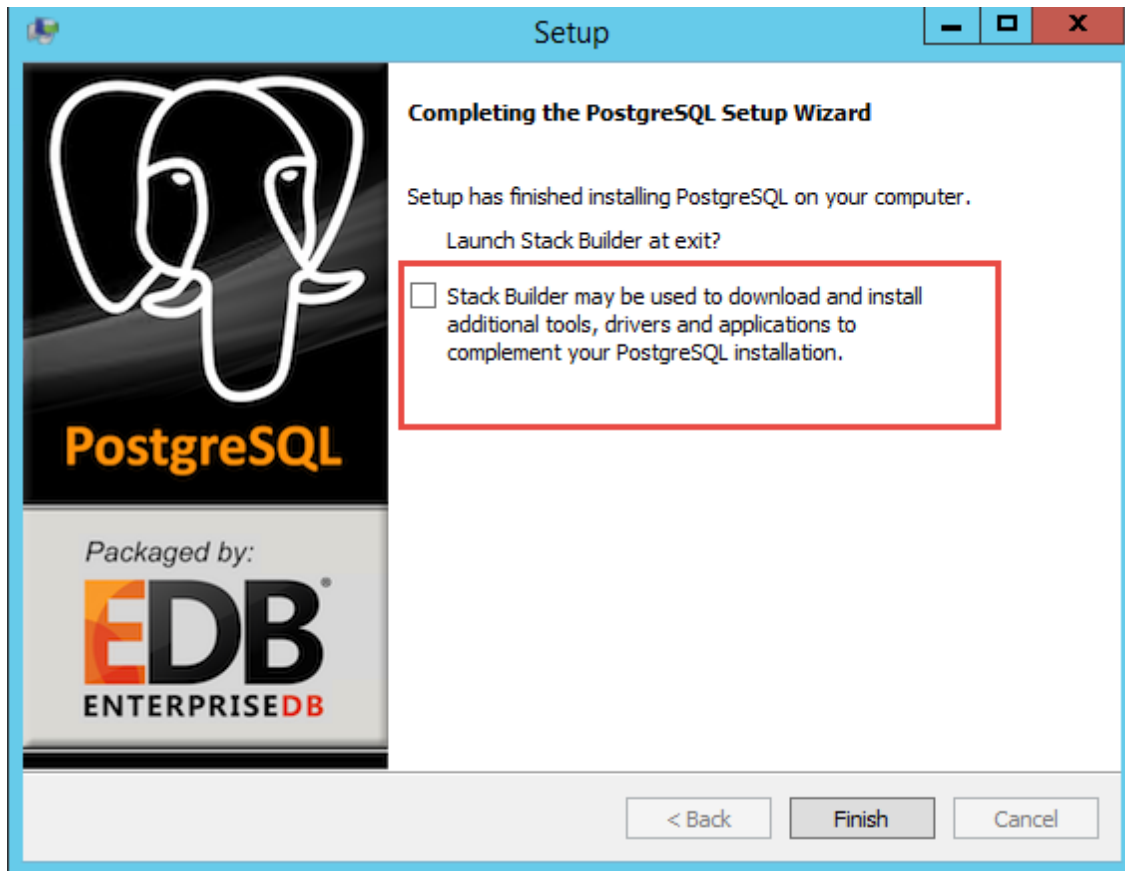
27. Select **Finish**.

PostgreSQL server is installed.

The **Installing** screen reappears briefly.

The **CollabNet Subversion Server 1.6.0 Setup** window appears.

> ⓘ **Note**: If you are not installing SVN, CollabNet will not be installed, and you can proceed to Step 44.
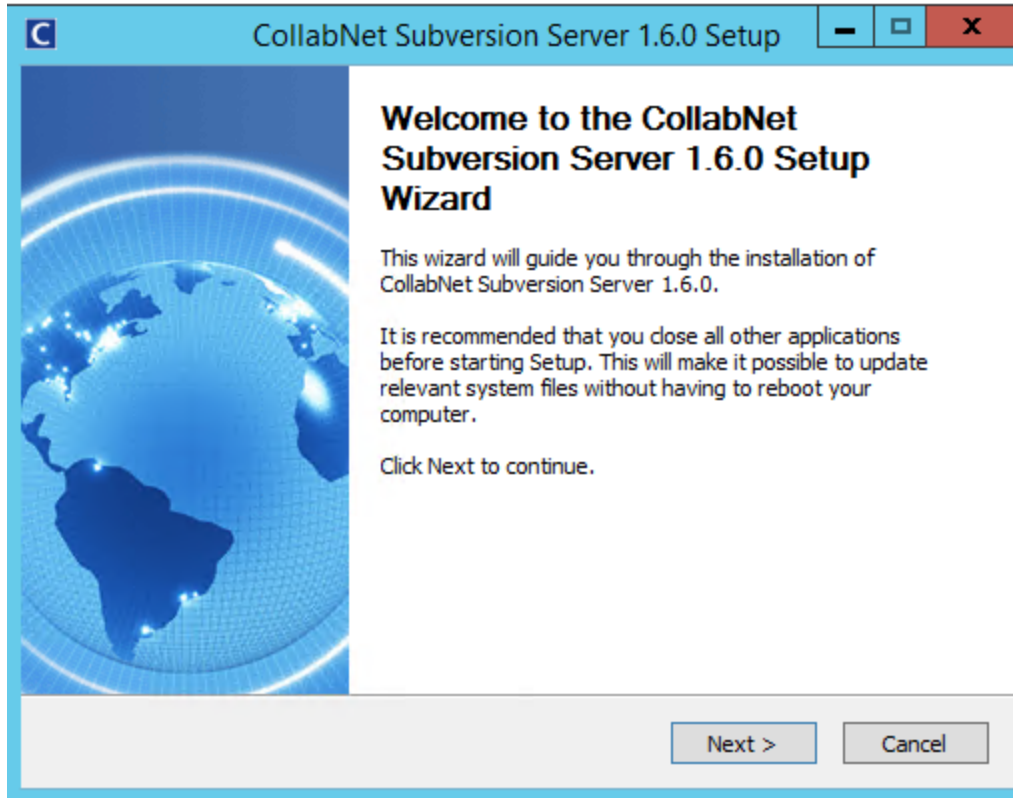
28. Select **Next**.

    The **View Latest Readme** window appears.

29. Select **Next**.

    The **Choose Components** pane appears.
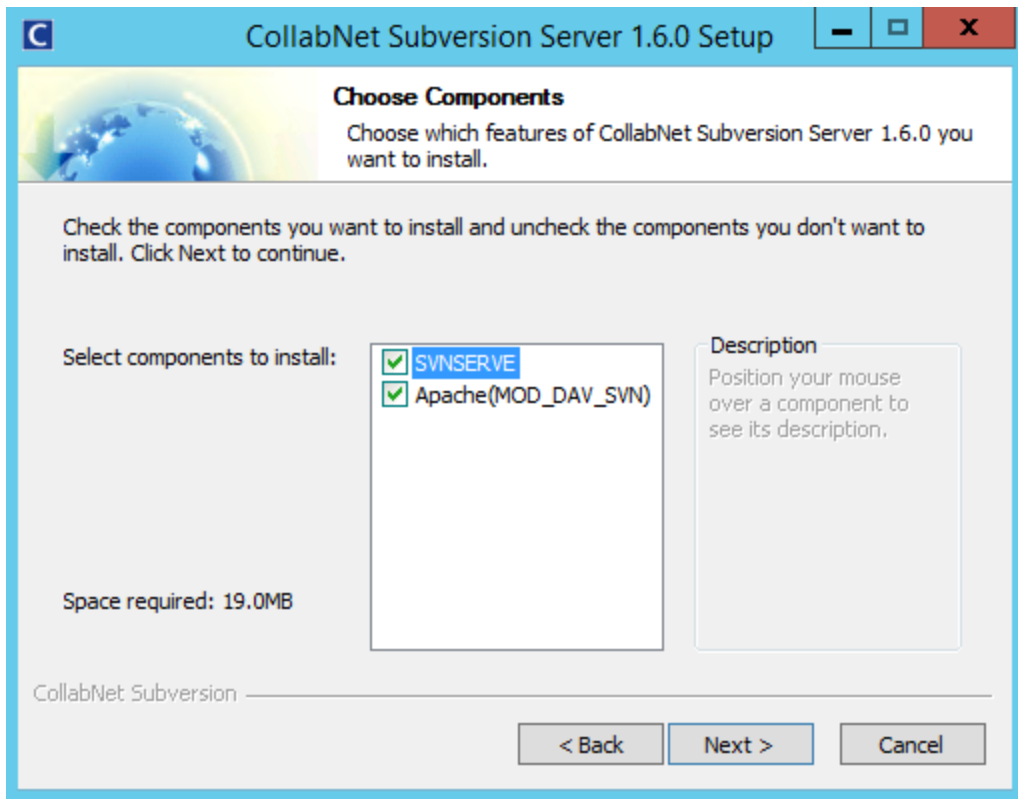
The **SVNSERVE** check box and the **Apache(MOD_DAV_SVN)** check box should be checked.

30. Select **Next**.

    The **svnserve Configuration** pane appears.

31. Select **Next**.

    The **Apache Configuration** pane appears.

32. Select **Next**.

    The **Choose Install Location** pane appears.

33. Select **Install**.

    The **Installing** screen appears with an installation progress bar.

    Once the progress indicates installation is complete, the **Completing the CollabNet Sub-version Server 1.6.0 Setup Wizard** window appears.

34. Clear the **Launch OpenCollabNet** box.
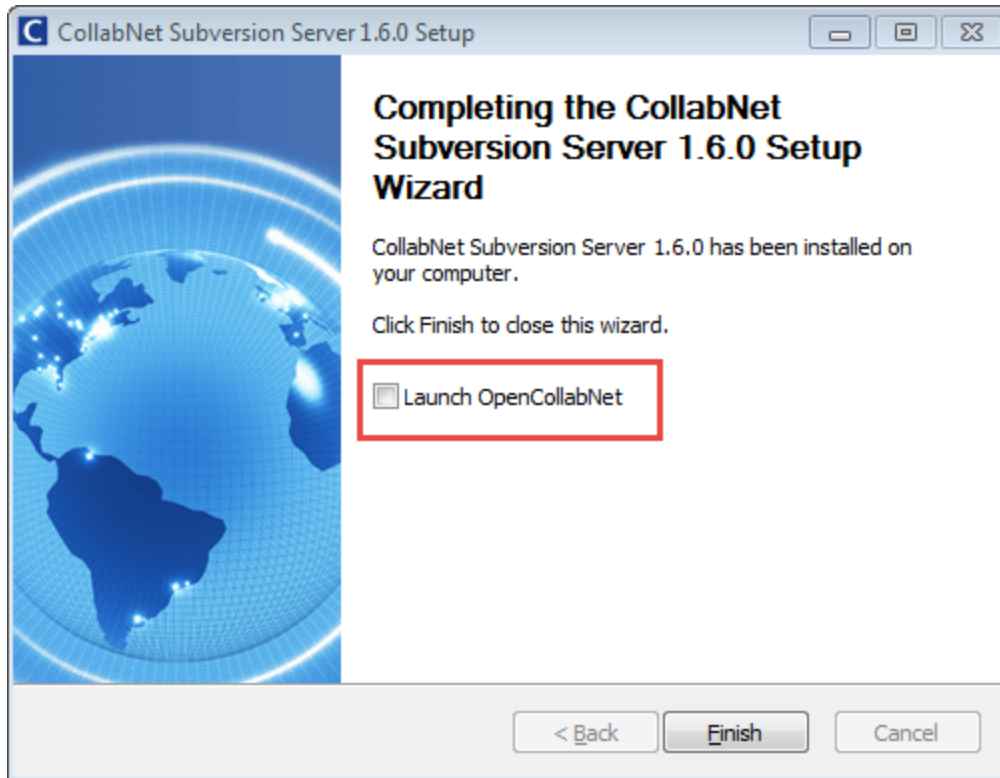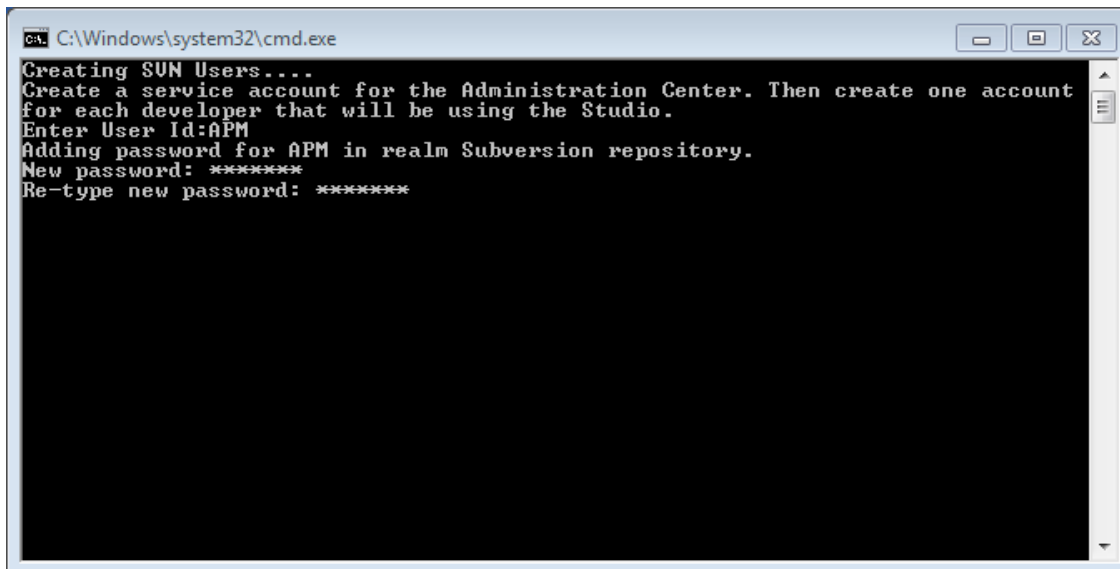
35. Select **Finish**.

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

36. Enter the a service account User ID.

37. Enter the a service account password.

38. 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*.

```
C:\Windows\system32\cmd.exe
Creating SUN Users....
Create a service account for the Administration Center. Then create one account
for each developer that will be using the Studio.
Enter User Id:APM
Adding password for APM in realm Subversion repository.
New password: ********
Re-type new password: ********
```

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

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

     -or-

     If you do not want to add additional users, enter *N*, and 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).

40. Enter a user ID for an APM Connect Studio user.

41. Enter a password for an APM Connect Studio user.

42. Reenter the password.

43. 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*, the **Completing the APM Connect Setup Wizard** appears.
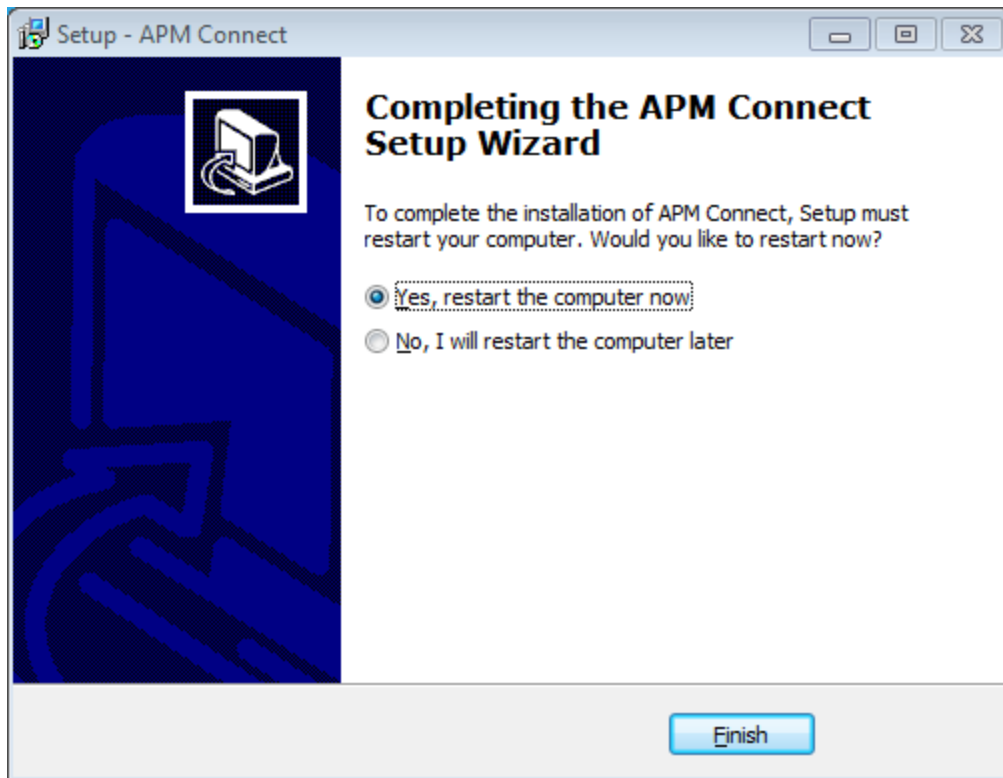
The **Yes, restart the computer now** check box should be selected.

44. Select **Finish**.

    APM Connect installer is complete.

    The machine will restart.

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

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.

Set Java Environment Variables

After you have run the APM Connect Installer, you must ensure the environment variables are set.

Steps

1. From your desktop, select the Windows Start button to open the Windows Start Menu.

2. Right-click **Computer**, and then select **Properties**.

   The properties details window appears.

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

   The **System Properties** window appears.

4. Select **Environment Variables**.

   The **Environment Variables** window appears.

5. In the systems variables section, select **New...**.

   The **New System Variable** window appears.

6. Enter the following in the **Variable name** box: JAVA_HOME

7. Enter the following in the **Variable value** box: <root:>\Program Files\Java\jdk1.7.0_71.

8. Select **OK**.

9. In the systems variables section, select **New...**.

   The **New System Variable** window appears.

10. Enter following in the **Variable name** box: JRE_HOME.

11. Enter the following in the **Variable value** box: <root:>\Program Files\Java\jre7.

12. Select **OK**.

    The Java environment variables are created.

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.

Set User Permissions

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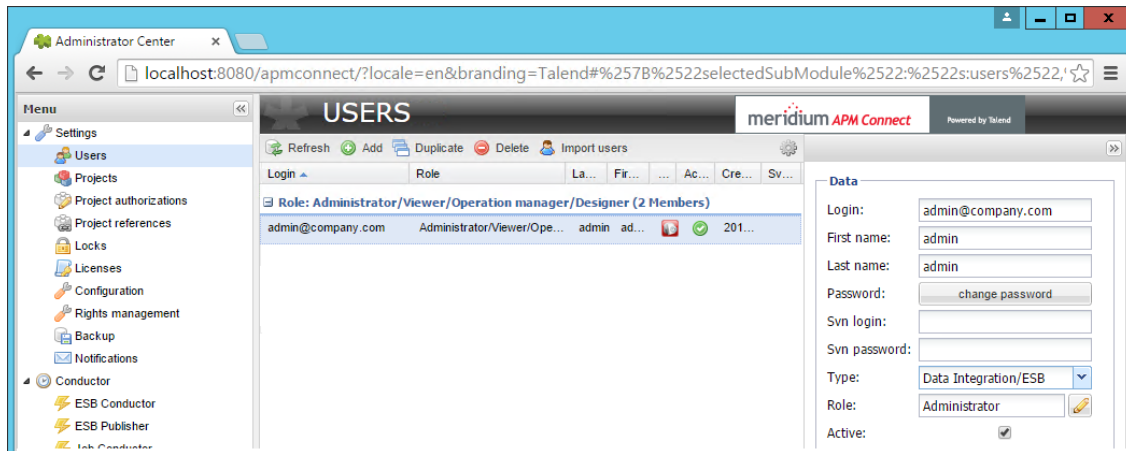
3. In the **Role** box, select .

   The **Role Selection** window appears.

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

   The Roles are defined in the following table:

Permission by Modules		
Role	Read	Write
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.

ℹ **Note:** No matter their assigned roles or rights, <u>a user must be authorized for a project</u> 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?

- 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.

Validate the APM Connect Administration Center License

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

Steps

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

The Validation request screen appears.
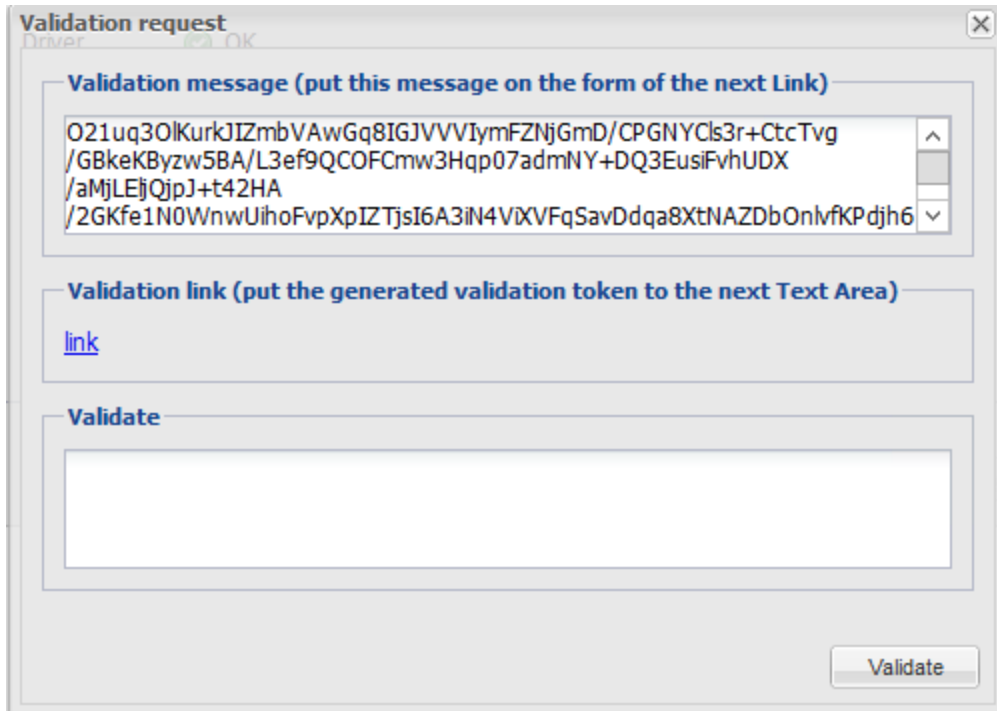
2. In the **Validation message (put this message on the form of the next Link)** box, copy the text.

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. Send the link to a machine that is not behind the firewall with internet access, via email or chat, and 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

O21uq3OlKurkJIZmbVAwGq8IGJVVVIymFZNjGmD/CPGNYCls3r+CtcTvg/GBkeKByzw5BA/L3ef9QCOFCmw3Hqp07admNY+DQ3EusiFvhUDX
/aMjLEljQjpJ+t42HA/2GKfe1N0WnwUihoFvpXpIZTjsI6A3iN4ViXVFqSavDdqa8XtNAZDbOnlvfKPdjh6Wj3Fnn4XrgZPdY//chdvxcVPe
InGeY6AR0gNq7BzFTBQFc9SR6xYAg7cmZhVDS002KPtet4D0KyEJ7rxNZDj7pZMwu/r55hGjHFOfsyFDEVfco5E/WQb6VliQpYv9NaIKcwgK
w4VG1siZP4jcduhYlFzgLRRDM2OL5k1Wem1IPTz0L3Q0PJElBSEnVDyzpqZ36XdAt34iaIBHo4RWReLJLOL3H9xzW+owMbx5Wc4C0N8R7gl9
4ZZnG2gVBnvK63NRtaVr4HcusrbgaM1Rljihq5dbvY78sbIo1DEvpzlJrnlsWI5fN08KrzgkUjx1rdYry25Vgji85h59W8ynNbvAxey58iAj
ViGXvYwD1nfulj3yQuINrGPCL9566uSEiYfnv28QiMoqLAYjleYccQvhvA263sqLDStlCaNVEIuR7v8XlEVF5r6lphejGRCbnFzTNg3f0cbu
AyTp3+hY2Kz5eWc/h4IL58vlgeIsk/uh+Ye1J61xPkwfPPiCOVfASKEL5/FG9Hkhlnqqawf CnIf2TTVE1G1ZzNdDIrXDz6XOO54QH3Z08ZBd
updLI9QuAfr9p8K5Ce4Kzx1VT9bjXFFZNm61Pknu7eQMODuBYx0Lnexls9gYgW4uGF15iIzfPFkA7YzrcLvISrpUj5xQzS23lAbb6ucMaIG7
p5C4quPvvLl/6M4DzlomQCmXEYM9+PIoDpSXmtNSqS0WucEykjjvAvyWny3jDtKxtd4/7/b4Ems4Ba1w8K06FIy6jzOmHnRESFLSElpm5/15
YbjG+3o0ewx7AFPpMMKg

Get your validation token

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?

- Return to the SAP Adapter workflow for the next step in the deployment process.
- Return to the Maximo Adapter workflow for the next step in the deployment process.
  -or-
- Return to the Data Loader workflow for the next step in the deployment process.

Troubleshoot Installation and Configuration

This topic provides a list of all topics describing how troubleshoot installing the APM Connect Common Components.

Install Java

> ⓘ **Note:** Java is a common application, and may already be installed on your machine.

Before you can install APM Connect, you must install Java 1.7 JDK on your machine. In addition to installing Java, you must configure environment variables for Java. This topic describes how to install Java 1.7 JDK.

Steps

To install Java:

1. On the machine on which you installed APM Connect, navigate to <root:>/APMConnect/java_installer.

2. Right-click the *jdk-7u71-windows-x64.exe* file, and select **Run as administrator**.

   The Java installer appears.

3. Follow the Java installer prompts.

   Java 1.7 JDK is installed.

To create the Java environment:

1. From your desktop, select the Windows Start button to open the Windows Start Menu.

2. Right-click **Computer**, and then select **Properties**.

   The properties details window appears.

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

   The **System Properties** window appears.

4. Select **Environment Variables**.

   The **Environment Variables** window appears.

5. In the systems variables section, select **New...**.

   The **New System Variable** window appears.

6. Enter the following in the **Variable name** box: JAVA_HOME

7. Enter the following in the **Variable value** box: <root:>\Program Files\Java\jdk1.7.0_71.

8. Select **OK**.

9. In the systems variables section, select **New...**.

    The **New System Variable** window appears.

10. Enter following in the **Variable name** box: JRE_HOME.

11. Enter the following in the **Variable value** box: <root:>\Program Files\Java\jre7.

12. Select **OK**.

    The Java environment variables are created.

Install Tomcat as a Windows Service

APM Connect uses Tomcat Server as the web server for the APM Connect Administration Center web application. This topic describes how to start Tomcat as a service.

Before You Begin

Before you can install Tomcat, you must complete the following:

- [Install Java](#).

Steps

To Install Tomcat as a Windows service:

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.
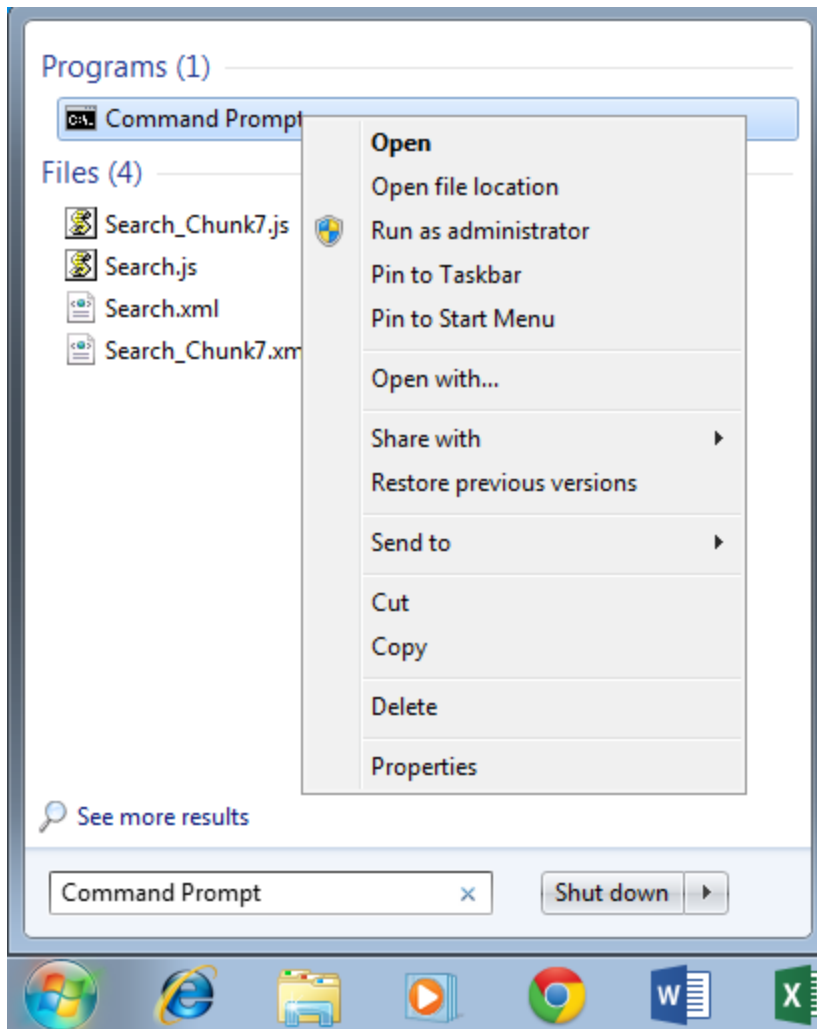
3. Right-click on **Command Prompt**, and then select **Run as administrator**.

4. The **Administrator: Command Prompt** window appears.
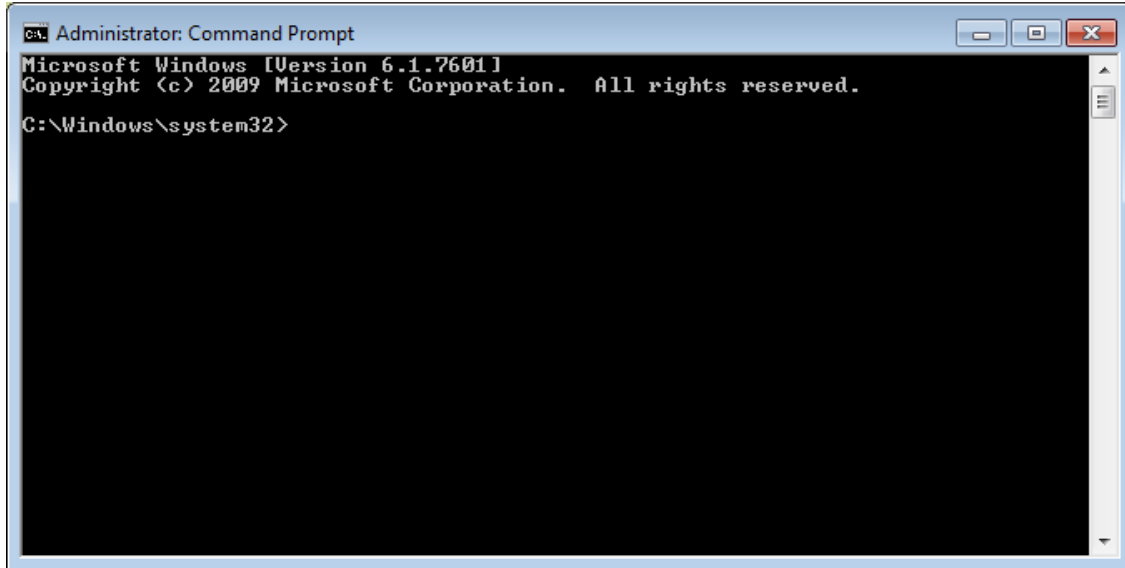
5. Change the directory path to *<root:>\APMConnect\Utilities\Tomcat\bin*, and enter the following command: **service.bat install TAC_Tomcat**.

6. Press Enter.

   The following message appears : *C:\APMConnect\Utilities\Tomcat\bin>service.bat install TAC_Tomcat Installing the service 'TAC_Tomcat' ...Using CATALINA_HOME: "C:\APMConnect\Utilities\Tomcat" Using CATALINA_BASE: "C:\APMConnect\Utilities\Tomcat" Using JAVA_HOME: "C:\Java\jdk1.7.0_51" Using JRE_HOME: "C:\Java\jdk1.7.0_51\jre" Using JVM: "C:\Java\jdk1.7.0_51\jre\bin\server\jvm.dll" The service 'TAC_Tomcat' has been installed.*

   Tomcat is installed as a Windows service.

To check Tomcat is started as a Widows 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 the *Run* program.

   The **Run** program appears in the Programs list.

3. Open the **Run** program.

   The **Run** window appears.

4. In the **Open** box, enter: **services.msc**.
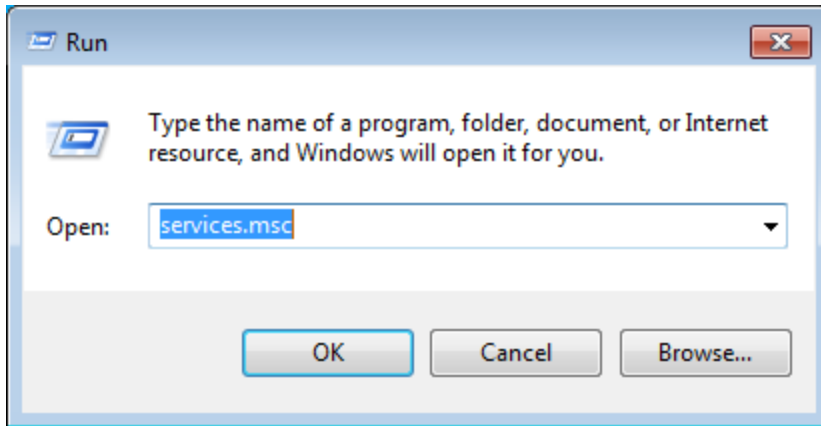
5. Select **OK**.

    The **Services** window appears.

    If the service has started, the status of Apache Tomcat 7.0 TAC_Tomcat will be **Running**.
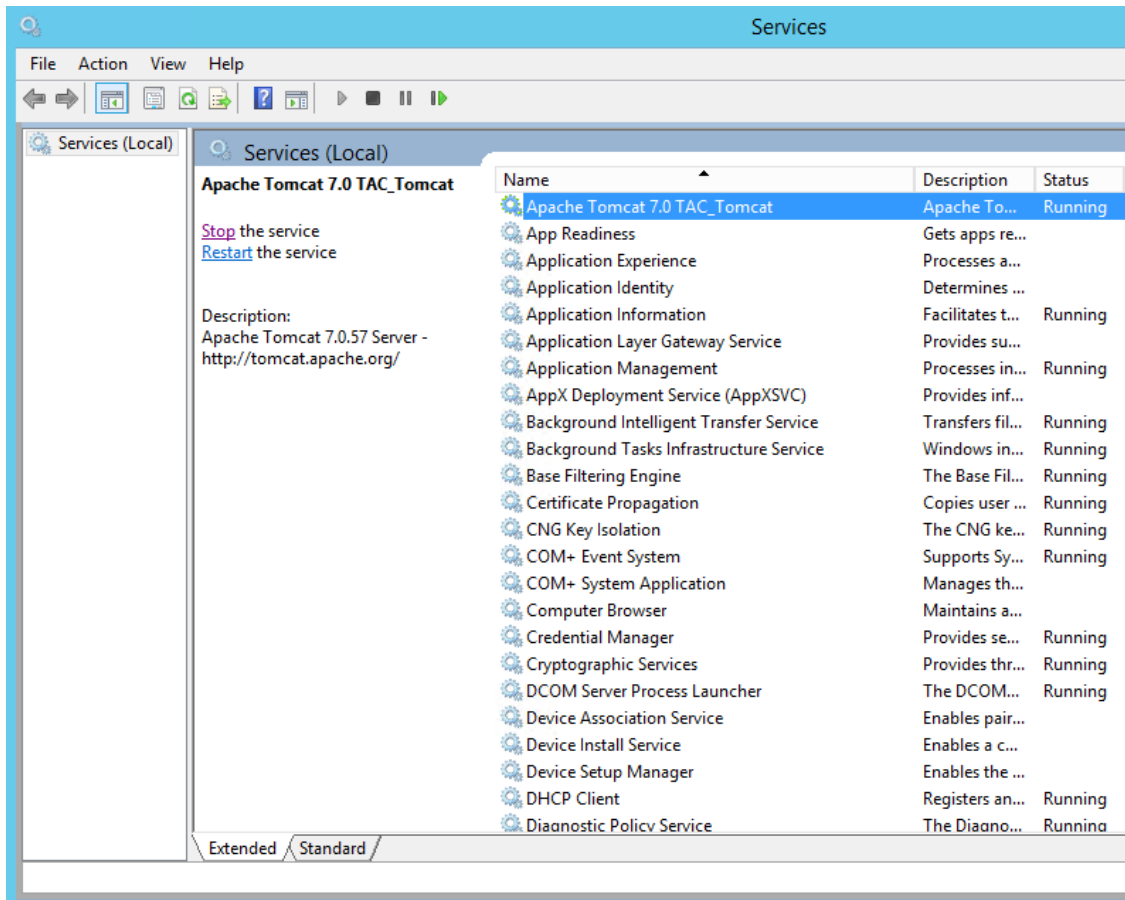
6. If the service has not started, select **Start**.
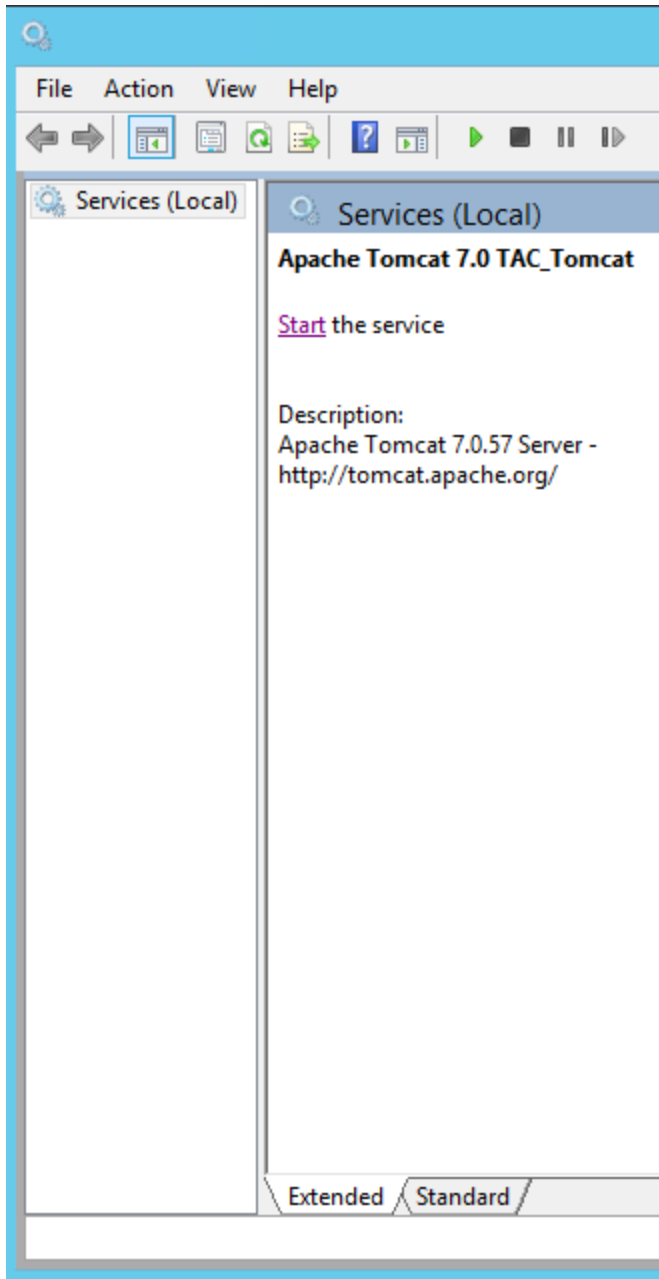
Tomcat is installed and started as a Windows service.

Install the SVN Server

> ⓘ **Note:** If you are installing APM Connect with a Basic or Plus License, skip this procedure and proceed to the next step in the installation process.

Apache Subversion (SVN) is a software versioning and revision control system that maintains current and historical versions of files such as source code, web pages, and documentation. APM Connect uses SVN to track all modifications made to APM Connect Jobs, and to provide rollback capability, allowing users to revert to any previous revision. This topic describes how to install, configure, and create users for the SVN server.

Steps

1. On the machine on which you installed APM Connect, navigate to *<root:>\APMConnect\SVN*.

2. Open the *CollabNetSubversion-server-1.6.0-2.win32.exe* file.

    The **CollabNet Subversion Server 1.6.0 Setup** window opens.
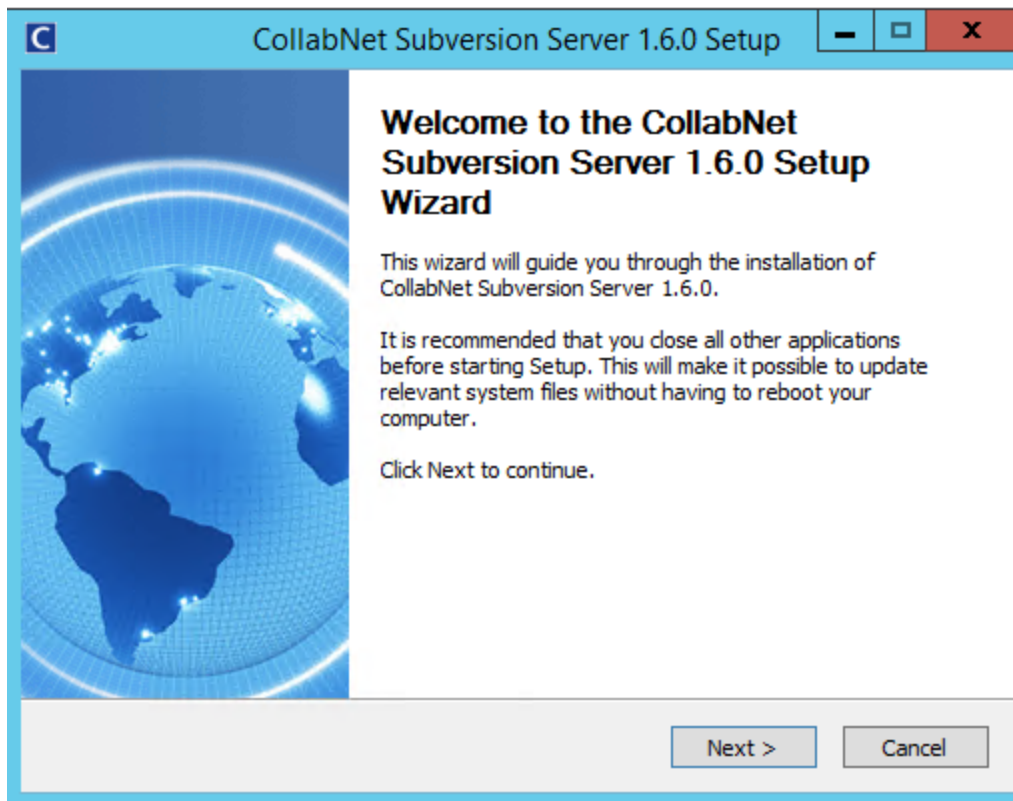
3. Select **Next**.

The **View Latest Readme** screen appears.

4. Select **Next**.

The **Choose Components** screen appears.
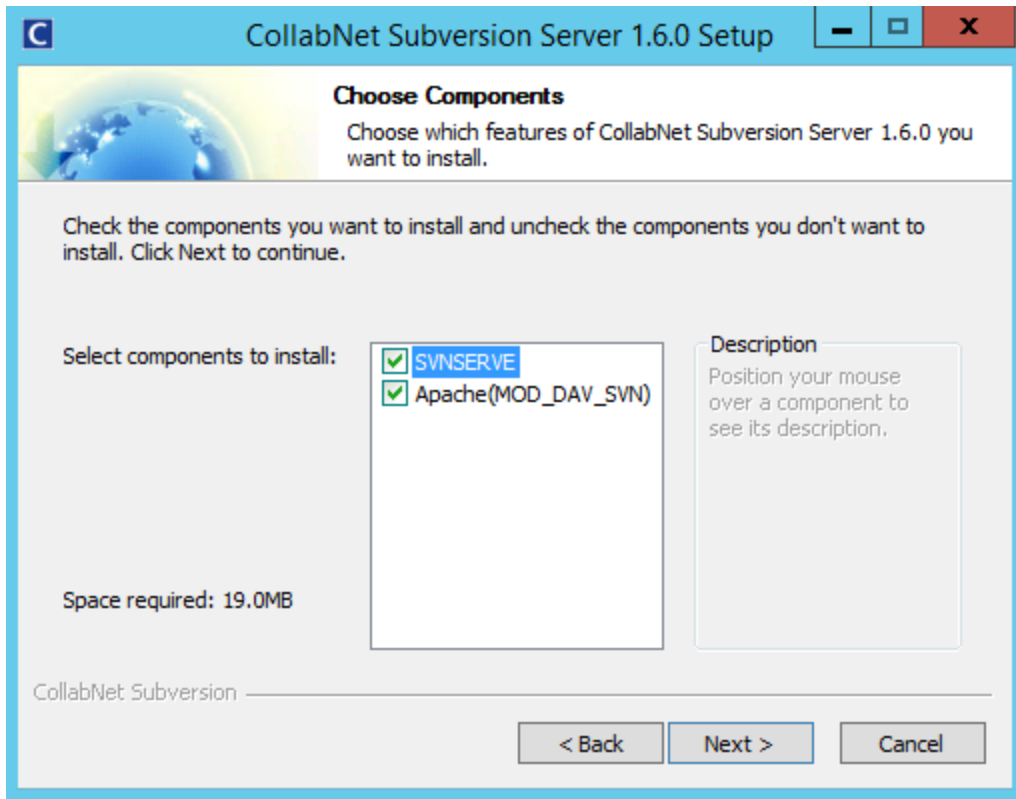
The **SVNSERVE** check box and the **Apache(MOD_DAV_SVN)** check box should be checked.

5. Select **Next**.

The **svnserve Configuration** screen appears.

6. Enter *<root:>\APMConnect\SVN\Repositories\svnserv* into the **Repository Path** box, as shown in the following image:
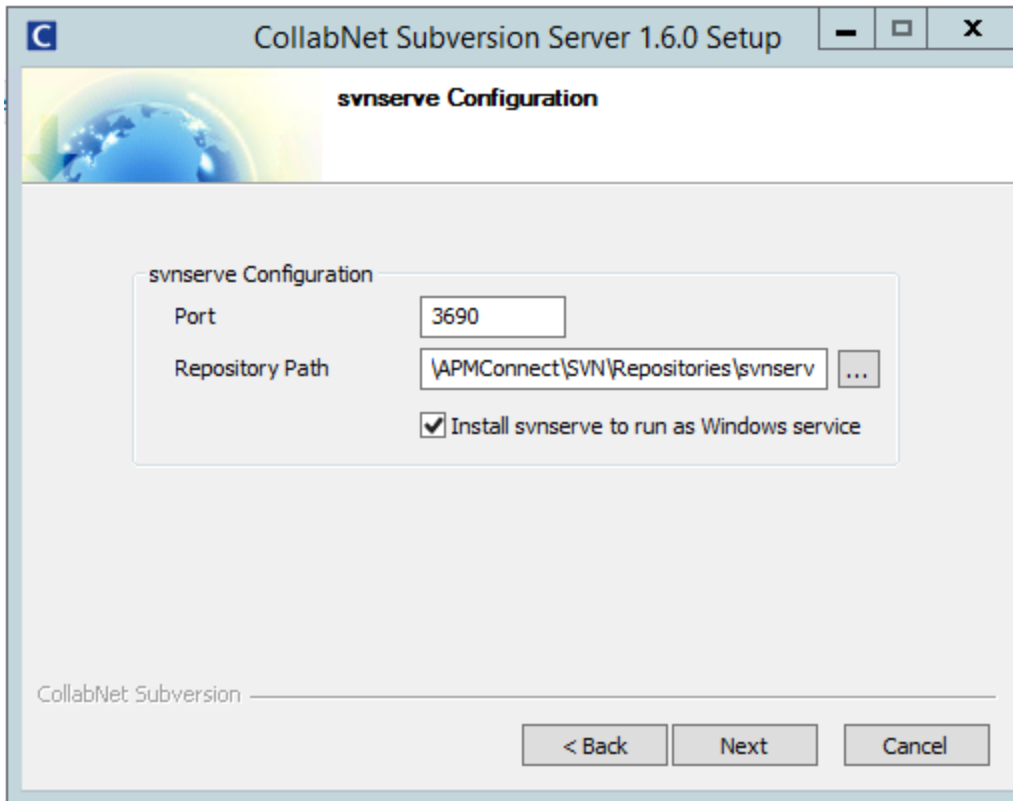
> (i) **Hint:** If the default configuration is followed, the Port number will be 3690. The Port number will be used in later configuration. Be sure to record it.

7. Select **Next**.

   The **Apache Configuration** screen appears.

8. Enter *<root:>\APMConnect\SVN\Repositories\svnserv* into the **Repository Path** box.
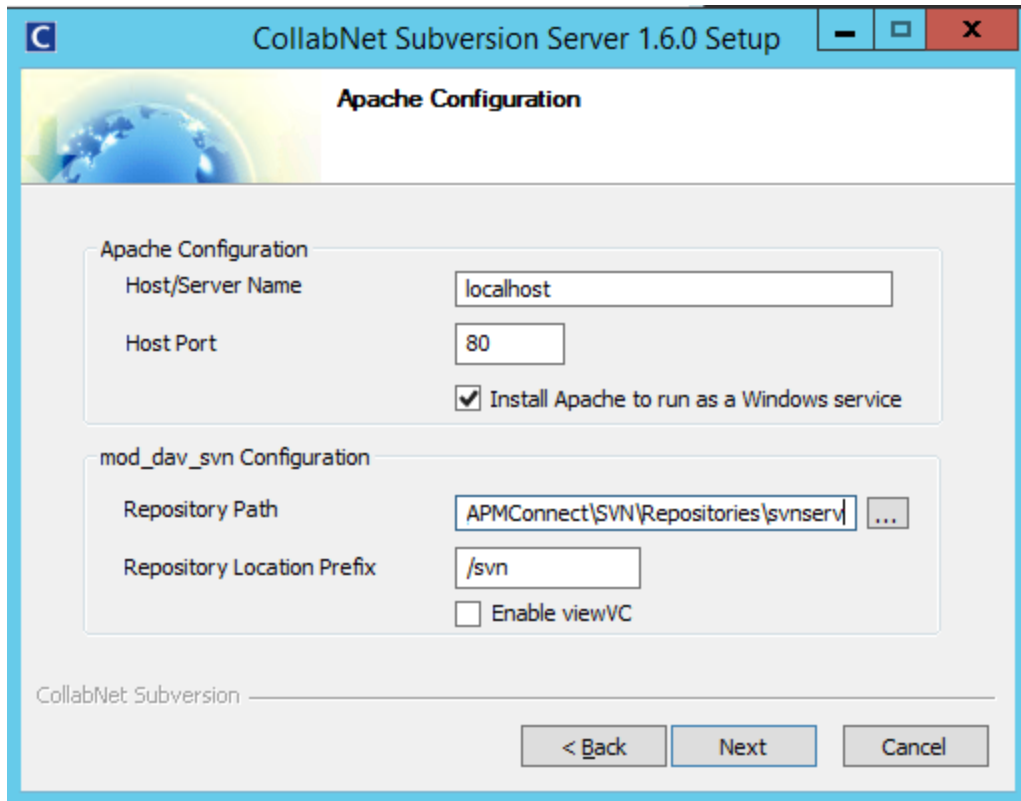
9. Select **Next**.

   The **Choose Install Location** screen appears.

10. Enter *<root:>\APMConnect\SVN\CollabNetServer* in the **Destination Folder** box.
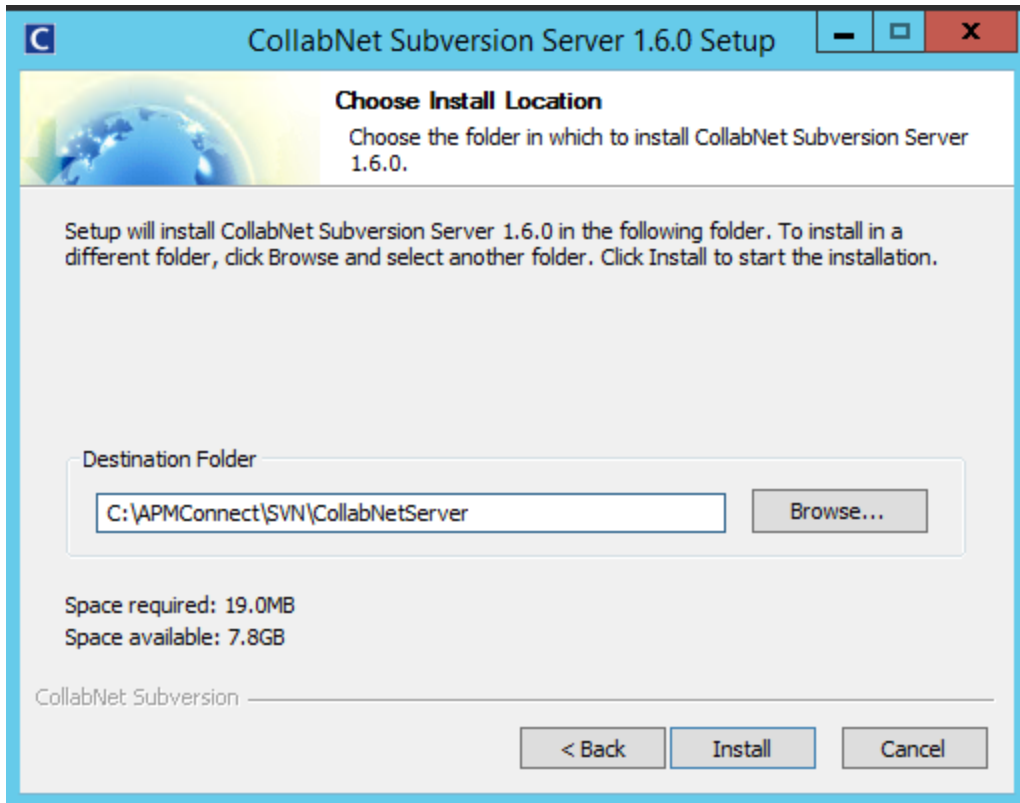
11. Select **Install**.

    The installing screen appears with an installation progress bar.

    Once the progress indicates installation is complete, the **Completing the CollabNet Sub-version Server 1.6.0 Setup Wizard** screen appears.
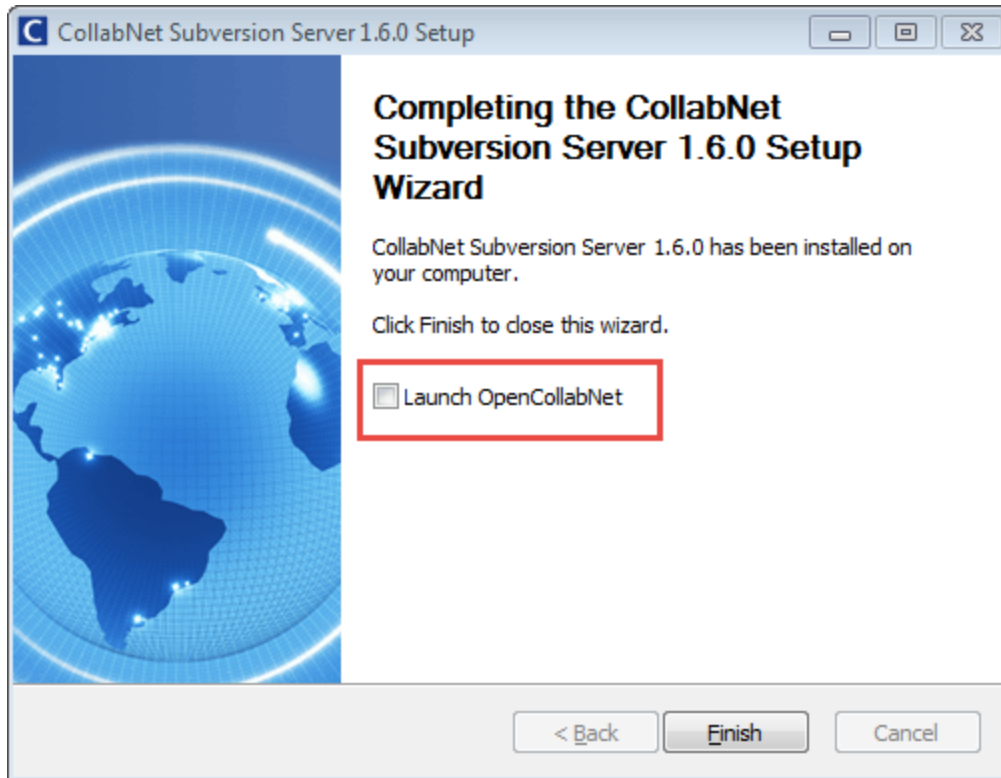
12. Clear the **Launch OpenCollabNet** check box.

13. Select **Finish**.

    The SVN server is installed.

What's Next?

After installing the SVN server, you are ready to complete the following:

- [Configure the SVN server](#).

Configure the SVN Server

> ⓘ **Note:** If you are installing APM Connect with a Basic or Plus License, skip this procedure and proceed to the [next step in the installation process](#).

Before the SVN server is fully functional, you will need to configure the SVN server, create users, and create passwords. This topic describes how to configure the SVN server.

Before You Begin

To use the SVN server, you must first complete the following:

- [Install the SVN server](#).

Steps

To configure the SVN server:

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.*

    The **Command Prompt** appears in the **Programs** list.
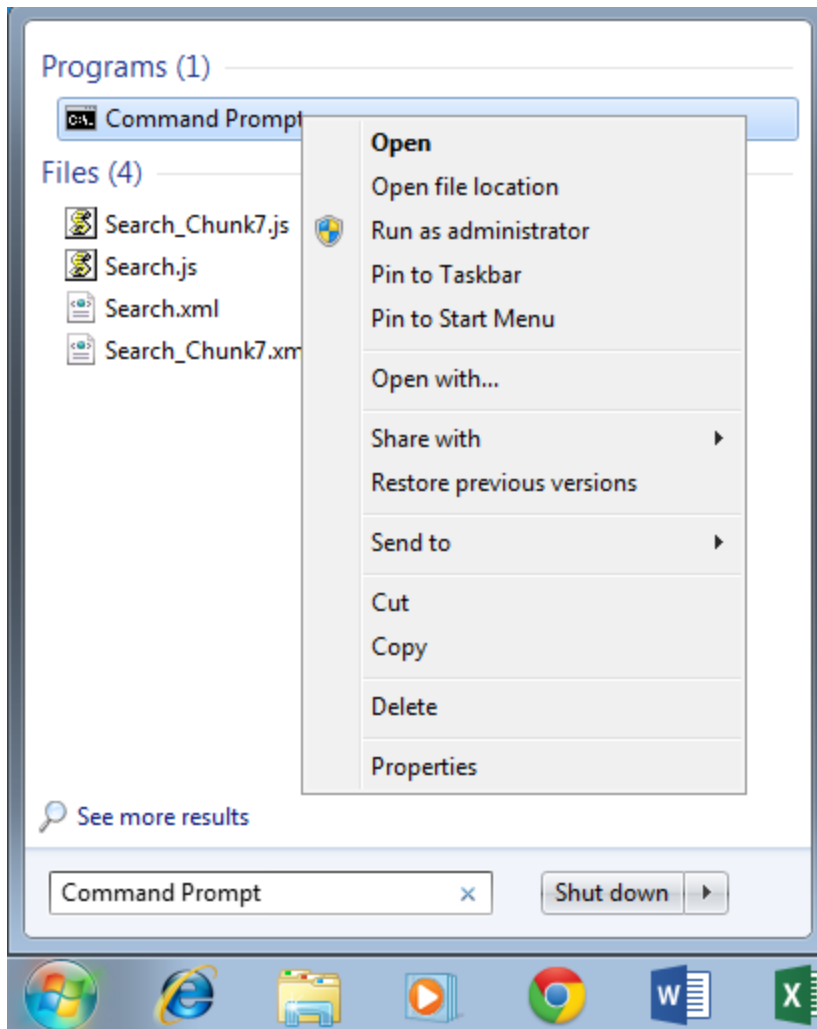
3. Right-click on **Command Prompt**, and then select **Run as administrator**.

4. The **Administrator: Command Prompt** window appears.
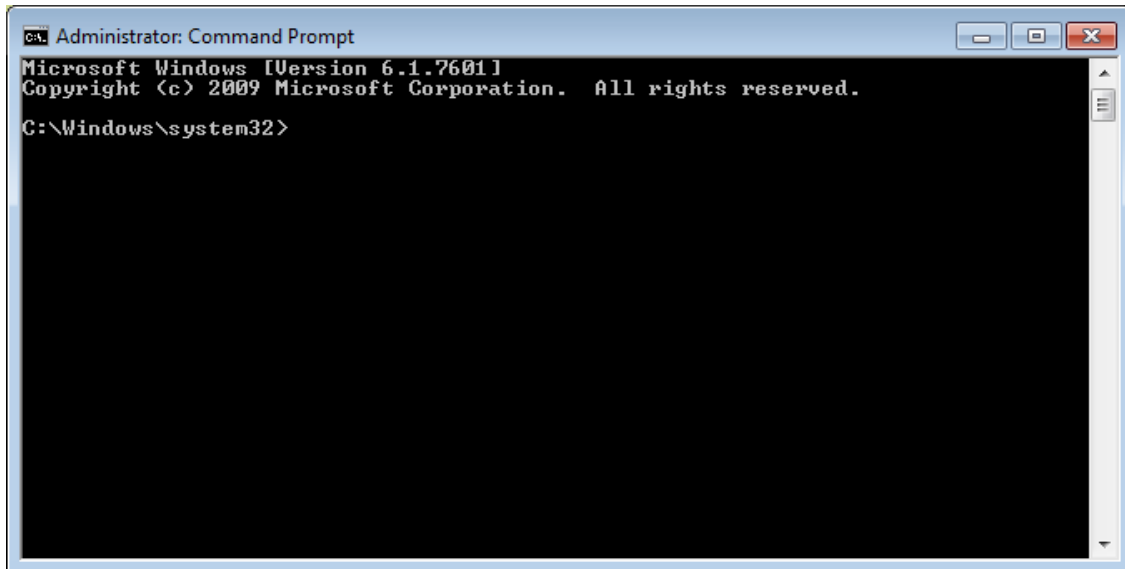
5. Change the directory path to the following: *cd <root:>\APMConnect\SVN\Repositories\svnserv*.

6. Enter the following script: *svnadmin create MIAPMINT*.

⚠️ **Important:** The repository must be named MIAPMINT.
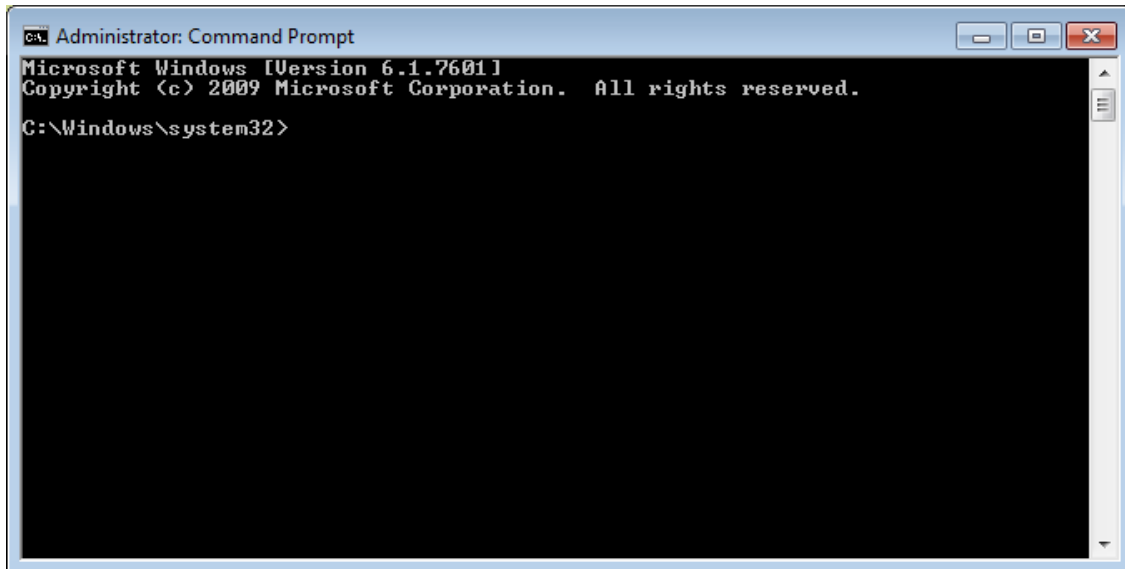
7. Press Enter.

8. Close the Command Prompt.

   The SVN server is configured.

To create SVN users:

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*.

   The **Command Prompt** appears in the **Programs** list.
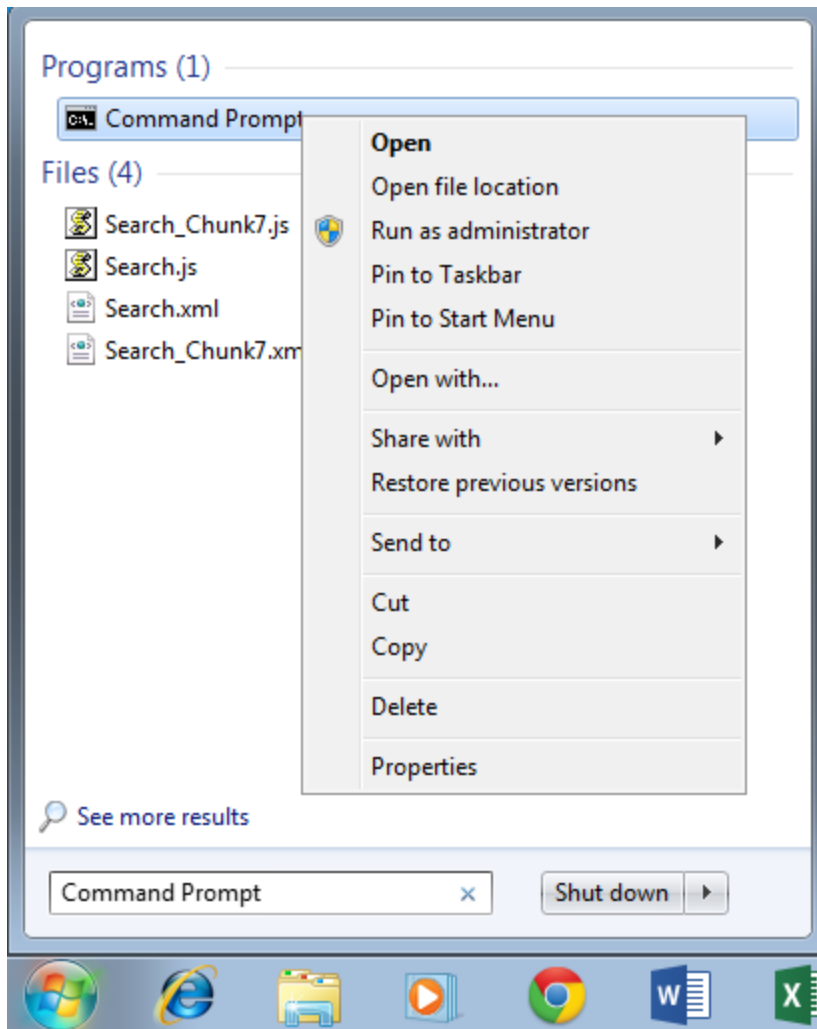
3. Right-click on **Command Prompt**, and then select **Run as administrator**.

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

5. Change the directory path to the following: *<root:>\APMConnect\SVN*.

6. Enter the following script: *add_svn_users.bat*.

7. Press Enter.

   The following message appears:
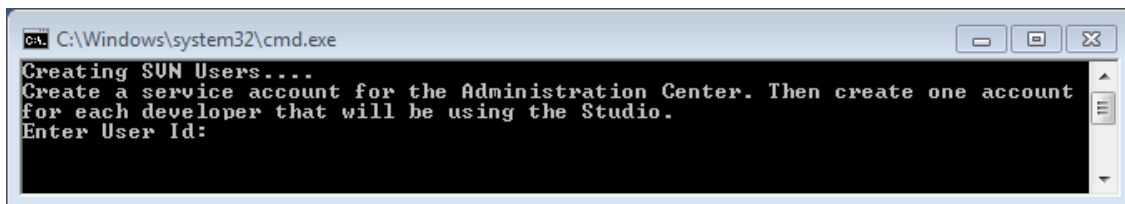
8. Enter the recommended service account User ID: *APM*.

9. When prompted, enter the recommended service account password: *Connect*.

10. When prompted, reenter the service account password: *Connect*.

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

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

    -or-

    If you do not want to add additional users, enter *N*.

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

12. Enter a User ID for an APM Connect Studio user.

13. Enter a password for an APM Connect Studio user.

14. Reenter the password.

15. Repeat steps 11 through 14 for each user that will use APM Connect Studio.

> ⓘ **Hint:** Be sure to record the User IDs 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.

16. Close the Command Prompt.

SVN users are created.

Install and Configure PostgreSQL

> ⓘ **Note:** PostgreSQL server installation only applies to the single server, embedded server configuration.

PostgreSQL is the tool used for the Intermediate Repository (IR). Before you can begin data extractions, you must install and configure PostgreSQL. This topic describes how to install PostgreSQL.

Steps

To Install and Configure PostgreSQL:

1. On the machine on which you installed APM Connect, navigate to the <root:>/APMConnect/Postgresql folder.

2. Open the *postgresql-9.3.5-3-windows-x64.exe* file.

   The **Setup - PostgreSQL Wizard** appears.
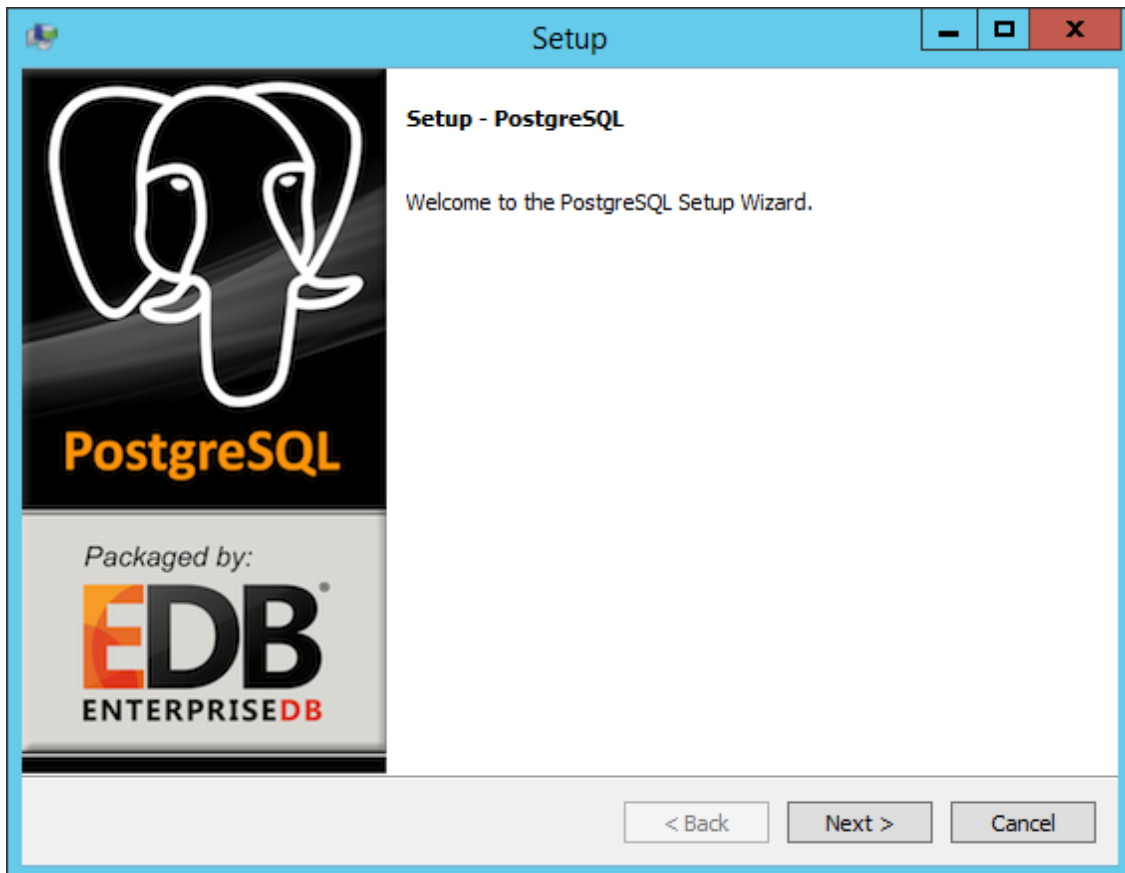
3. Select **Next**.

The **Installation Directory** screen appears, prompting you to select the location where APM Connect PostgreSQL will be installed. By default, the PostgreSQL will be saved to the following folder: <root:>\Program Files\PostgreSQL\9.3.

4. In the **Installation Directory** box, enter the following the path where PostgreSQL will be installed: *<root:>\APMConnect\Postgresql*.

> ⚠ **Important:** These instructions, and all subsequent instructions, assume that PostgreSQL for APM Connect is installed in the default folder path: *<root:>\APMConnect\Postgresql*.
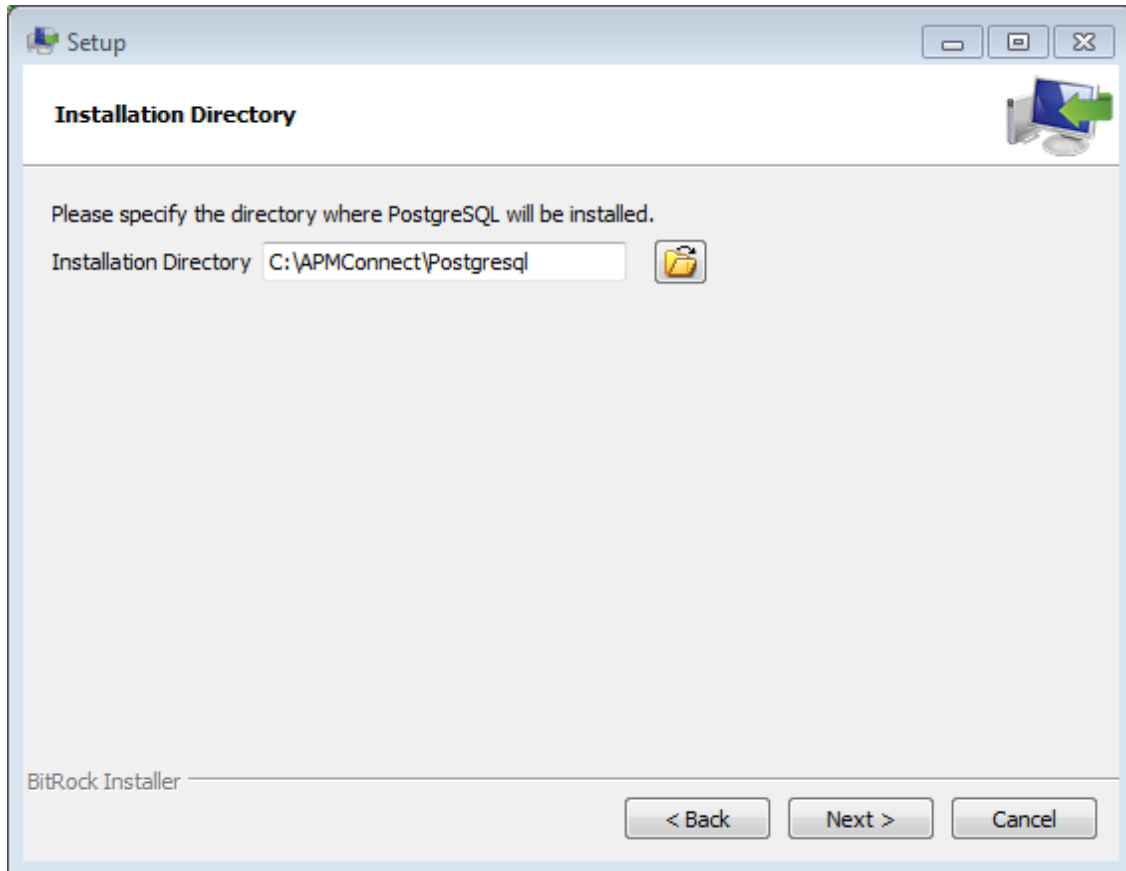
If you are satisfied with the default location, select **Next**.

-or-

If you want to change the location where the software will be installed, select 📂 , and then navigate to the location where you want to install PostgreSQL for 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 **Data Directory** screen appears.

6. In the **Data Directory** box, enter the following directory in which data will be stored: <root:>\APMConnect\Postgresql\data.

7. Select **Next**.

   The **Password** screen appears.

8. In the **Password** box, enter the following password: admin.

   > ⓘ **Hint:** This password will be used as a service account for PostgresSQL, and is needed in later configuration. Be sure to record it.

9. Select **Next**.

   The **Port** screen appears.

10. In the **Port** box, enter the port number that the server will use.

    > ⓘ **Hint:** The port number is the SVN server port number. If the default configuration was used, the port number is 5432. Additionally, the port number is needed in later configuration. Be sure to record it.

11. Select **Next**.

    The **Advanced Options** screen appears.

12. In the **Locale** list, select the **Default Locale** option, which will be used by the new database cluster.

13. Select **Next**.

    The **Ready to Install** screen appears.

14. Select **Next**.

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

    After the installation bar indicates the installation is complete, the **Completing the PostgreSQL Setup Wizard** screen appears.
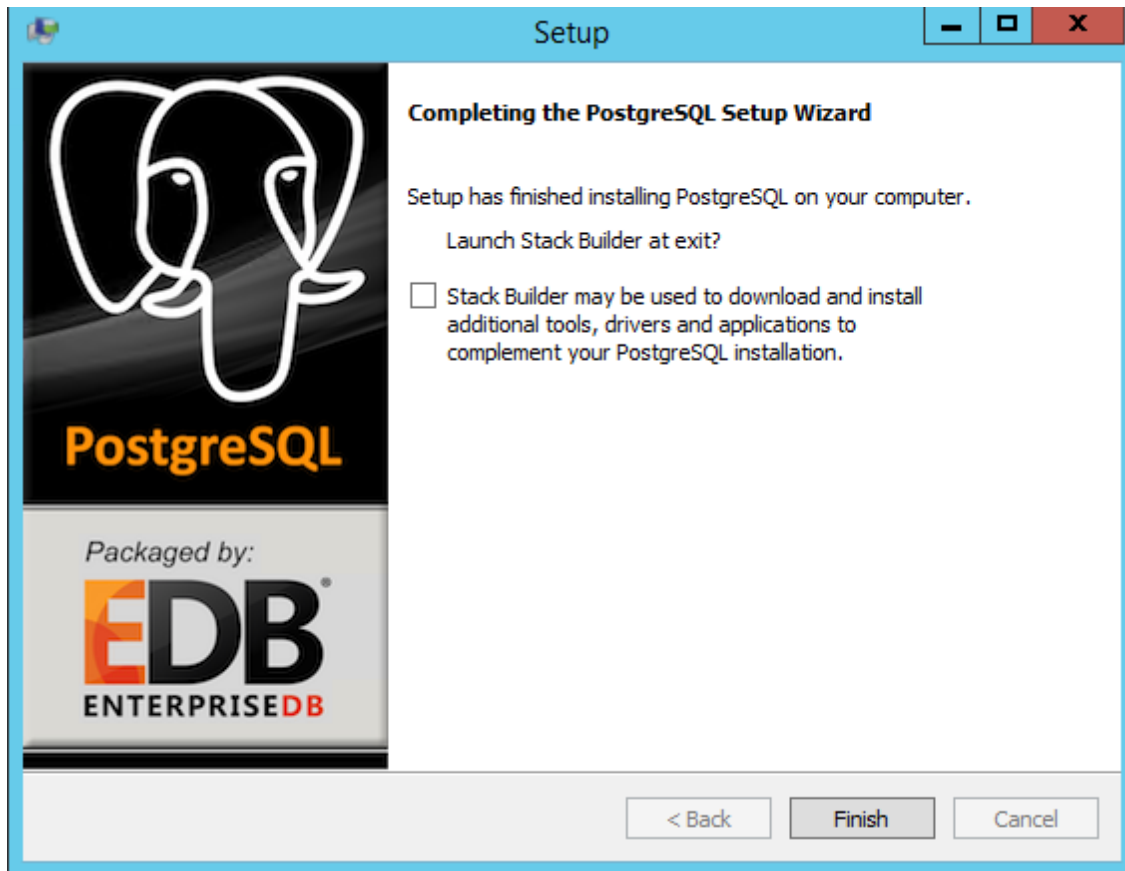
> **Note:** The Stack Builder check box does not need to be checked.

15. Select **Finish**.

PostgreSQL server is installed.

Test and Install APM Connect Logserv

The APM Connect Logserver stores logs and other time-based event data from any system in a single location for additional transformation and processing. The Logserver will organize data sources so that they can then be searched and displayed. This topic describes how to test and install APM Connect Logserv.

Before You Begin

Before you can install the APM Connect Logserv, you must complete the following:

- [Test and Install the Jobserver](#).

Steps

To install APM Connect Logserv:

1. On the machine on which you installed APM Connect, navigate to <root:>\APMConnect\Utilities.

2. Locate the logserv folder.

3. Press Shift and right-click on the logserv folder.

   The **Options** menu appears.
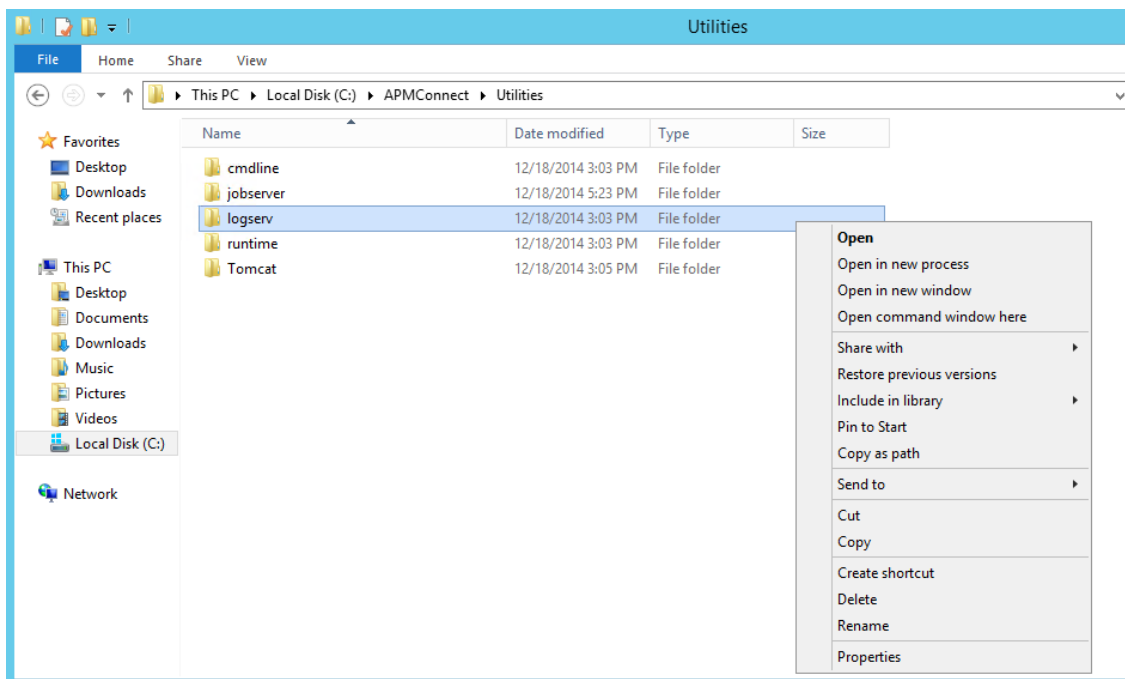
4. Select **Open command window here**.

The **<root:>\Windows\system32\cmd.exe** windows opens.

5. Execute the following command: jsl_static64.exe -debug.

6. Press Ctrl+C to close Logserv.

7. From your desktop, select the Windows Start button to open the Windows Start Menu.

8. In the **Search programs and files** box, enter: Command Prompt.

Command Prompt appears in the **Programs** list.
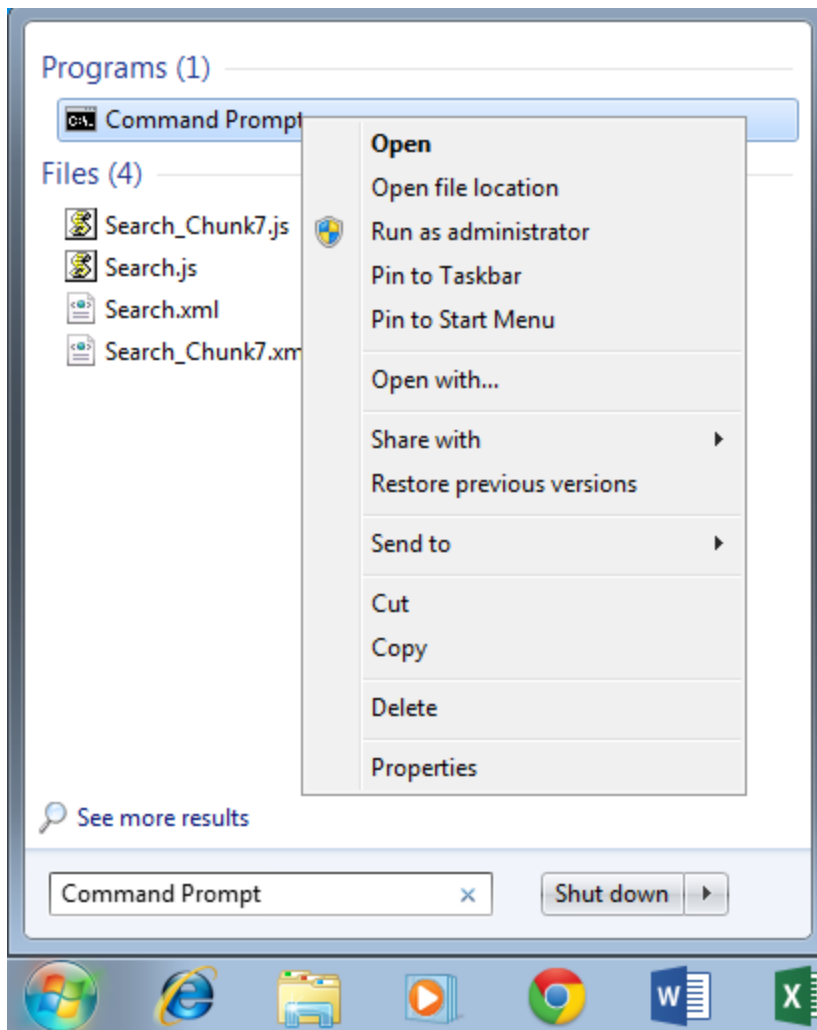
9. Right-click on **Command Prompt**, and then select **Run as administrator**.

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

11. Change the directory to: <root:>\APMConnect\Utilities\logserv.

12. Execute the following command: jsl_static64.exe -install.

The Logserv is installed.

Test SVN Server Installation

After the SVN server is installed and configured, you can check that all of its components are working together correctly. The SVN server relies on several layers of components, including Apache server and Tomcat web server. This topic describes how to test that the Apache server, the Tomcat web server, and the SVN server are working properly.

Steps

To test the Apache server:

1. Open a web browser.

2. Enter the following URL into the browser: *http://localhost/*.

3. Navigate to the URL.

    The following message appears in the browser:
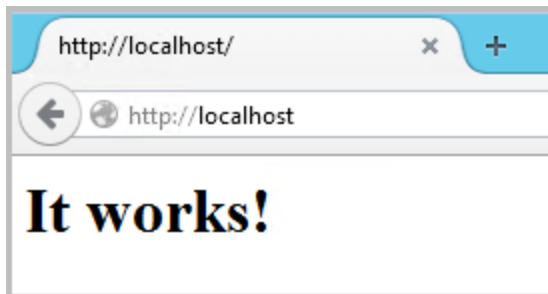
To test the Tomcat web server:

1. Open a web browser.

2. Enter the following URL into the browser: *http://localhost:8080/*.

3. Navigate to the URL.

    The following message appears in the browser:
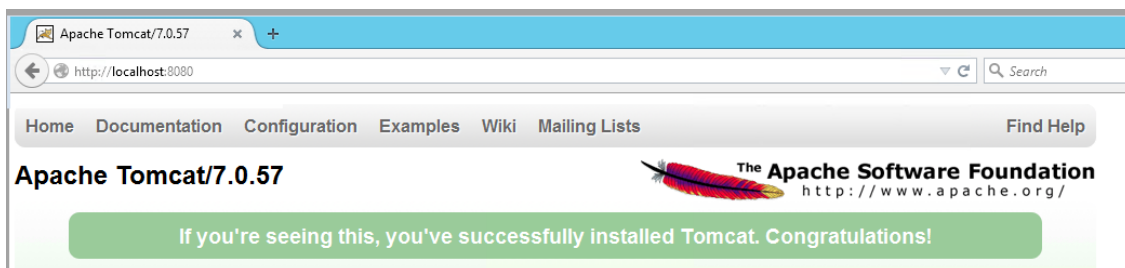
To test the SVN server:

1. Open a web browser.

2. Enter the following URL into the browser: *http:/localhost/apmconnect /svn/MIAPMINT*.

3. Navigate to the URL.

   The **Authentication Required** window appears, prompting you to enter the SVN user name and password.
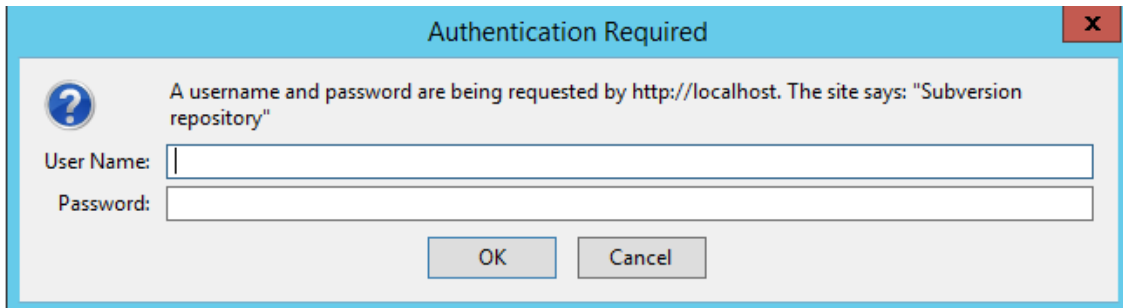
4. Enter the user name and password.

   > ⓘ **Note:** If the default configuration was followed, the SVN user name is *APM* and the password is *Connect*.

5. Select **OK**.

   The following message appears in the browser:

   The SVN components are checked.

Start the APM Connect Services

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

Steps

To manually start the installed APM Connect components as Windows services:

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**.
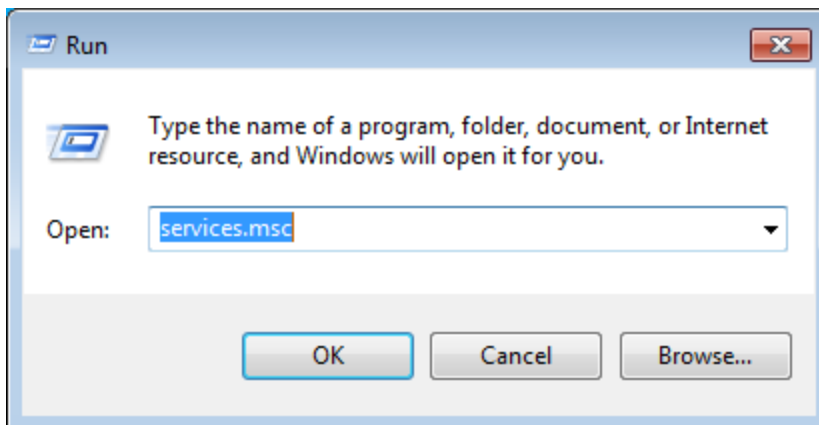
5. Select **OK**.

   The **Services** window appears.
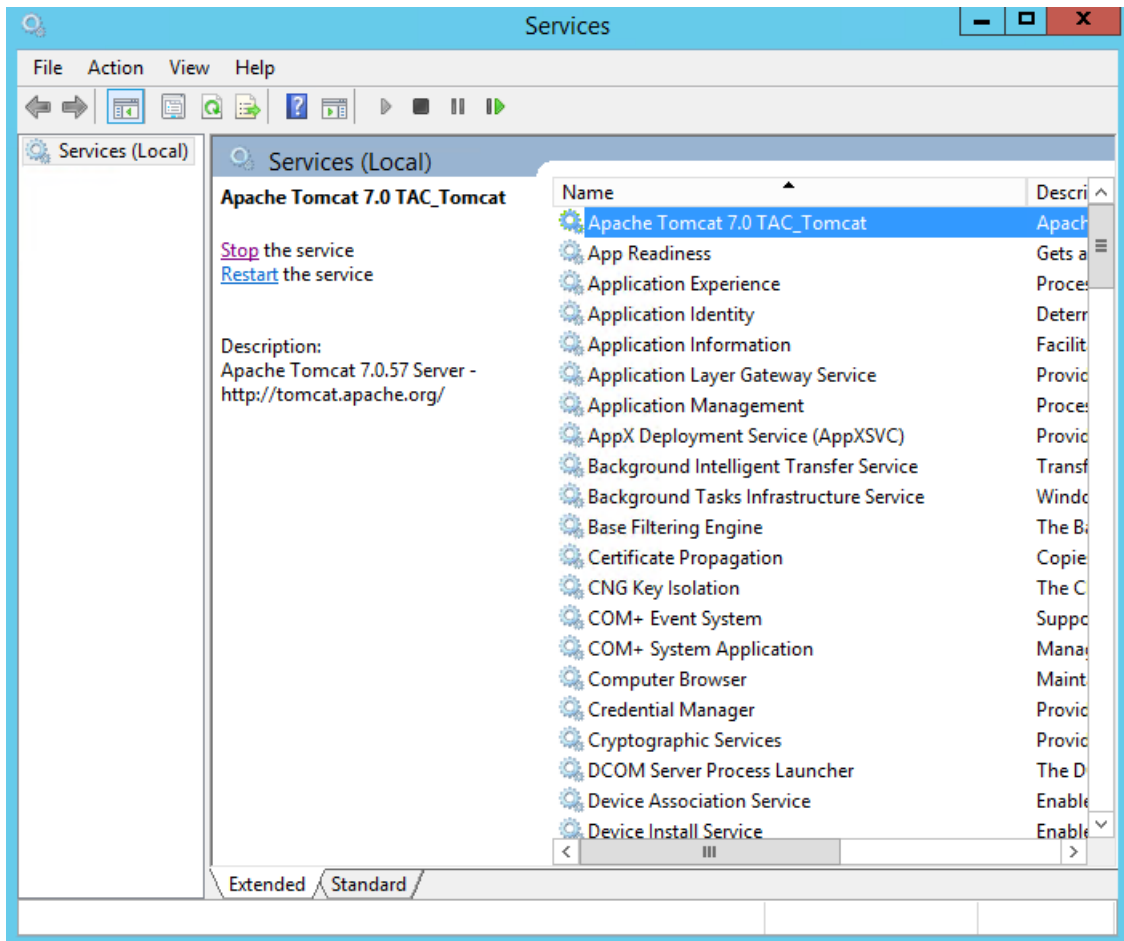
6. Select the service you want to start, and then select the **Start** link. The following services should all be started to complete installation:

- Apache Tomcat 7.0 APMConnect_Tomcat
- Apache2.2
- APMConnect_LogServ
- APMConnect_Commadline

7. Close the **Services** window.

The APM Connect services are started.

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.

Deploying 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. All steps are required unless otherwise noted.

Step	Task	Notes
1	Access the APM Connect installation package.	None
2	Ensure that you meet the software and hardware system requirements for APM Connect.	None
3	Run the APM Connect installer.	None
4	Set Java Environment Variables.	None
5	Update PostgreSQL Networking Configuration.	None
6	Access the APM Connect Administration Center web application.	None
7	Configure the APM Connect Administration Center web application.	None
8	Set User Permissions.	None
9	Install and Start the Runtime Container.	None
10	Configure the Execution server.	None
11	Create Projects.	None
12	Authorize Users for Projects.	None
13	Create APM Service User.	None
14	Import Adapter Jobs.	None
15	Create Intermediate Repository.	None
16	Establish Connection from Meridium Enterprise APM	None
17	Change the H2 Console Password.	None
18	Change the APM Connect Administration Center Password.	None

19	Activate Your APM Connect License .	None
20	Set Permissions for the APM Connect Directory.	None

Upgrading APM Connect Data Loaders to V1.5.3

The following tables outline the steps that you must complete to upgrade this module to DL V1.5.3.

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 DL V1.0.0 through DL V1.5.2

Step	Task	Notes
1	Upgrade the Meridium Enterprise APM database.	Basic, Plus, or Studio
2	Upgrade the adapter jobs by deleting the previous set of jobs and <u>importing the new jobs.</u>	Basic, Plus, or Studio

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 install-ation 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?

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

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.

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.

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*.

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.
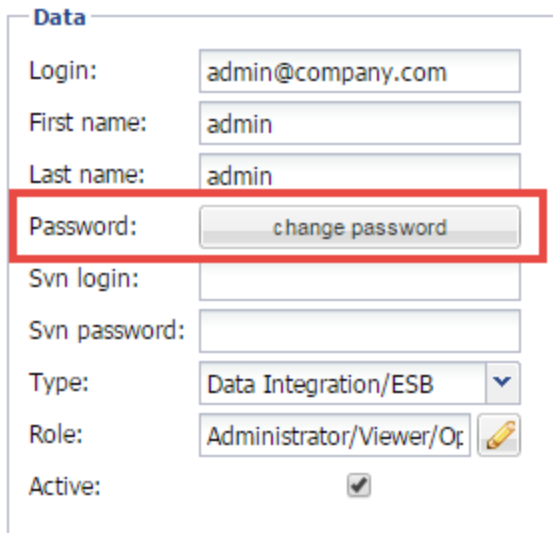
What's Next?

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

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 **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?

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

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**.
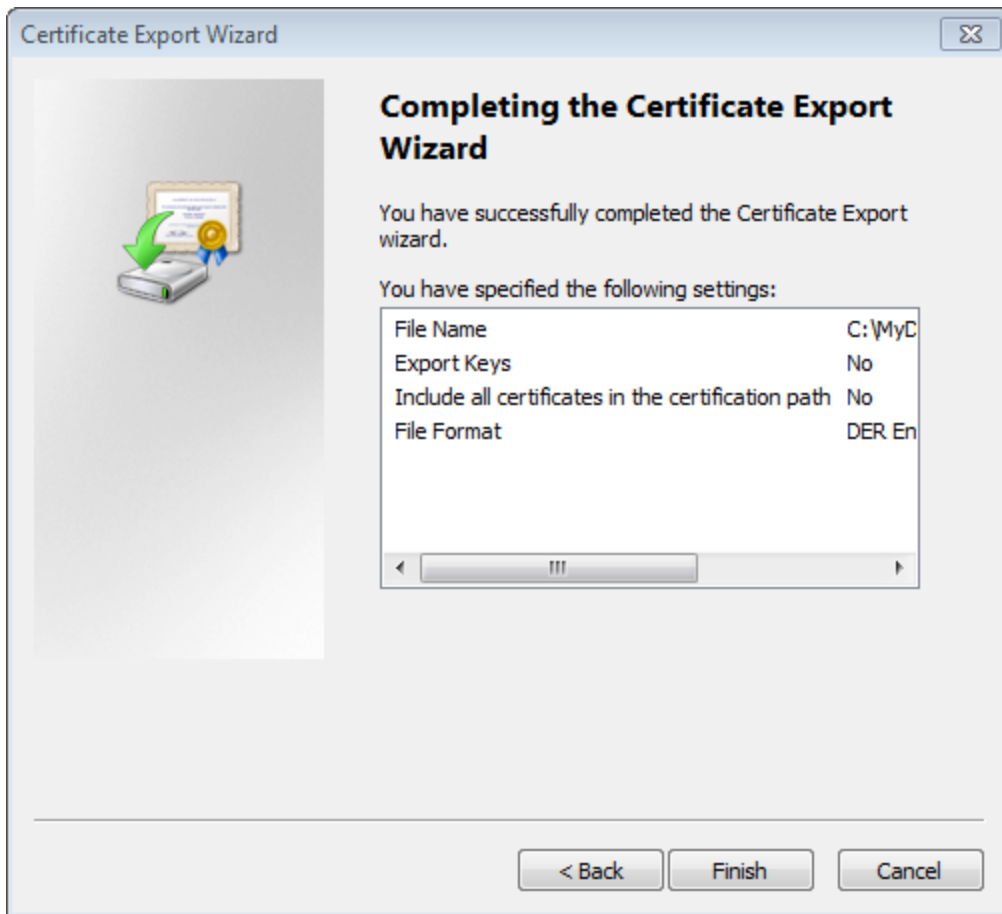
8. Select **Finish**.

   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.
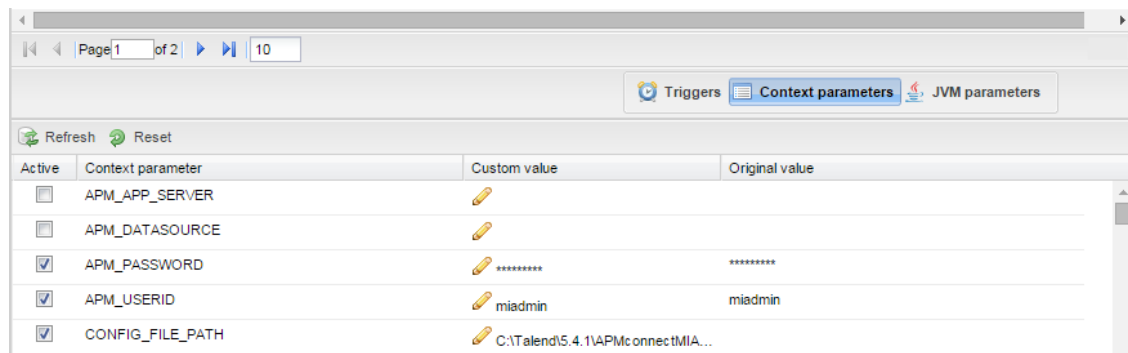
19. Enter the following values for the corresponding parameters:

- **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.

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**.
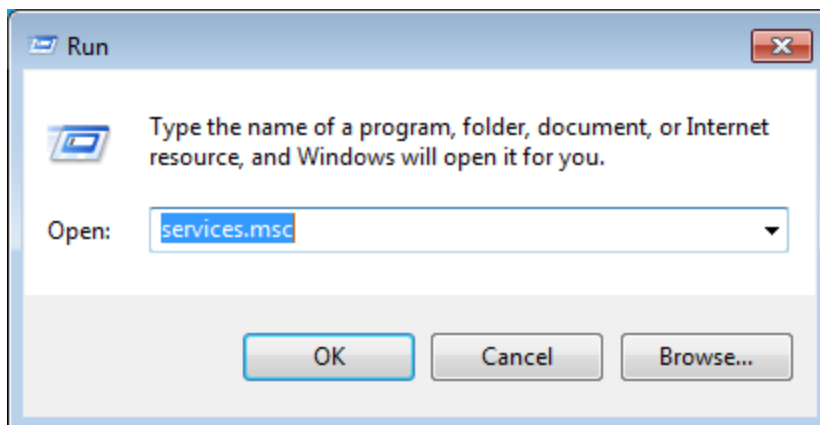
5. Select **OK**.

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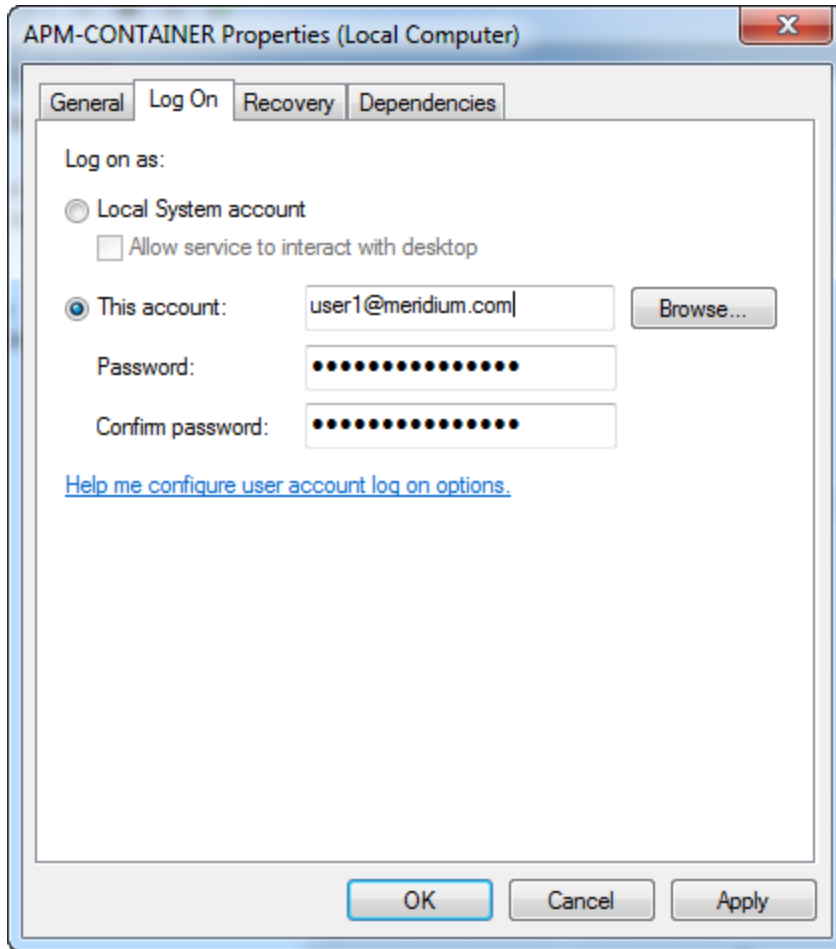
9. Select **Apply**, and then select **OK**.

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*.
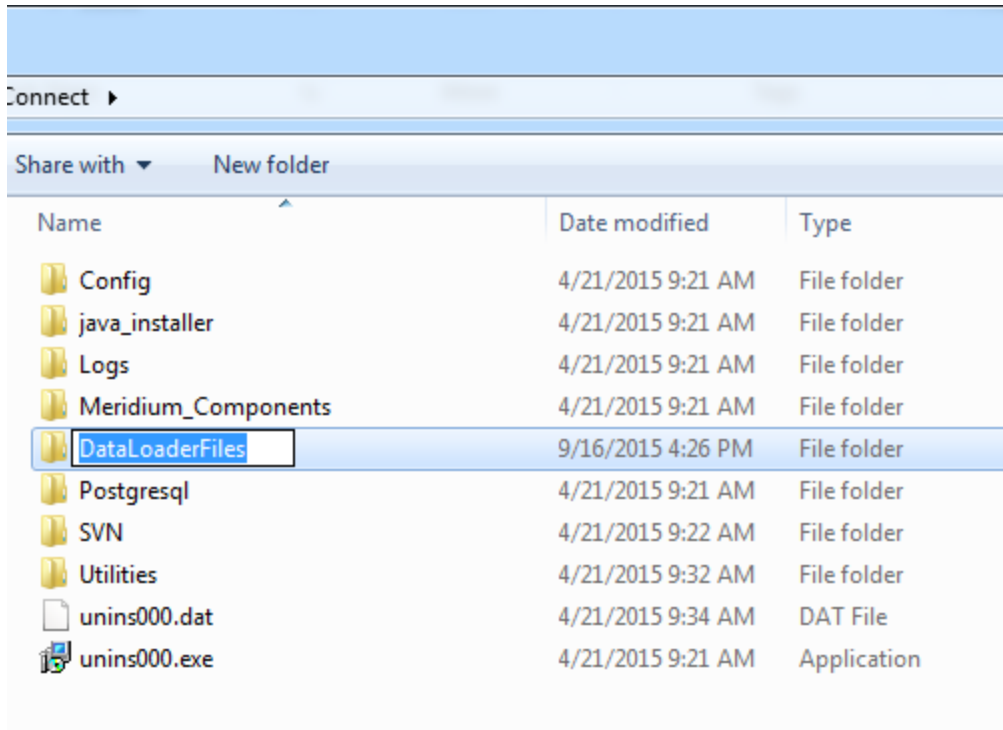
The Data Loader files folder is created.

3. Right-click the **DataLoaderFiles** folder.

4. Point to **Share with**, and then select **Specific people...**.

The **File Sharing** window appears.
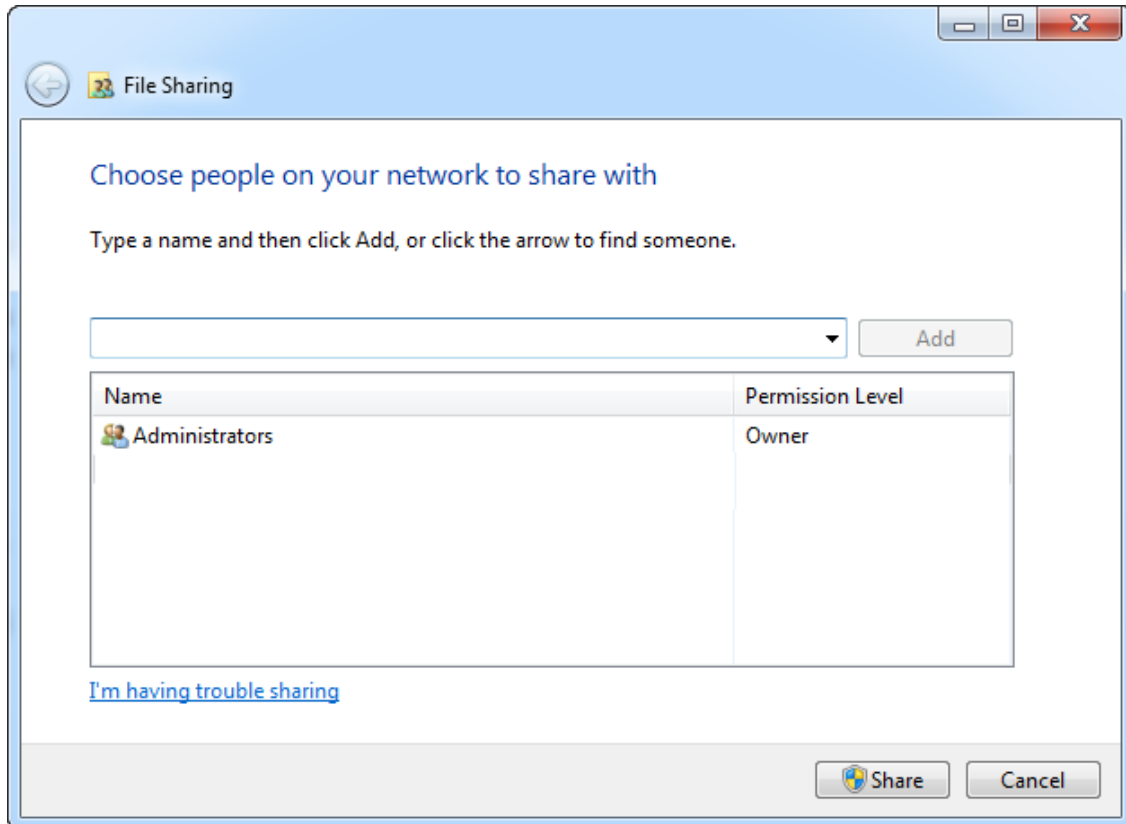
5. Select the domain user that you indicated in **Step 8** of the **To create a domain user for the APM Container** section of this topic.

6. In the **Permission Level** column for that user, select the drop-down arrow, and then select **Read/Write**.
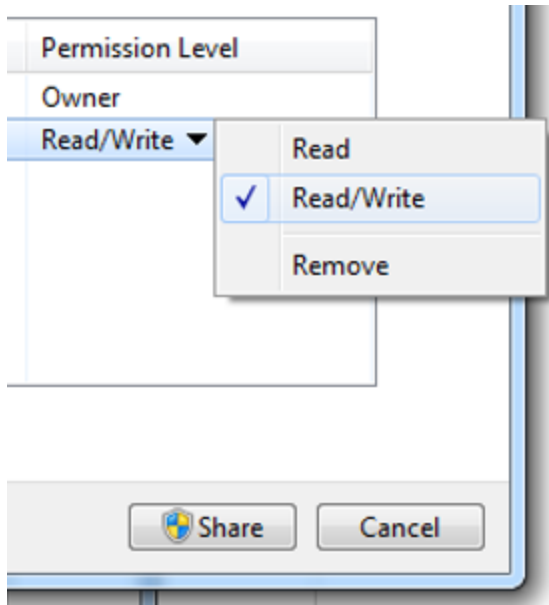
> ⓘ **Note:** Users running the APM-CONTAINER service and the APM Server must have Read/Write access to this folder.

7. Select **Share**.

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

What's Next?

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

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.

Deploying 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 or 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. All steps are required unless otherwise noted.

Step	Task	Notes
1	Access the APM Connect installation package.	All adapters
2	Ensure that you meet the software and hardware system requirements for APM Connect.	All adapters
3	Create file share folder structure.	All adapters
4	Create a service user.	All adapters
5	Establish SFTP Transfer in SAP.	All adapters
6	Run the APM Connect installer.	All adapters
7	Set Java Environment Variables.	All adapters
8	Access the APM Connect Administration Center web application.	All adapters
9	Test and install APM Connect CommandLine.	All adapters-Studio License Only
10	Start APM Connect CommandLine as a service.	All adapters-Studio License Only
11	Configure the APM Connect Administration Center web application.	All adapters
12	Install and Start the Runtime Container.	Basic, Plus, Studio
13	Install the Studio.	All adapters-Studio License Only
14	Set User Permissions.	All adapters
15	Create a project.	All adapters
16	Authorize users for projects.	All adapters
17	Configure the Execution server.	All adapters

18	Import Adapter Jobs.	All adapters
19	Configure the context file.	All adapters
20	Encrypt Passwords.	All adapters
21	Configure Context parameters.	All adapters
22	Import Notification Management File	
23	Install SAP JAVA Connector.	All adapters
24	Create the Intermediate Repository Database.	All adapters
25	Run the **Meridium APM Server and Add-ons** installer, selecting the **Meridium Integration Services** check box on the **Select the features you want to install** screen.	All adapters
26	Activate Your APM Connect License.	All Adapters
27	Install the SAP Adapters ABAP Base Service Pack Add-On.	All adapters
28	Verify the SAP ABAP Add-On.	All adapters
29	Configure the Directory for Multiple SAP Systems.	All adapters
30	Review the SAP Adapters data model to determine which relationship definitions you will need to modify to include your custom equipment and location families.	All adapters. Required if you store equipment and location information in families other than the baseline Equipment and Functional Location families.
31	Configure the Meridium Enterprise APM system to create Notifications from Recommendation records belonging to customer-defined Recommendation families.	Notification Management Adapter
32	Establish Connection from the APM Framework to APM Connect.	Work Management Notification Management Adapter
33	Identify the Operation values that will be used to trigger the Management of Inspection Task and Calibration Task records.	Work Management Adapter
34	Add entries to the /MIAPM/TASK_CNF Table.	Work Management Adapter

35	[Configure the Meridium Enterprise APM system to transfer data between SAP items and Task records.](#)	Work Management Adapter
36	[Configure the Meridium Enterprise APM system to create Confirmations from Calibration Event records.](#)	Work Management Adapter
37	[Configure the Meridium Enterprise APM system to create Confirmations from Inspection Event records.](#)	Work Management Adapter
38	[Configure the Get Tasks for Work Order Generation query.](#)	Work Management Adapter
39	[Create a scheduled item to create Work Orders in SAP.](#)	Work Management Adapter
40	[Create EAM System records](#) to identify your SAP systems.	• Work Management Adapter • Technical Characteristic Adapters • Notification Management Adapter
41	[Test the SAP connection information](#) that you specified in your EAM System records.	• Work Management Adapter • Technical Characteristic Adapters • Notification Management Adapter
42	Create Site Reference records, and [link them to your EAM System records.](#)	• Work Management Adapter • Technical Characteristic Adapters • Notification Management Adapter
43	[Create CMMS Classification Type records.](#)	Technical Characteristic Adapters
44	[Identify Classifications whose Characteristics you want to extract.](#)	Technical Characteristic Adapters
45	[Identify Characteristics you want to extract.](#)	Technical Characteristic Adapters

46	Stop extracting a Characteristic.	Technical Characteristic Adapters Required if you have previously identified a Characteristic to extract when running the Technical Characteristic Adapter, and you would like to stop extracting it.
47	Stop extracting a Classification.	Technical Characteristic Adapters Required if you have previously identified a Characteristics to extract when running the Technical Characteristic Adapter, and you would like to stop extracting them you must configure Meridium Enterprise APM to stop extracting the Characteristics.
48	Refresh Meridium Enterprise APM to Reflect Current SAP Classifications and Characteristics.	Technical Characteristic Adapters Required if you want to refresh your Meridium Enterprise APM system so that it accurately reflects the most current SAP Classifications and Characteristics.
49	Run the Static Data Job	All adapters
50	Assign the desired Security Users to the SAP Adapters Security Groups.	All adapters
51	Import the design object into SAP.	SAP PI Adapters
52	Import the configuration object in SAP.	SAP PI Adapters
53	Modify the baseline communication channels in SAP.	SAP PI Adapters
54	Activate the RFCReceiverToECC object.	SAP PI Adapters
55	Define the command name in SAP.	SAP PI Adapters

56	Install the SAPCAR file.	SAP PI Adapters
57	Create SAP PI Directory Structure.	SAP PI Adapters
58	Load bulk IDs.	Optional for all adapters

Upgrade APM Connect EAM SAP Adapters to V1.5.3

The following tables outline the steps that you must complete to upgrade this module to EAM SAP V1.5.3.

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 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
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
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

Create File Share Folder Structure

> ⓘ **Note:** If you 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.
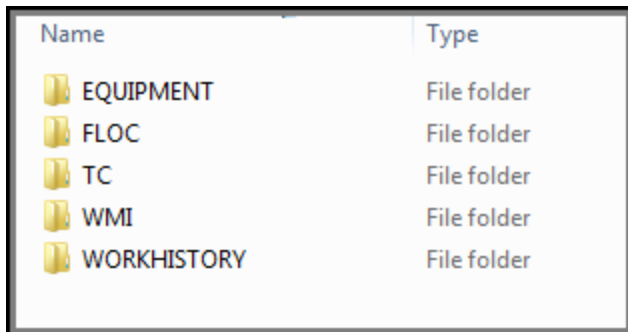
Steps

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:

   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.

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.
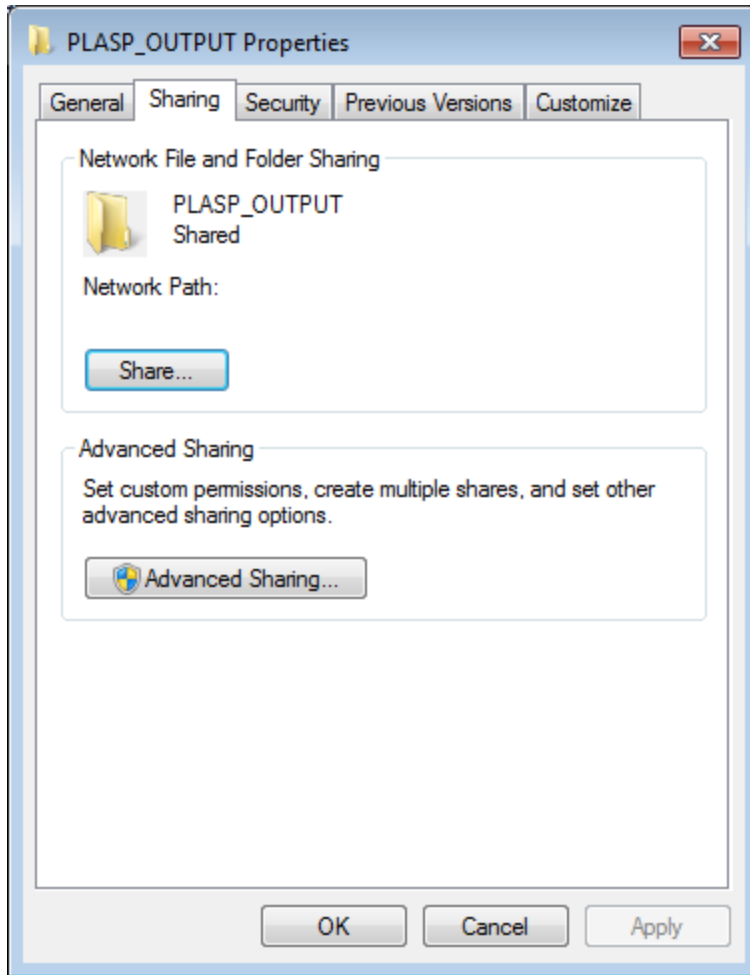
6. Select **Share...**

   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.
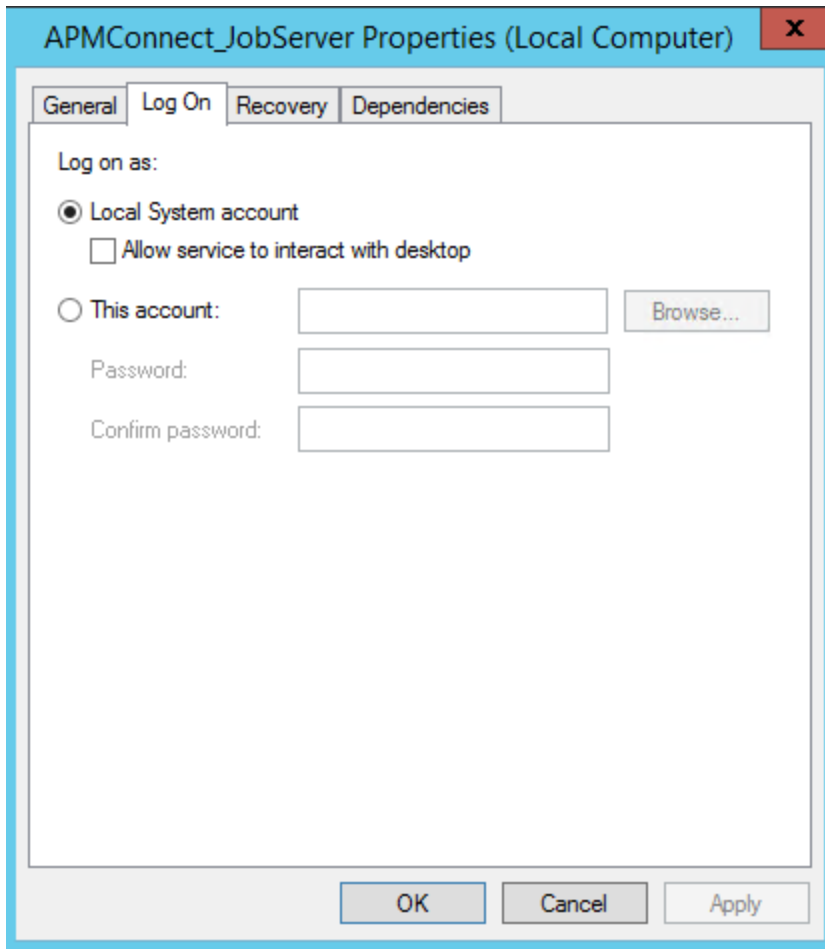
18. Select **This account:**.

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?

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

Establish SFTP Transfer in SAP

> ⓘ **Note:** If you 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.

Test and Install APM Connect CommandLine

> ⓘ **Note:** If you are installing APM Connect with a Basic or Plus License, skip this procedure and proceed to the [next step in the installation process](#).

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

Before You Begin

Before you can install the CommandLine, you must do the following:

- [Access APM Connect Administration Center](#).

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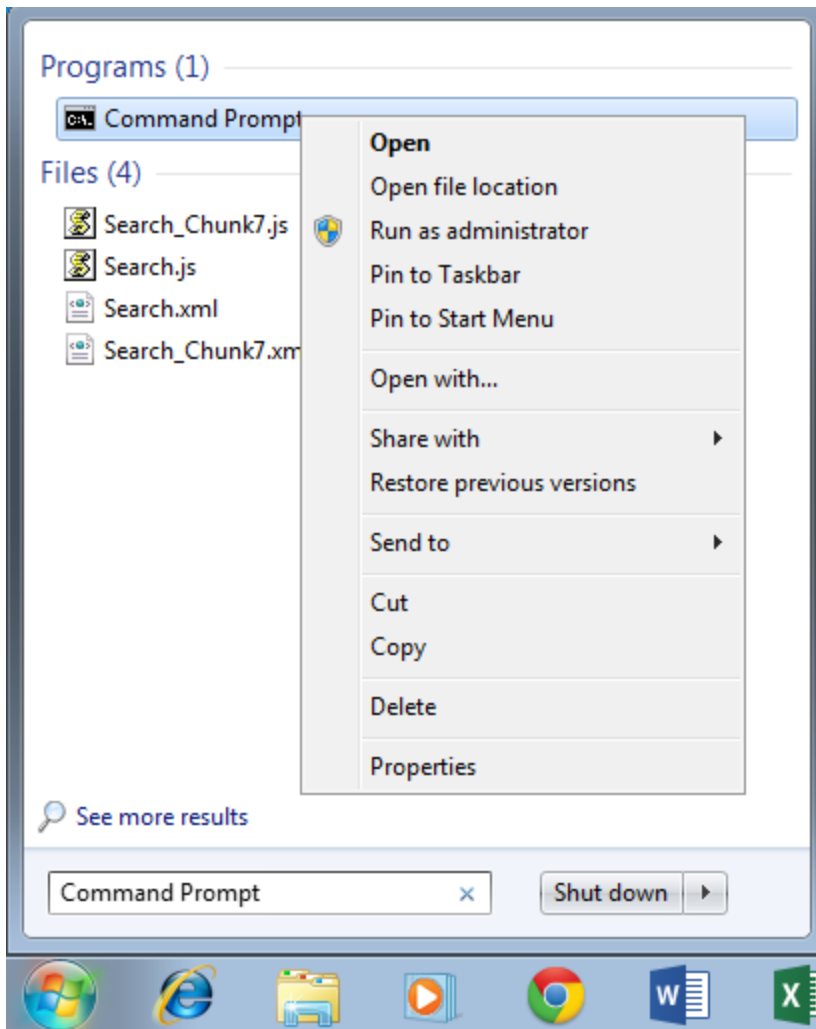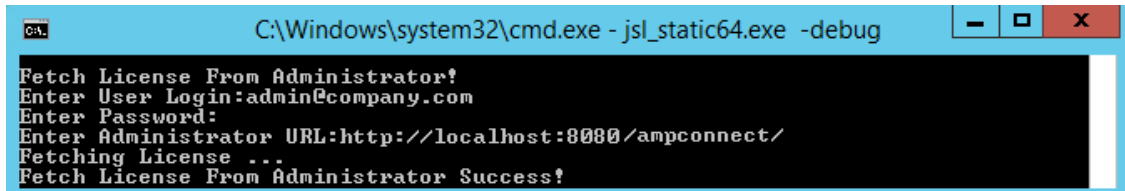
4. The **Administrator: Command Prompt** window appears.

5. Change the directory to: <root:>\APMConnect\Utilities\cmdline.

6. Execute the following command: jsl_static64.exe -debug.

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

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

    The following message appears: *Enter password:*.

8. 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:*.

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

   The messages shown in the following image appear:

10. Execute the following command: jsl_static64.exe -install.

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

11. Exit the Command Prompt.

    The CommandLine is tested and installed.

What's Next?

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

Start APM Connect CommandLine

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.

> 🛈 **Note:** If you are installing APM Connect with a Basic or Plus License, skip this procedure and proceed to the next step in the installation process.

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**.
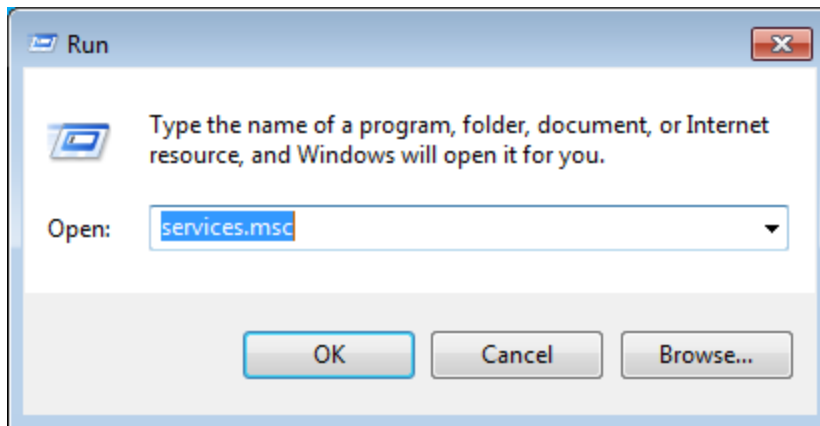
5. Select **OK**.

   The **Services** window appears.
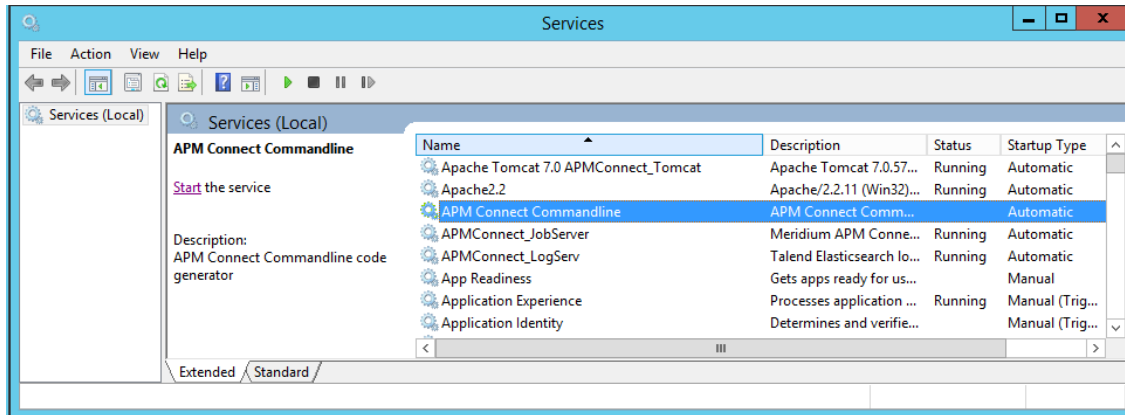
6. In the **Name** list, select APMConnect CommandLine.

7. Select the **Start** link.

8. Close the **Services** window.

   APM Connect CommandLine is started as a Windows service.

What's Next?

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

Install the Studio

> ⓘ **Note:** If you are installing APM Connect with a Basic or Plus License, skip this procedure and proceed to the next step in the installation process.

The Studio is used to manage the APM Connect Administration Center. This topic describes how to install the Studio.

Steps

1. On the machine on which you installed APM Connect, insert the Talend Studio installation DVD.

2. Open the TalendStudioInstall.exe file.

   The **Setup-Talend Studio** installer opens.
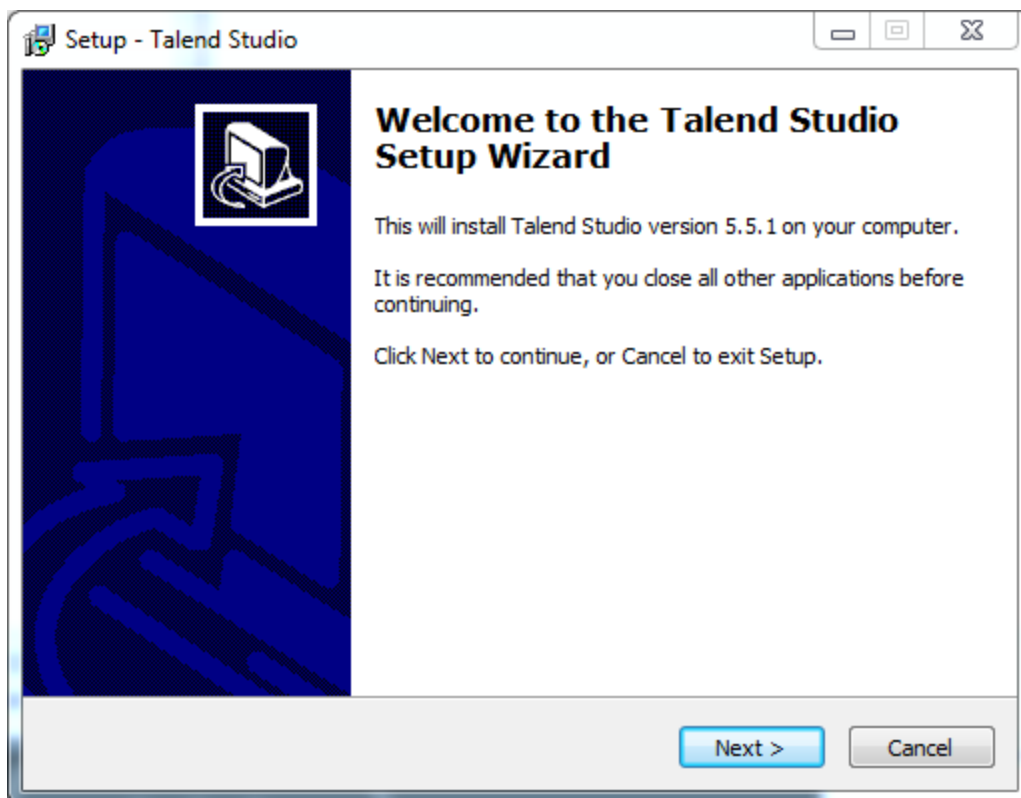
3. Select **Next**.

   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.
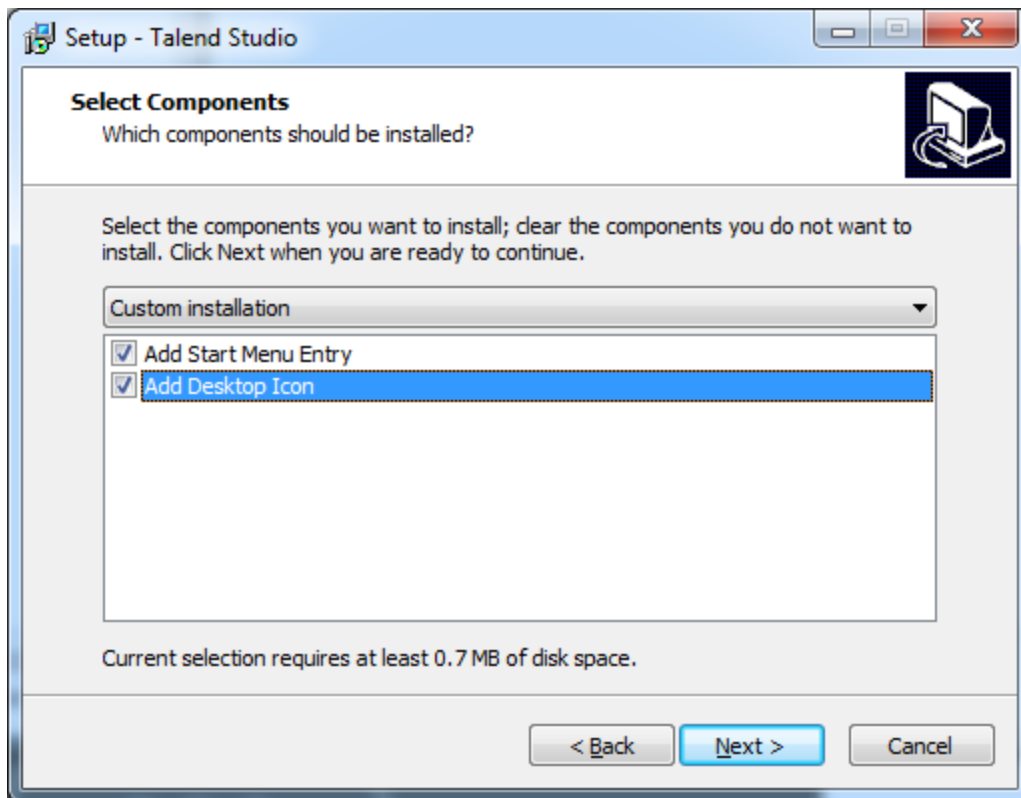
8. Select **Next**.

   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.

What's Next?

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

Configure the Context File

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 Common Connection Parameters

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

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.	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>
IR_SCHEMA	Schema associated with the IR.	Public
IR_TALEND_OUTPUT	Temporary workspace.	Value is unique to the user.
IR_USER_ID	IR user name.	Value is unique to the user.

IR_PASSWORD	IR system password.	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.
APM_DATASOURCE	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.
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.
Miscellaneous Parameters	**Description**	**Default or Recommended Value**
LOG_REQUEST	Logs the APM Web service requests.	• **true**: enables logging • **false**: disables logging Note: False is recommended.

LOG_RESPONSE	Logs the APM Web service responses.	• **true**: enables logging • **false**: disables logging ⓘ **Note:** False is recommended.
APM_LOAD_THREAD_ COUNT	The maximum number of APM web service calls that will be made in parallel.	50
MANUAL_RUN	Determines how the dates parameters will be treated.	• true • false ⓘ **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 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.

BASE_DIRECTORY	The base file path used for [loading bulk ID lists](#).	This value is optional and unique to the user.
ZERO_PAD_ID	Determines if ID numbers will automatically be padded with zeros to meet the value requirements.	• true: IDs will be zero padded • false: IDs will not be zero padded.

Steps: Configure SAP Connection Parameters

ⓘ **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:

SAP Connection Parameters	Description	Default or Recommend Value
Note: If you are using an SAP-PI Server, you do not need to configure these parameters.		
SAP_CLIENT	SAP client from where data is imported.	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 of the description to transfer 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.
File System Parameters	**Description**	**Default or Recommend Value**
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.
SAP Miscellaneous Parameters		
Sleep_Time		
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

Steps: Configure SAP PI Connection Parameters

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 *not* 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 many use the Advanced Adapter Engine (AAE). This parameter allows this functionality to be used during extraction.	- 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.	true -the file movement will use the PI between SAP and APM Connect. false- the file movement will not use PI and it will go directly.

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

Steps: Configure FTP Connection Parameters

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.

> ⚠ 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.

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

FTP Parameters	Description	Default or Recommend Value
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.	If the default configuration was followed, enter one of the following: • 21: for FTP connection. • 22: for SFTP connection.
PLSAP_FTP_MODE	The mode by which files are copied.	Enter one of the following values: • **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_SFTP_SCP_ COMMAND	The command name created when establishing the SFTP transfer in SAP.	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

What's Next?

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

Configure Context Parameters in the APM Connect Administration Center

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.

Steps: Configure the Context Parameters for Stand Alone Deployment Jobs: SAP

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.
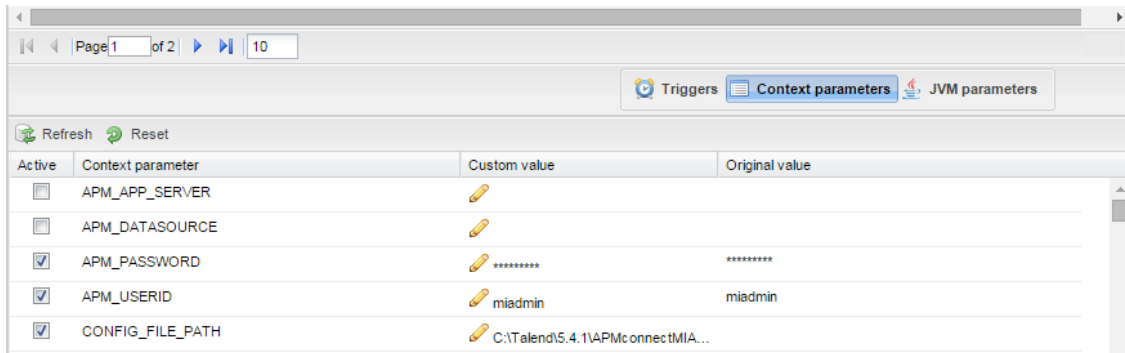
3. In the **Context parameter** column, scroll down to the context parameter you would like to configure.

   In the **Custom value** box, configure context parameters, and select the **Active** check boxes for the following:

Context Parameters	Description	Default or Recommend Value	Used by the...

APM User_ ID	The Meridium Enterprise APM user name.	Value is unique to the user.	SAP Adapters
APM_ PASSWORD	The Meridium Enterprise APM pass-word.	Value is unique to the user.	SAP Adapters
IR_USERID	The user ID for the inter-mediate repository.	APMCONNECT	SAP Adapters
IR_ PASSWORD	The pass-word for the intermediate repository.	54yX2UXThqhxTEuMxF3e	SAP Adapters
SAP_ USERID	The user name for the SAP system.	Value is unique to the user.	SAP Adapters
SAP_ PASSWORD	The pass-word for the SAP system.	Value is unique to the user.	SAP Adapters

	The file path for the configuration file. ℹ **Note:** This path will be different for each project.		
CONFIG_ FILE_PATH		`<root:>\APMConnect\Config\<Context file name.xml>`	SAP Adapters
LOG4j_ FILE_PATH	The file path for Log4j.	`<root:>\APMConnect\Config\log4jproperties`	SAP Adapters
MANUAL_ RUN	The date range parameter for extracting data.	*True* or *False*.	SAP Adapters

ℹ **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.

ℹ **Note:** Any parameters configured in the context parameters section will be overridden by parameters configured in the context file.

The context parameters are configured.

4. Repeat steps 1-3 for every Job you will run.

Steps Configure Context Parameters for Wrapped Deployment: SAP

1. In the APM Connect Administration Center, in the **Job Conductor** workspace, select the SAP_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
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

3. Select the **Active** check box for each parameter whose custom value you want to edit.

4. In the **Custom value** box, *for all of the parameters you want to edit except MASTER_ CONFIG_FILE_DIR and SYSTEM_TO_RUN*, enter:

   - **true**: If you want to run the individual SAP adapter job.

     -or-

   - **false**: If you do not want to run the individual SAP adapter job.

5. To save the custom value, press Enter.

6. In the **MASTER_CONFIG_FILE_DIRCustom 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*.

7. Press Enter.

8. In the **SYSTEM_TO_RUNCustom value** box enter:

- The name of the system directory from which you want to extract data.

  -or-

- *to extract from all systems.

9. Press Enter.

   The master job is configured.

What's Next?

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

-or-

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

Import Notification Management File

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.

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.

2. Download the latest version of the sapjco.dll file.

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

3. Copy the downloaded sapjco.dll file.

4. In the windows system32 directory, paste the copy of the sapjco.dll file.

5. On the machine on which you installed APM Connect, insert the APM Connect installation job package, and then copy the file *SAP_NotificationManagement.jar*.

6. Navigate to *<root:>\APMConnect\Utilities\runtime\deploy*.

7. Paste the copied file *SAP_NotificationManagement.jar* in the directory.

8. In a web browser, navigate to the SAP marketplace.

9. Download the latest version of the following files:

   - sapjco.dll
   - 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.

10. Copy the downloaded sapjco files.

11. Navigate to *<root:>\APMConnect\Utilities\runtime\lib\ext*, and then paste the copied files in that location.

    The Java Connecter is installed.

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:

    - **Install**: to install the ABAP Package for the first time.
    - **Upgrade**: to upgrade the ABAP package.
    - **Exchange**: to upgrade the ABAP package when upgrading to a new SAP version.

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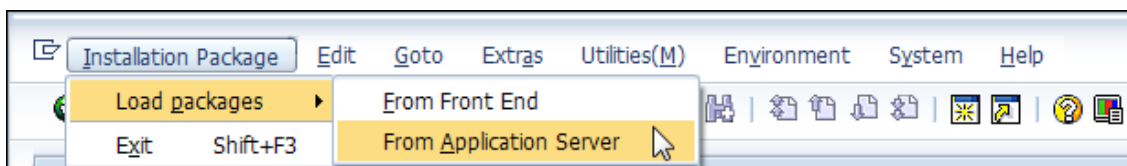
    A message appears, asking if you want to upload OCS packages from the ECS inbox.

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_0000010.PAT	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?

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

Verify ABAP Installation

Steps

To verify that the ABAP Add-On was installed successfully:

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.

Software Compon...	Release	Level	Highest Support ...	Short Description of Software Compor
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

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:

- **Release:** *360_600*, where *<SAP version>* indicates the version of SAP that you have installed.

- **Level:** *0007*

What's Next?

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

Configure the Directory for Multiple SAP Systems

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: <root:>\APMConnect\Config\.

2. Create a new folder for each SAP System using the following folder structure: *<root:>\APMConnect\Config\<SAP System Name>*.

3. In each SAP system folder, place a copy of the context file you received with your installation package.

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. The complete file path: *<root:>\APMConnect\Config\<SAP system name>\SAP_<SAP system name>_Contextfile.xml.*

   For example, a configured directory will resemble the following: *<root:>\APMConnect\Config\Q-66\SAP_Q66_Contextfile.xml.*

What's Next?

- [Configure the context file](#) for each system.

  -or-

- [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.

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.

> ℹ **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.

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.
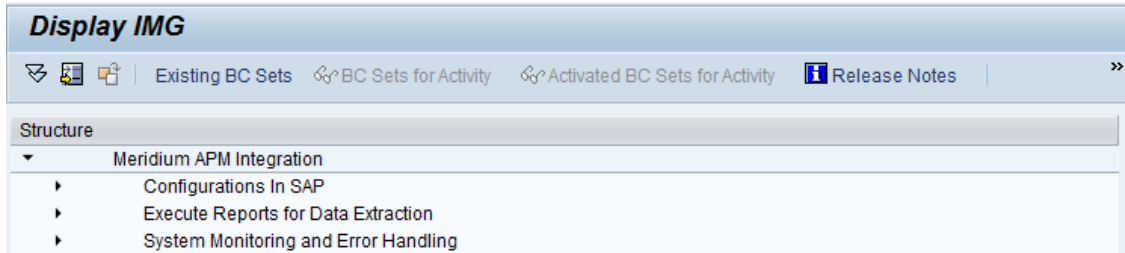
2. In the tree, expand **Configurations In SAP**.

3. Select **Maintain Meridium APM Parameters**.

   The **Meridium Configuration and Connection Parameters Management** window appears.
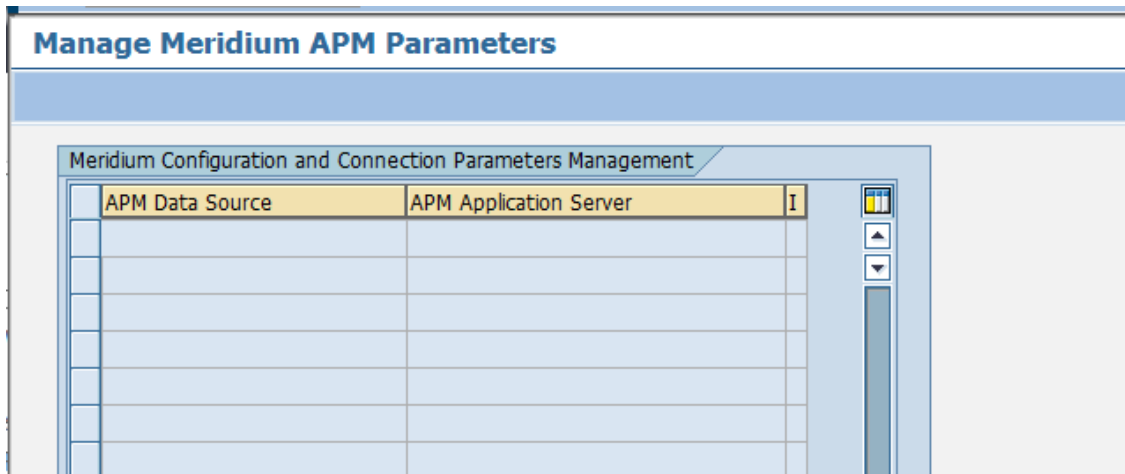
4. In the **APM Data Source** column, enter the APM data source(s) from which and to which you want to transfer data.

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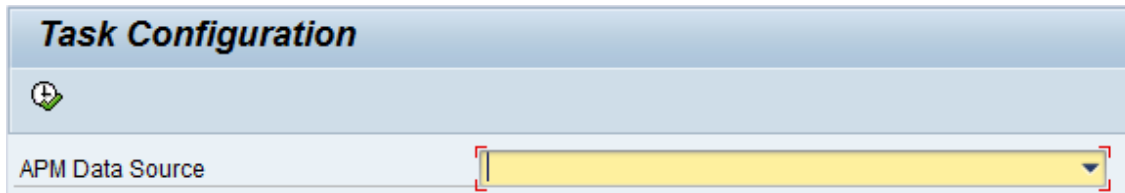
8. In the **APM Data Source** list, select the Meridium Enterprise APM data source for which you want to identify which Operation values will create which Task records.

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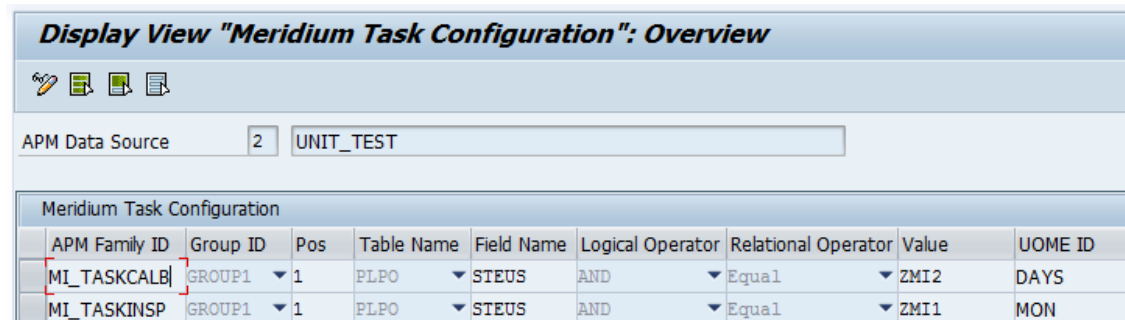
10. To specify criteria that will be used to trigger the creation of Calibration Task and Inspection Task records, modify the values in the existing rows, or build on top of the current functionality by adding new rows. This documentation assumes that you are familiar with your SAP data structure and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

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.

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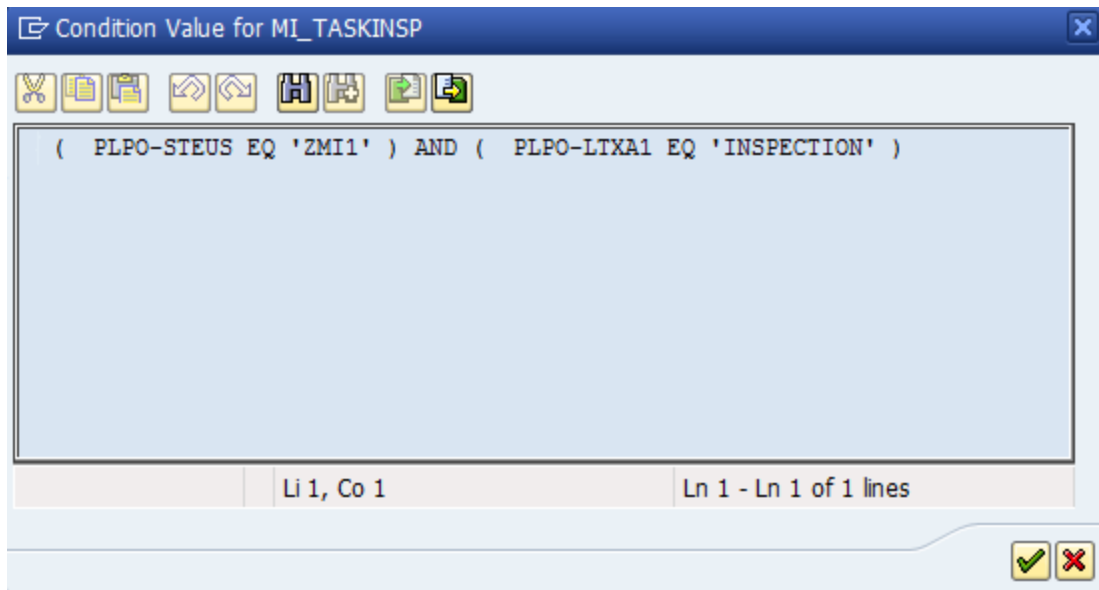
ⓘ **Hint:** To access the Condition Value for the <APM Family ID> dialog box, select a cell in the Value column, and then press F4.

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.

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

If you want to use the SAP Interfaces module to transfer data between SAP items and Meridium Enterprise APM Task records (Inspection Task records or Calibration Task records), you will need to Configure Meridium Enterprise APM to transfer data between SAP items and task records.

1. Set the following baseline datasheets as the default datasheets Set the following baseline datasheets as the default datasheets on the Inspection Task 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.

What's Next?

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

Configure Meridium Enterprise APM to Create Confirmations from Calibration Event Records

If you want to use the SAP Interfaces module to create SAP Confirmations from Calibration Event records, you will need to configure Meridium Enterprise APM to create confirmations from Calibration Event Records

Steps

1. Set the following baseline datasheets as the default datasheets 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.

What's Next?

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

Configure Meridium Enterprise APM to Create Confirmations from Inspection Event Records

If you want to use the SAP Interfaces module to create SAP Confirmations from Inspection Event records, you will need to configure Meridium Enterprise APM to create Confirmations from Inspection Event records.

1. Set the following baseline datasheets as the default datasheets 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 (>=(? :d :caption='Last Successful Execution Date': id=LAST_DATE) AND < Now())
   - Includes at least one field from the source family record.

What's Next?

- for the next step in the deployment process.

Schedule Work Orders

Steps

1. Access **Operations Manager** , and select **APM Connect Configuration**.

2. On the **APM Connect Configuration** page, 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**.

3. In the **Edit Schedule** window select **Recurrence**.

4. In the **Time Zone** section, use the drop-down to select the appropriate time zone.

5. In the **Start** section, select ▦ to schedule the start date and time.

   1. Select one of the following as appropriate:

      - **Now**: to use the current time and date as the starting point.
      - **Clear**: to clear the current selection.
      - **<Date>**: to use the selected date as the start date.

   2. Select 🕐, and then select the appropriate time.

   3. 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, use the drop-down to select the interval unit you would like the generation to occur i.e. minutes, hours, years, etc.

8. In the **Every** section in the begin box, use the drop down to select one of the following:

   - **From start time**: to start the recurrence from the previously selected start time.
   - **After last occurrence**: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**: the recurrence will not end
   - **After:** to enter a number of occurrences after which the generation will end.
   - **Time & Date**: to use the calendar to select a time and date when the generation will end.

10. Select **OK**.

The schedule summary appears next to **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 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.
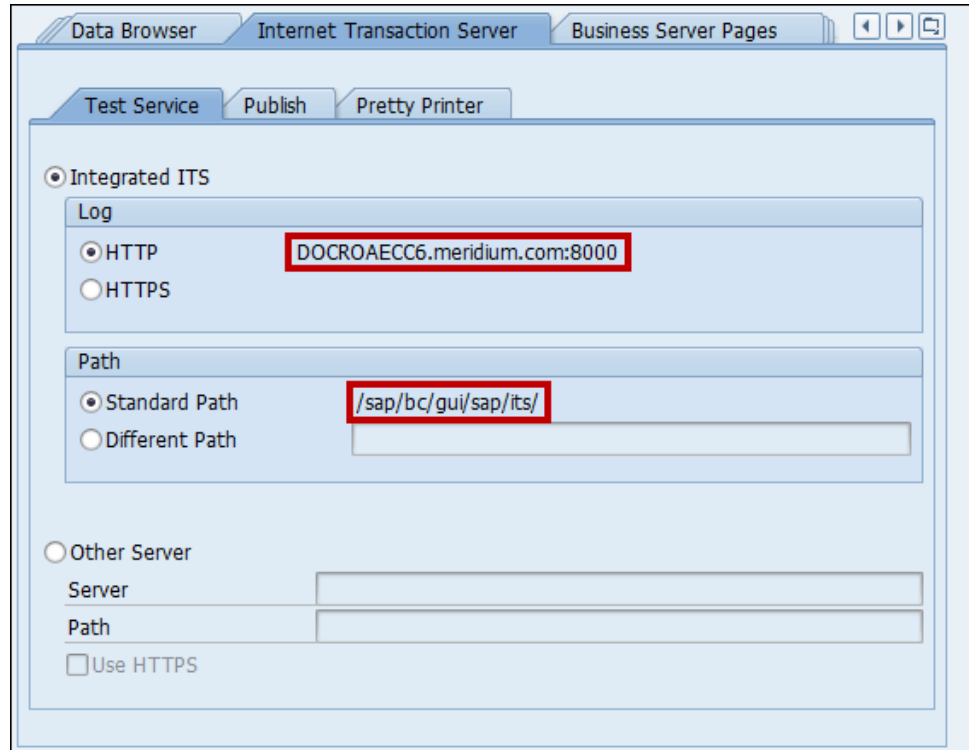
2. Delete the angle brackets.

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.

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.

Create CMMS Classification Type Records

> 🗋 **Note:** If you using SAP PI, Classification and Characterisitic 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 You Want 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 ✏.

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.

4. Select 💾.

   The CMMS Classification records are saved.

What's Next?

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

Identify Characteristics You Want 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.

4. Select 💾.

   The CMMS Characteristic records are saved.

What's Next?

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

Stop Extracting a Specific Characteristic

If you have previously identified a Characteristic to extract when running the Technical Characteristic Adapter, and you would like to stop extracting it you must configure Meridium Enterprise APM to stop extracting that Characteristic.

Steps

1. Access the CMMS Characteristic record representing the characteristic that you want to stop extracting from SAP. To access the record, you have two options:

    - 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. Clear the **Extract From CMMS System** check box.

4. Select 🖫.

    The CMMS Characteristic record is saved.

Results

- When you run the corresponding characteristic extraction adapter, the characteristic will not be extracted.

What's Next?

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

Stop Extracting All Characteristics for a Classification

If you have previously identified a Characteristics to extract when running the Technical Characteristic Adapter, and you would like to stop extracting them you must configure Meridium Enterprise APM to stop extracting the Characteristics.

Steps

1. Access the CMMS Classification record representing a classification whose characteristics you want to stop extracting from SAP. To access the record, you have two options:

   - 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. Clear the **Extract From CMMS System** check box.

4. Select 🖫.

   The CMMS Classification record is saved.

Results

- 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.

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 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 Extracting Characteristics

> **Note:** If you using SAP PI, Classification and Characterisitic 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 EAM System Records and Site 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.

EAM System records can be linked to Site Reference records, or you can specify a default EAM system. Consider the following scenarios.

Scenario A: Site Reference Record Used (Standard Practice)

In this scenario, the Equipment or Functional Location record is linked to a Site Reference record that is linked to an EAM System record.
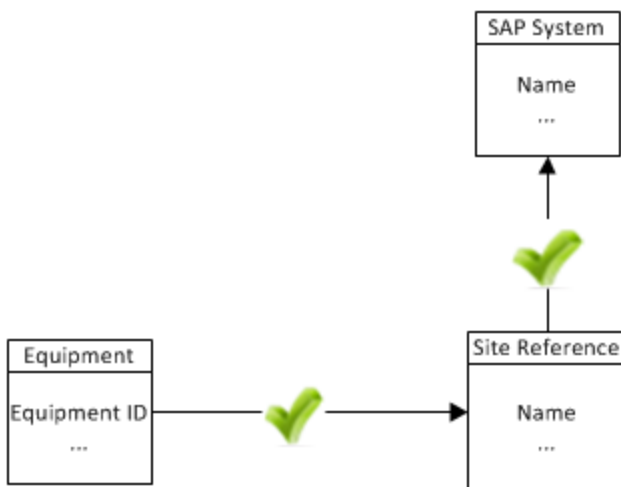
In this scenario, the Meridium Enterprise APM system will use the EAM System record to which the Site Reference record is linked.

> ⓘ **Note:** This scenario reflects the standard SAP Interfaces practice.

Scenario B: Default EAM System Field Used (Non-Standard Practice)

In this scenario, the Equipment or Functional Location record is not linked to a Site Reference record.
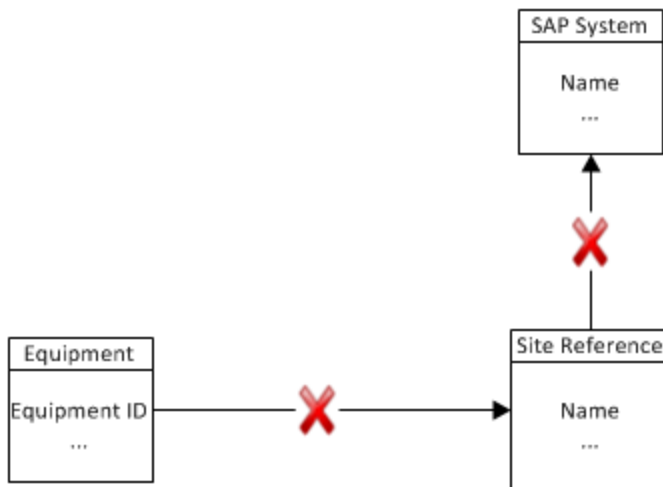
In this case, the Meridium Enterprise APM system will use the EAM System record whose Default EAM System field contains the value True.

> ⓘ **Note:** This scenario does not reflect the standard SAP Interfaces practice, but because it is an option and will work as described in this topic, it is explained in the documentation.

If no EAM System records contain the value **True** in the Default EAM System field, an error message will appear, and you will be unable to transfer the data to SAP.

If your EAM configuration includes multiple EAM systems, you can create multiple EAM System records, but only one of these records can be designated as the default record. If you want some users to be able to transfer data to a separate EAM system, you will need to make sure that your EAM System records are linked to Site Reference records, which are also linked to the appropriate Equipment and Functional Location records.

How are Equipment and Functional Location Records Linked to Site Reference Records?

Some companies that use the SAP software have multiple sites, or locations, around the world. Each site might use its own SAP system.

You can define your SAP systems, define your sites, and associate each SAP system with the site that uses it. When you extract Equipment and Functional Locations from SAP, the CMMS System field in the Equipment and Functional Location records in Meridium Enterprise APM will be populated automatically with the name of the source SAP system, using the format <SYSID>-<CLIENT>, where <SYSID> is the System ID of the SAP system and <Client> is the Client number.

Then, if an EAM System record contains the same value in the Name field, that Equipment or Functional Location record will be linked automatically to the Site Reference record to which that EAM System record is linked.

For example, suppose your database contains the following Site Reference records and EAM System records:
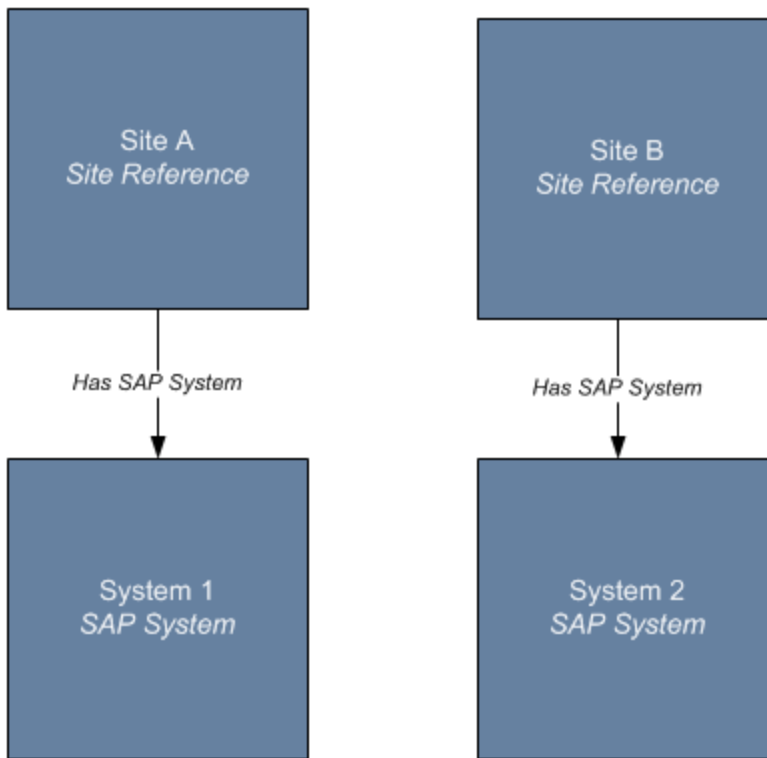
From these records, you can see that Site A uses System 1 and Site B uses System 2.

Suppose that the following Equipment exists in System 1 and System 2.

System 1	System 2
Equipment 100	Equipment 200
Equipment 101	Equipment 201

In this case, if you run the Equipment Extraction Interface on System 1, the following Equipment records will be created in Meridium Enterprise APM:

- Equipment 100
- Equipment 101

The CMMS System field in each of these records will be populated automatically with the value System 1. Because a Site Reference record exists with the same value, System 1, in the Name field, the Equipment records will be linked to that Site Reference record, as shown in the following image.
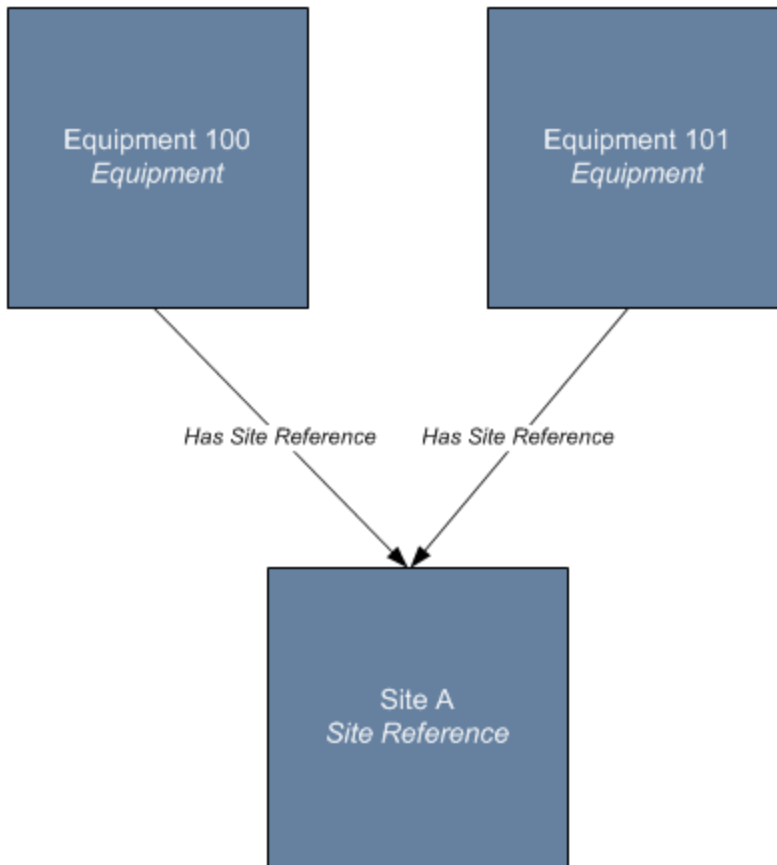
To facilitate this workflow, the following queries are provided:

- Get Site Reference for Equipment
- Get Site Reference for Functional Location

When you extract Equipment and Functional Locations from SAP, the values in the Equipment ID field and the CMMS System field are used to ensure that duplicate Equipment records do not get created in the Meridium Enterprise APM system. For instance, continuing with the previous

example, assume that you have two SAP systems: System 1 and System 2. If each one had an Equipment called Equipment 103 and you extracted Equipment 103 from System 1, an Equipment record would be created with the following values:

- **Equipment ID:** Equipment 103
- **CMMS System:** System 1

If you extracted Equipment 103 from System 1 again, an additional Equipment record would not get created. Instead, the existing Equipment record would be updated with any changes in SAP.

Likewise, if you extracted Equipment 103 from System 2, a separate Equipment record would be created with the following values:

- **Equipment ID:** Equipment 103
- **CMMS System:** System 2

About Classification Hierarchies

In SAP, for any given class, one or more if 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:

Class	EQ_CLASS_0001				
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_TE…	Test type	CHAR	30	0		☐
	OPH	Operating Hours	NUM	10	0	h	☐
	LOCAL_REG_NUM	Local Registration Numb…	CHAR	30	0		☐
	COLOR	Color	CHAR	25	0		☐

As shown in the following image, Fasteners also has four sets of unique characteristics:

Class	FASTENERS				
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..
	NUMBEROFTHREADS	mber of Threads	NUM	10	0		☐
	THREAD_TYPE	THREAD TYPE	CHAR	5	0		☐
	LENGTH	Length	NUM	3	2	cm	☐
	FASTENER_DIAMETER	Diameter	NUM	2	1	cm	☐

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	st type	CHAR	30	0		☐
OPH	Operating Hours	NUM	10	0	h	☐
LOCAL_REG_NUM	Local Registration Numb...	CHAR	30	0		☐
COLOR	Color	CHAR	25	0		☐
NUMBEROFTHREADS	Number of Threads	NUM	10	0		☐
THREAD_TYPE	THREAD TYPE	CHAR	5	0		☐
LENGTH	Length	NUM	3	2	cm	☐
FASTENER_DIAMETER	Diameter	NUM	2	1	cm	☐
HEAD_SHAPE	HEAD SHAPE	CHAR	10	0		☐
BOLT_TYPE	tYPE OF bOLT	CHAR	10	0		☐

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 Validity

Tabs: Basic data | Keywords | Char. | Texts

Characteristic	Description	Data...	N...	D...	Unit	R..
HEAD_SHAPE	AD SHAPE	CHAR	10	0		☐
BOLT_TYPE	tYPE OF bOLT	CHAR	10	0		☐
SAP_EHS_1017_003_TE...	Test type	CHAR	30	0		☐
OPH	Operating Hours	NUM	10	0	h	☐
LOCAL_REG_NUM	Local Registration Numb...	CHAR	30	0		☐
COLOR	Color	CHAR	25	0		☐
NUMBEROFTHREADS	Number of Threads	NUM	10	0		☐
THREAD_TYPE	THREAD TYPE	CHAR	5	0		☐
LENGTH	Length	NUM	3	2	cm	☐
FASTENER_DIAMETER	Diameter	NUM	2	1	cm	☐
TOLERANCE	tolerance	NUM	3	0	%	☐

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:

Characteristic

	Class Group	Classification	Characteristic Name	Characteristic Description	Extract From CMMS System
✎	--	EQ_CLASS_001	COLOR		☐
✎	--	FASTENERS	FASTENERS DIAMETER		☐
✎	--	BOLTS	HEAD SHAPE		☐
✎	--	FASTENERS	LENGTH		☐
✎	--	EQ_CLASS_001	LOCAL_REG_NUM		☐
✎	--	FASTENERS	NUMBEROFTHREADS		☐
✎	--	EQ_CLASS_001	OPH		☐
✎	--	EQ_CLASS_001	SAP_EHS_1017_003		☐
✎	--	FASTENERS	THREAD_TYPE		☐
✎	--	HEXAGONALBOLT	TOLERANCE		☐
✎	--	BOLTS	BOLT_TYPE		☐

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
  - NUMBEROFTHREADS
  - 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 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.

> ℹ **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).

> ℹ **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.

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
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

Deploying 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.

Import the Design Object

Steps

1. Insert the APM Connect installation DVD.

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 *\usr\sap\<SID>\SYS\global\xi\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 *\usr\sap\<SID>\SYS\global\xi\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.
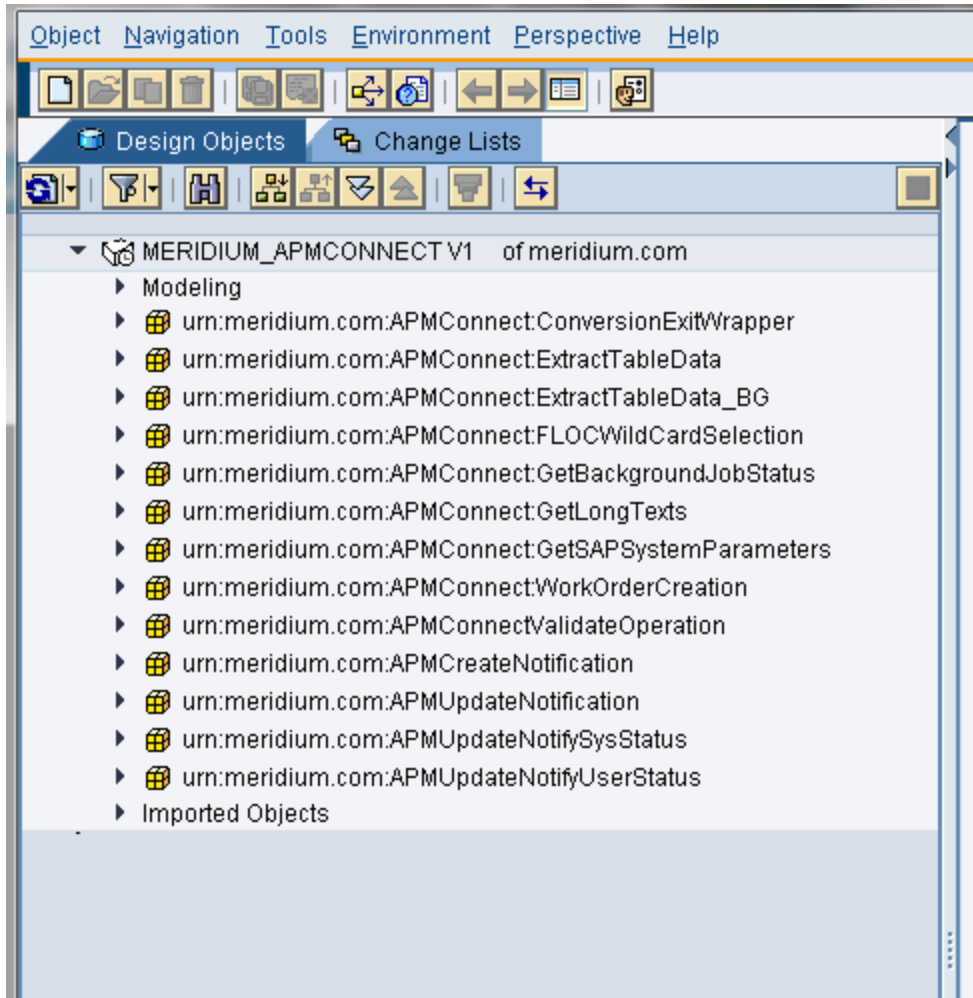
Import the Configuration Object

The steps for importing the configuration object are different depending on which SAP PI Server version you are using.

Steps

1. Insert the APM Connect installation DVD.

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\xi\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\xi\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 ![icon].

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.

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 or 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. All steps are required unless otherwise noted.

Step	Task	Location	Notes
1	Access the APM Connect installation package, and place it on your APM Connect Server.	APM Connect Server	None.
2	Ensure that you meet the software and hardware system requirements for APM Connect.	APM Connect Server	None.
3	Run the APM Connect installer.	APM Connect Server	None.
4	Set Java Environment Variables.	APM Connect Server	
5	Access the APM Connect Administration Center web application.	APM Connect Server	None.
6	Test and install APM Connect CommandLine.	APM Connect Server	Studio License Only
7	Install and Start the Runtime Container.	APM Connect Server	None.
8	Install the Studio.	APM Connect Server	Studio License Only
9	Start APM Connect CommandLine as a service.	APM Connect Server	Studio License Only
10	Configure the context file.	APM Connect Server	None.
11	Encrypt Passwords.	APM Connect Server	None.
12	Import Notification Management file.	APM Connect Server	None.
13	Configure the APM Connect Administration Center web application.	APM Connect Administration Center	None.
14	Set User Permissions.	APM Connect Administration Center	None.

15	Create a project.	APM Connect Administration Center	None.
16	Authorize Users for Projects	APM Connect Administration Center	None.
17	Configure the Execution server.	APM Connect Administration Center	None.
18	Import Adapter Jobs.	APM Connect Administration Center	None.
19	Configure Context parameters.	APM Connect Administration Center	None.
20	Create the Intermediate Repository Database.	APM Connect Administration Center	None.
21	Create object structures.	Maximo System	None.
22	Create web services.	Maximo System	Required if you are using the REST web services.
23	Configure Default password.	Maximo System	None.
24	Create EAM System records to identify your Maximo systems.	Meridium Enterprise APM Server	None.
25	Create Site Reference record, then and link it to the SAP system record.	Meridium Enterprise APM Server	None.
26	Run the **Meridium APM Server and Add-ons** installer, selecting the **Meridium Integration Services** check box on the **Select the features you want to install** screen.	Meridium Enterprise APM Server	None.
27	Activate Your APM Connect License .	Meridium Enterprise APM Server	None.
28	Establish Connection from the APM Framework to APM Connect.	Meridium Enterprise APM Server	None.
29	Configure the context file.	APM Connect Server	None.
30	Assign Security Users to one or more of the APM Connect Security Groups.	Meridium Enterprise APM Server	None.

Upgrading Maximo to EAM MAX V1.0.0

The following table outlines the steps that you must complete to upgrade this module to V4.0.0.0.0. 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. All steps are required unless otherwise noted.

V1.0.0

Step	Task	Notes
1	To Upgrade to Maximo V1.0.0 follow the first time deployment workflow.	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 PostgresSQL 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 PostgresSQL 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.
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/ser-vices. This value is not required if using the MAXIMO_REST_URL para-meter.
MAXIMO_WEBSERVICE	Determines which type of web service to use: REST services or SOAP web ser-vices.	• **true**: Uses the web ser-vices • **false**: Uses the REST web services and is the default value.
MAXIMO_SYSTEM	The EAM system named defined on the [EAM Sys-tem 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 Max-imo before timing out.	Recommended value is 30.
MAXIMO_RECEIVE_ TIMEOUT	How long, in seconds, the Maximo Adapters will wait for the response from Max-imo before timing out.	Recommended value is 60.
MAXIMO_REST_ ASSETNAME	[Created equipment object structure](#).	MIASSET
MAXIMO_REST_ FLOCNAME	[Created functional loc-ation 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.	• **SERVICEREQUEST**: Loads only service requests. • **WORKORDER:** Loads only work orders. • null: Will load service requests.
Maximo Miscellaneous Parameters	**Description**	**Default or Recommenced Value**
EXTRACT_ONLY	Determines if records will be loaded only into the staging tables or into the IR and then to APM.	• **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.	• **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.	• **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.	• **true**: Enables logging • **false**: Disables logging ⊡ **Note:** False is recommended.
LOG_RESPONSE	Logs the Meridium Enterprise APM Web service responses.	• **true**: Enables logging • **false**: Disables logging ⊡ **Note:** False is recommended.
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**
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.		
⚠ **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.		
MAXIMO_CREATE_WO_SR	Determines if the Maximo Adapter will transfer Maximo Work Orders or Service Request.	• **WO**: Will transfer only work orders • **SR**: Will transfer only service request • null: Will transfer service requests only.
MAXIMO_DEFAULT_SITE_ID	Maximo Site ID.	Value is unique to the user, but can match the value of the Site Reference record that is linked to the EAM System Record.

What's Next?

- Return to the Maximo Adapter workflow for the next step 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_DIRECTORYCustom 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_RUNCustom 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 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 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.dfluser 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_ SAPSYSTM] SET [MI_SAPSYSTM].[MI_SAPSYSTM_ID_C] = '<NAME>' WHERE [MI_ SAPSYSTM].[MI_SAPSYSTM_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

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 intoMeridium 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. Identity 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 of 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 the Maximo Adapters

This topic provides a listing of all overviews and high level explanatory information to help you understand the Maximo Adapters.

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 IDof 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 IDof 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 IDof 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.

Requirements for Creating Maximo Service Requests

In order to create a Maximo Service Request from a Meridium Enterprise APM Recommendation record, at a minimum, your database must contain a CMMS System record whose Enabled field contains the value True. The CMMS System record is used to define the connection information to your Maximo system. If the SAP Interfaces and the Maximo Interfaces licenses are both active, in addition to this requirement, certain additional conditions must be met regarding the SAP System and CMMS System records that exist in the database. The exact conditions that must be met depends on the following main factors:

- Whether or not the Recommendation record is linked to an Equipment or Functional Location record.
- Whether or not that Equipment or Functional Location record is linked to a Site Reference record.

The following scenarios describe the conditions that must exist in each of these cases.

Scenario A: Recommendation Record Is not Linked to an Equipment or Functional Location Record

In this scenario, you can create a Service Request successfully only if both of the following conditions are true:

- Either NO EAM System records exist or none of the existing EAM System records contain the value True in the Default EAM System field.

-and-

- A CMMS System record exists with the value True in the Is Default field.

Scenario B: Recommendation Record IS Linked to an Equipment or Functional Location Record

Option 1: The Equipment or Functional Location record IS linked to a Site Reference record

In this scenario, you can create a Service Request successfully only if NO EAM System records exist in the database. In addition, if the Site Reference record is linked to a CMMS System record, the Service Request will be created automatically in the Maximo system represented by that CMMS System, regardless of whether or not the Is Default field in that record contains the value True. If, however, the Site Reference record is not linked to a CMMS System record, the requirements in option 2 must be met.

Option 2: The Equipment or Functional Location record is not linked to a Site Reference record

In this scenario, you can create a Service Request successfully only if both of the following conditions are true:

- Either NO EAM System records exist or none of the existing EAM System records contain the value True in the Default EAM System field.

-and-

- A CMMS System record exists with the value True in the Is Default field.

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).

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

Maximo Internal ID	Maximo Adapter Label	Meridium Enterprise APM Field ID	Meridium Enterprise APM Field Caption
ASSETID	None. This value is not displayed on the Maximo Adapter.	MI_EQUIP000_ EQUIP_ID_C	Equipment ID
ASSETNUM	Asset	MI_EQUIP000_ EQUIP_TECH_ NBR_C	Equipment Technical Number
ASSETTYPE	Type	MI_EQUIP000_ TYPE_C	Equipment Type
CHANGEDATE	Changed Date	MI_EQUIP000_ CHANGE_ DATE_D	CMMS Last Changed Date
DESCRIPTION	This value appears to the right of the Asset text box on the Maximo Adapter.	MI_EQUIP000_ EQUIP_SHRT_ DESC_C	Equipment Short Description
DESCRIPTION_ LONGDESCRIPTION	This value appears in the Long Description window.	MI_EQUIP000_ EQUIP_LNG_ DESC_T	Equipment Long Description
INSTALLDATE	Installation Date	MI_EQUIP000_ PRCH_D	Purchase Date
ITEMNUM	Rotating Item	MI_EQUIP000_ INV_NO_C	Inventory Number
LOCATION	Location	MI_EQUIP000_ FNC_LOC_C	Functional Location
MANUFACTURER	Manufacturer	MI_EQUIP000_ MFR_C	Manufacturer

PRIORITY	Priority	MI_EQUIP000_ CRITI_IND_C	Criticality Indic-ator
SERIALNUM	Serial #	MI_EQUIP000_ ASSET_ SERIAL_NBR_ C	Asset Serial Number
SITEID	Site	MI_EQUIP000_ SITE_C	Site
STATUS	Status	MI_EQUIP000_ SYS_ST_C	System Status
VENDOR	Vendor	MI_EQUIP000_ EQUIP_VNDR_ C	Equipment Vendor
WARRANTYEXPDATE	None. This value is not dis-played on the Maximo Adapter.	MI_EQUIP000_ WRNTY_ EXPR_D	Warranty Expir-ation Date

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

Maximo Internal ID	Maximo Adapter Label	Meridium Enterprise APM Field Caption	Meridium Enterprise APM Field ID
CHANGEDATE+2:9	None. This value is not displayed on the Maximo Adapter.	MI_FNCLOC00_ CHANGE_ DATE_D	CMMS Last Changed Date
DESCRIPTION	This value appears to the right of the Location text box on the Maximo Adapter.	MI_FNCLOC00_ FNC_LOC_ DESC_C	Functional Location Description
DESCRIPTION_ LONGDESCRIPTION	This value appears in the Long Description window.	MI_FNCLOC00_ FNC_LOC_LNG_ DESC_C	Functional Location Long Description
FAILURECODE	Failure Class	MI_FNCLOC00_ FAIL_CLASS_C	Failure Class
LOCATION	Location	MI_FNCLOC00_ FNC_LOC_C	Functional Location
LOCATIONSID	None. This value is not displayed on the Maximo Adapter.	MI_FNCLOC00_ INTERNAL_ID_ C	Functional Location Internal ID
LOCPRIORITY	Priority	MI_FNCLOC00_ CRTCAL_IND_C	Criticality Indicator
PARENT	Parent	MI_FNCLOC00_ SUPR_FNC_ LOC_C	Superior Functional Location
SITEID	Site	MI_FNCLOC00_ SITE_C	Site
STATUS	Status	MI_FNCLOC00_ SYS_STATUS_ C	System Status

TYPE	Type	MI_FNCLOC00_TYPE_C	Location Type

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

Maximo Internal ID	Maximo Interface Label	Maximo Table Name	Meridium Family Name	Meridium APM Work History Field ID	Meridium APM Work History Field Caption
ACTFINISH	Actual Finish	MXWO	MI_EVWKHIST	MI_EVWKHIST_MAINT_COMPL_D	Maintenance Completion Date
ACTLABCOST	Actual Labor Cost	MXWO	MI_EVWKHIST	MI_EVWKHIST_ACT_LABOR_COST_N	Actual Labor Cost
ACTLABHRS	Actual Labor Hours	MXWO	MI_EVWKHIST	MI_EVWKHIST_ACT_LABOR_TIME_N	Actual Labor
ACTMATCOST	Actual Material Cost	MXWO	MI_EVWKHIST	MI_EVWKHIST_ACT_MTRL_COST_N	Actual Material Cost
ACTSERVCOST	Actual Service Cost	MXWO	MI_EVWKHIST	MI_EVWKHIST_ACT_SERV_COST_N	Actual Service Cost

ACTSTART	Actual Start	MXWO	MI_ EVWKHIS- T	MI_ EVWKHIST_ MAINT_ START_D	Main- tenance Start Date
ACTTOOLCOST	Actual Tool Cost	MXWO	MI_ EVWKHIS- T	MI_ EVWKHIST_ ACT_TOOL_ COST_N	Actual Tool Cost
ACTTOTALCOST	Actual Total Cost	MXWO	MI_ EVWKHIS- T	MI_ EVWKHIST_ MAINT_CST_ N	Main- tenance Cost
ASSETLOCPRIORI- TY	Asset/Loca- tion Priority	MXWO	MI_ EVWKHIS- T	MI_ EVWKHIST_ EQU_LOC_ PRIORTY_N	Equipment Location Pri- ority
ASSETNUM	Asset	MXWO	MI_ EVWKHIS- T	MI_EVENT_ ASST_ID_ CHR	Equipment ID
CALCPRIORITY	Asset/Loca- tion Priority	MXWO	MI_ EVWKHIS- T	MI_ EVWKHIST_ CALC_ PRIORTY_N	Calculated Priority
CHANGEBY	Modified By	MXWO	MI_ EVWKHIS- T	MI_EVENT_ MODFD_BY_ CHR	Modified By
CHANGEDATE	None. This value is not visible in the Maximo inter- face.	MXWO	MI_ EVWKHIS- T	MI_ EVWKHIST_ ORDR_ CHNG_DT_D	Order Last Change Date
CREWID	Crew	MXWO	MI_ EVWKHIS- T	MI_ EVWKHIST_ CREW_ID_C	Crew ID

DESCRIPTION	Description	MXWO	MI_ EVWKHIS-T	MI_ EVWKHIST_ ORDR_ DESC_C AND MI_ EVENT_ SHRT_CHR	Order Description AND Event Short Description
DESCRIPTION_ LONGDESCRIPTIO-N	This value appears in the Long Description window.	MXWO	MI_ EVWKHIS-T	MI_EVENT_ LNG_DSC_ TX	Event Long Description
ESTLABCOST	Estimated Labor Cost	MXWO	MI_ EVWKHIS-T	MI_ EVWKHIST_ EST_LABOR_ COST_N	Estimated Labor Cost
ESTLABHRS	Estimated Labor Hours	MXWO	MI_ EVWKHIS-T	MI_ EVWKHIST_ EST_LABOR_ TIME_N	Estimated Labor
ESTMATCOST	Estimated Material Cost	MXWO	MI_ EVWKHIS-T	MI_ EVWKHIST_ EST_MTRL_ COST_N	Estimated Material Cost
ESTSERVCOST	Estimated Service Cost	MXWO	MI_ EVWKHIS-T	MI_ EVWKHIST_ EST_SERV_ COST_N	Estimated Service Cost
ESTTOOLCOST	Estimated Tool Cost	MXWO	MI_ EVWKHIS-T	MI_ EVWKHIST_ EST_TOOL_ COST_N	Estimated Tool Cost

JPNUM	None. This value is not visible in the Maximo interface.	MXWO	MI_ EVWKHIST- T	MI_ EVWKHIST_ ORDR_ MAINT_ PLAN_C	Order Main- tenance Plan
JUSTIFYPRIORITY	Priority Jus- tification	MXWO	MI_ EVWKHIS- T	MI_ EVWKHIST_ ORDR_ PRTY_ DESC_C	Order Pri- ority Description
LEAD	Lead	MXWO	MI_ EVWKHIS- T	MI_ EVWKHIST_ LEAD_ CRAFT_C	Lead Craft
LOCATION	Location	MXWO	MI_ EVWKHIS- T	MI_EVENT_ LOC_ID_CHR	Location ID
OUTLABCOST	Outside Labor Cost	MXWO	MI_ EVWKHIS- T	MI_ EVWKHIST_ ACT_OUT_ LBR_CST_N	Actual Out- side Labor Cost
OUTMATCOST	Outside Material Cost	MXWO	MI_ EVWKHIS- T	MI_ EVWKHIST_ ACT_OUT_ MTR_CST_N	Actual Out- side Mater- ial Cost
OUTTOOLCOST	Outside Tool Cost	MXWO	MI_ EVWKHIS- T	MI_ EVWKHIST_ ACT_OUT_ TL_CST_N	Actual Out- side Tool Cost
PMNUM	None. This value is not visible in the Maximo interface.	MXWO	MI_ EVWKHIS- T	MI_ EVWKHIST_ PM_NBR_C	PM Num- ber

REPORTDATE	Reported Date	MXWO	MI_EVWKHIST	MI_EVENT_STRT_DT	Event Start Date
SCHEDFINISH	Scheduled Finish	MXWO	MI_EVWKHIST	MI_EVWKHIST_SCHED_COMPL_D	Scheduled Completion Date
SCHEDSTART	Scheduled Start	MXWO	MI_EVWKHIST	MI_EVWKHIST_SCHED_START_D	Scheduled Start Date
SITEID	Site	MXWO	MI_EVWKHIST	MI_EVWKHIST_SITE_C	Site
STATUS	Status	MXWO	MI_EVWKHIST	MI_EVWKHIST_ORDR_SYS_STAT_C	Order System Status
TARGCOMPDATE	Target Finish	MXWO	MI_EVWKHIST	MI_EVWKHIST_TARGET_COMPL_D	Target Completion Date
TARGSTARTDATE	None. This value is not visible in the Maximo interface.	MXWO	MI_EVWKHIST	MI_EVWKHIST_TARGET_START_D	Target Start Date
WONUM	Work Order	MXWO	MI_EVWKHIST	MI_EVENT_ID AND MIEVWKHIST_ORDER_ID_N	Event ID AND Order ID

WOPRIORITY	Priority	MXWO	MI_ EVWKHIS- T	MI_ EVWKHIST_ ORDR_ PRTY_C	Order Pri- ority
WORKTYPE	None. This value is not visible in the Maximo inter- face.	MXWO	MI_ EVWKHIS- T	MI_ EVWKHIST_ ORDR_TYP_ CD_C	Order Type Code

Values Mapped from Maximo Service Request to Meridium Enterprise APM Work History Records

Maximo Internal ID	Maximo Interface Label	Meridium Family	Meridium APM Work History Field ID	Meridium APM Work History Field Caption
ASSETNUM	Asset	MI_EVWKHIST	MI_EVENT_ ASST_ID_CHR	Equipment ID
DESCRIPTION	Summary	MI_EVWKHIST	MI_EVENT_ SHRT_DSC_ CHR	Event Short Description
LOCATION	Location	MI_EVWKHIST	MI_EVENT_ LOC_ID_CHR	Location ID
SITEID	Site	MI_EVWKHIST	MI_EVWKHIST_ SITE_C	Site
TICKETID	Service Request	MI_EVWKHIST	MI_EVENT_ID	Event ID

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

Maximo Internal ID	Maximo Interface Label	Maximo Table	Meridium Family	Meridium APM Work History Field ID	Meridium APM Work History Field Caption
ASSETNUM	Asset	MXWO	MI_ DTWKHIS-T	MI_DTWKHIST_ ASST_ID_C	Equipment ID
DESCRIPTION	Description	MXWO	MI_ DTWKHIS-T	MI_DTWKHIST_ EVNT_DTL_ DESC_C	Work History Detail Description
DESCRIPTION_ LONGDESCRIPTIO-N	This value appears in the Long Description window.	MXWO	MI_ DTWKHIS-T	MI_DTWKHIST_ DTL_NARTV_T	Detail Narrative
LOCATION	Location	MXWO	MI_ DTWKHIS-T	MI_DTWKHIST_ LOC_ID_C	Location ID
PROBLEMCODE	Problem Code	MXWO	MI_ DTWKHIS-T	MI_DTWKHIST_ CNDTN_CD_C	Condition Code
SITEID	Site	MXWO	MI_ DTWKHIS-T	MI_DTWKHIST_ SITE_C	Site

| WONUM | Work Order | MXWO | MI_DTWKHIST | MI_DTWKHIST_WRK_HISTRY_ID_C MI_DTWKHIST_ORDR_ID_C MI_DTWKHIST_EVNT_DTL_ID_C | Work History ID Order ID History Detail ID |

Values Mapped from Maximo Service Order Request to Meridium Enterprise APM Work History Detail Records

Maximo Internal ID	Maximo Interface Label	Meridium Family	Meridium APM Work History Field ID	Meridium APM Work History Field Caption
ASSETNUM	Asset	MI_DTWKHIST	MI_DTWKHIST_ASST_ID_C	Equipment ID
DESCRIPTION	Summary	MI_DTWKHIST	MI_DTWKHIST_EVNT_DTL_DESC_C	Work History Detail Description
LOCATION	Location	MI_DTWKHIST	MI_DTWKHIST_LOC_ID_C	Location ID
SITEID	Site ID	MI_DTWKHIST	MI_DTWKHIST_SITE_C	Site
TICKETID	Service Request	MI_DTWKHIST	MI_DTWKHIST_ORDR_ID_C AND MI_DTWKHIST_EVNT_DTL_ID_C	Order ID -AND- Work History Detail ID

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 form- at: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 form- at:YYYYMMDD.	Required
CREATE_ DATE_START	Date value that will lim- its the data extracted to records created on or after the specified date.	Dates must be entered in the following form- at: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 form- at:YYYYMMDD.	Optional
LANGUAGE	The SAP code that represents the lan- guage.	Must be a single character.	Required
MAINT_PLANT	ID(s) of the Main- tenance 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 Con- nect 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.

4. 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

5. 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:

1. On the machine clear the APM Connect, navigate to *<root:\\>\APMConnect\Config*.

2. 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.
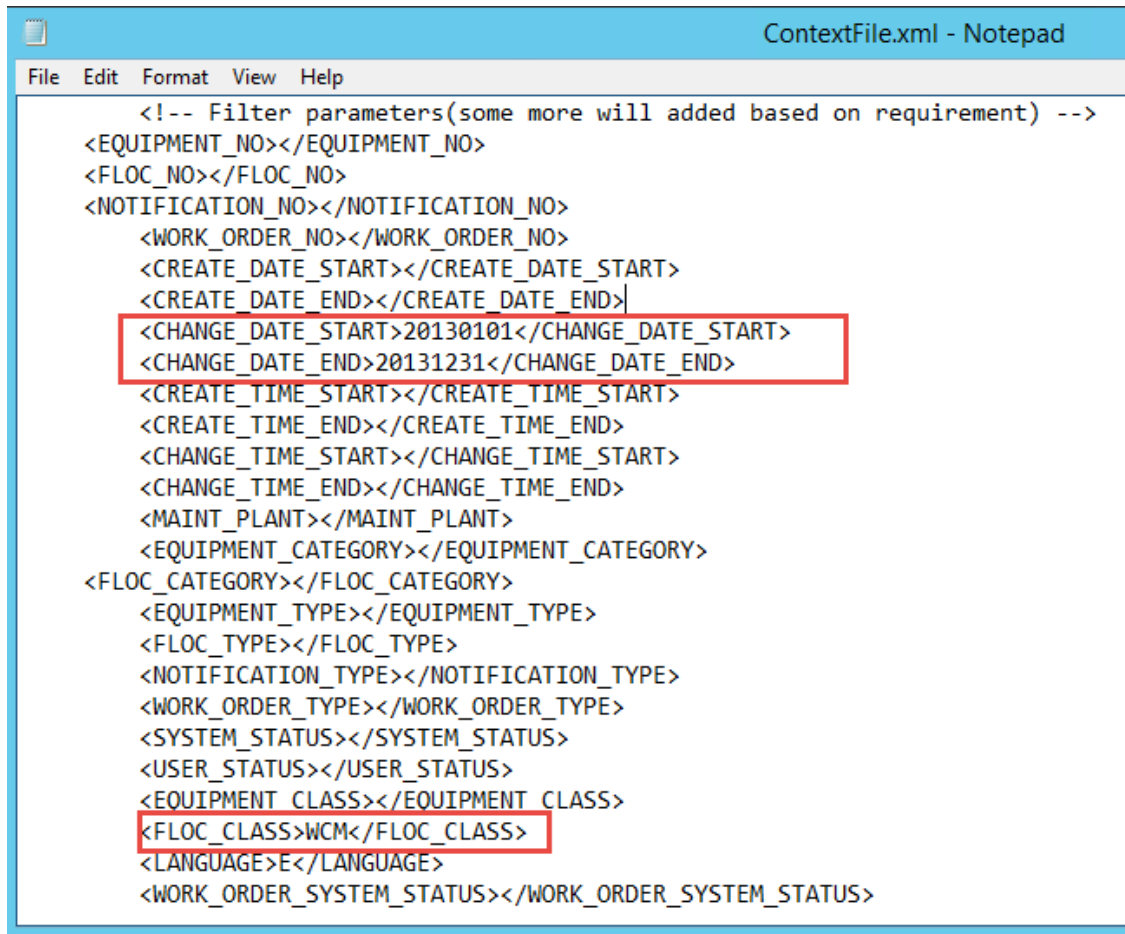
Example: SAP Functional Location Extraction

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:

```
                                    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></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 Octo-
   ber 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

EQUIPMENT_ CLASS	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. **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.	The Equipment Class should not exceed 18 characters.	Optional
EQUIPMENT_ TYPE	ID of the Equipment Type that will limit the Equipment extracted	The Equipment Type should not exceed 10 characters.	Optional

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](#).

4. 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

5. 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.
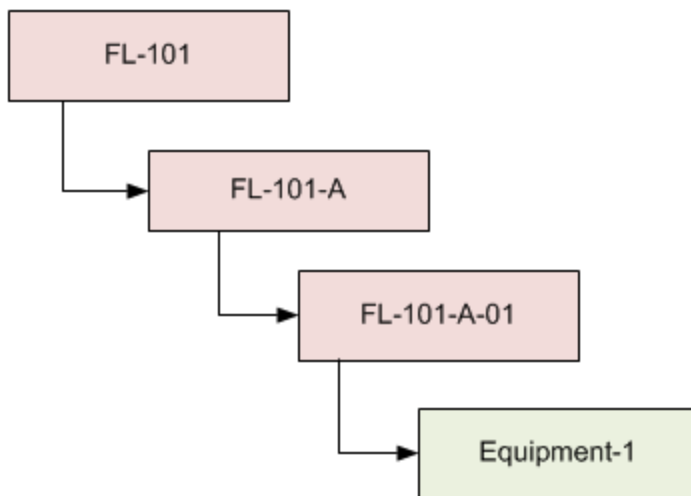
In this case, if you were to run the Functional Location Adapter, the following Functional Location records would be created automatically in the Meridium Enterprise APM database:

- 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*.

In addition, you can see from the Objects tab that there are items on the object list:

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*.

> ℹ **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*.

> ℹ **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/Plnt	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:

Display Corrective Maintenance order 4000141: Object List

Order PM01 4000141   Shannon Test
Sys.Status   REL PCNF CSER NMAT PRC

HeaderData | Operations | Components | Costs | Partner | Objects | Addit. Data | Location | F

Object List

P...	Sort	Serial no.	Material	Material Description	Equipment	Equipment descriptn	Functional loc.
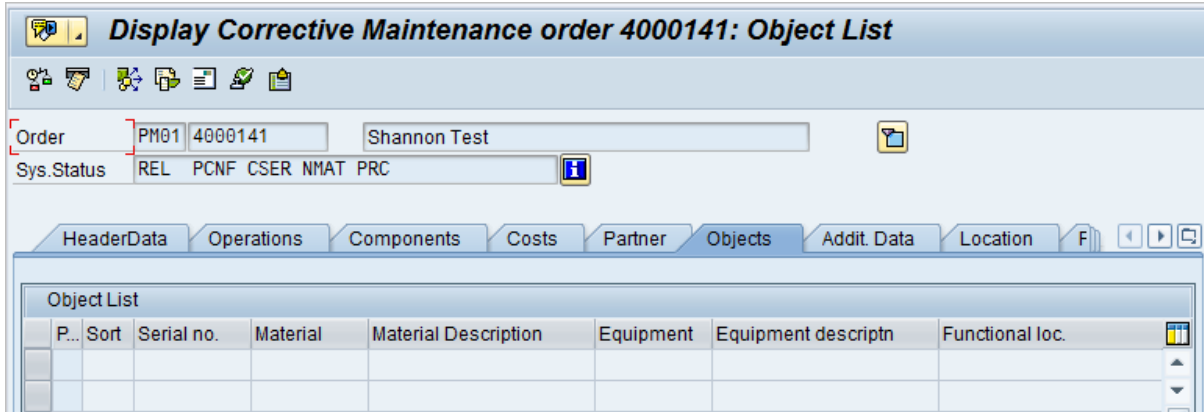
If you were to extract this Order, the following Work History record would be created, with the following:

- 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	☐ 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

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:
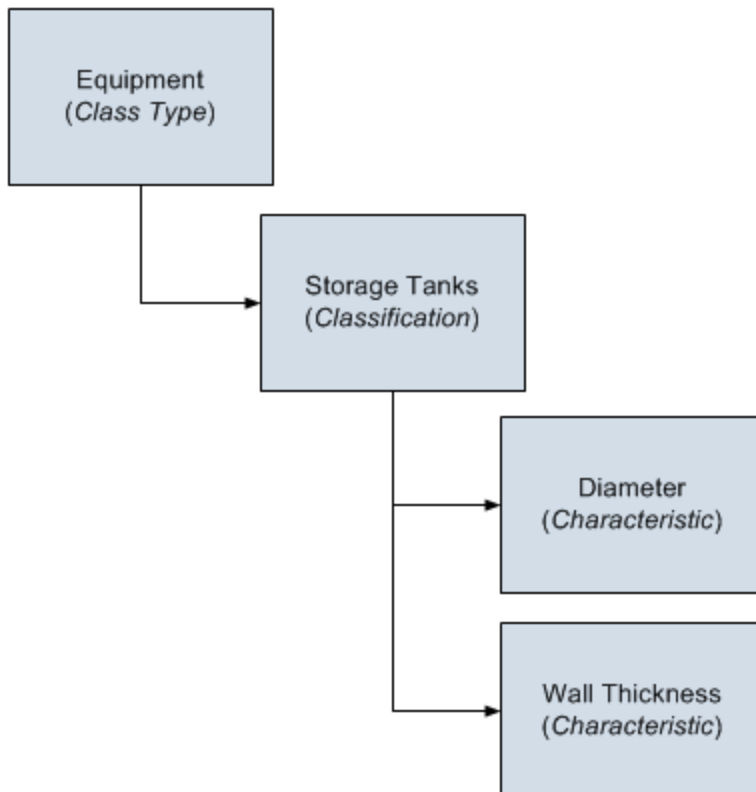
When you extract Equipment and Functional Locations from SAP into the Meridium Enterprise APM system, their corresponding characteristics will not be extracted into the Equipment and Functional Location records that are created during the extraction process. If you want to extract their corresponding 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.

Meridium Enterprise APM Actions and Results

Action	Result	Notes
Select the **Extract From CMMS System** check box in a CMMS Characteristic record.	The next time the Technical Characteristics Adapter is run, the characteristic is extracted.	During the extraction process, a corresponding Technical Characteristic record is created.
Clear the **Extract From CMMS System** check box in a CMMS Characteristic record.	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. Instead, the next time that the Technical Characteristics Adapter is run, the corresponding Technical Characteristic record is deleted.	To begin extracting the characteristic again, you will need to select the **Extract From CMMS System** check box.
Delete a CMMS Characteristic record.	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. Instead, the next time that the Technical Characteristics Adapter is run, the corresponding Technical Characteristic record is deleted. 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.	To begin extracting the characteristic again, you will need to: • 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.

Delete a CMMS Classification record.	All CMMS Characteristic records that were linked to the CMMS Classification record are deleted automatically. 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. Instead, the next time that the Technical Characteristics Adapter is run, the corresponding Technical Characteristic records are deleted automatically. 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.	To begin extracting characteristics belonging to this classification again, you will need to: • 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.

Delete a CMMS Classification Type record.	All CMMS Classification and CMMS Characteristic records that were linked (directly or indirectly) to the CMMS Classification Type record are deleted automatically. 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. Instead, the next time that the Technical Characteristics Adapter is run, the Technical Characteristic record is deleted automatically. 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, *no* characteristics are extracted.	To begin extracting characteristics again, you will need to: • 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
Specify a value for a characteristic that is configured to be extracted.	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.
Remove a value for a characteristic that is configured to be extracted.	The next time the Technical Characteristics Adapter is run, the corresponding Technical Characteristic record is updated by removing the value from the Value field.

Assign a new classification to an Equipment or Functional Location, and specify values for the characteristics belonging to that class.	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.
Unassign a classification from an Equipment or Functional Location record.	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.
Delete a characteristic from a classification.	The next time the Technical Characteristics Adapter is run, the corresponding Technical Characteristic record is deleted.

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:
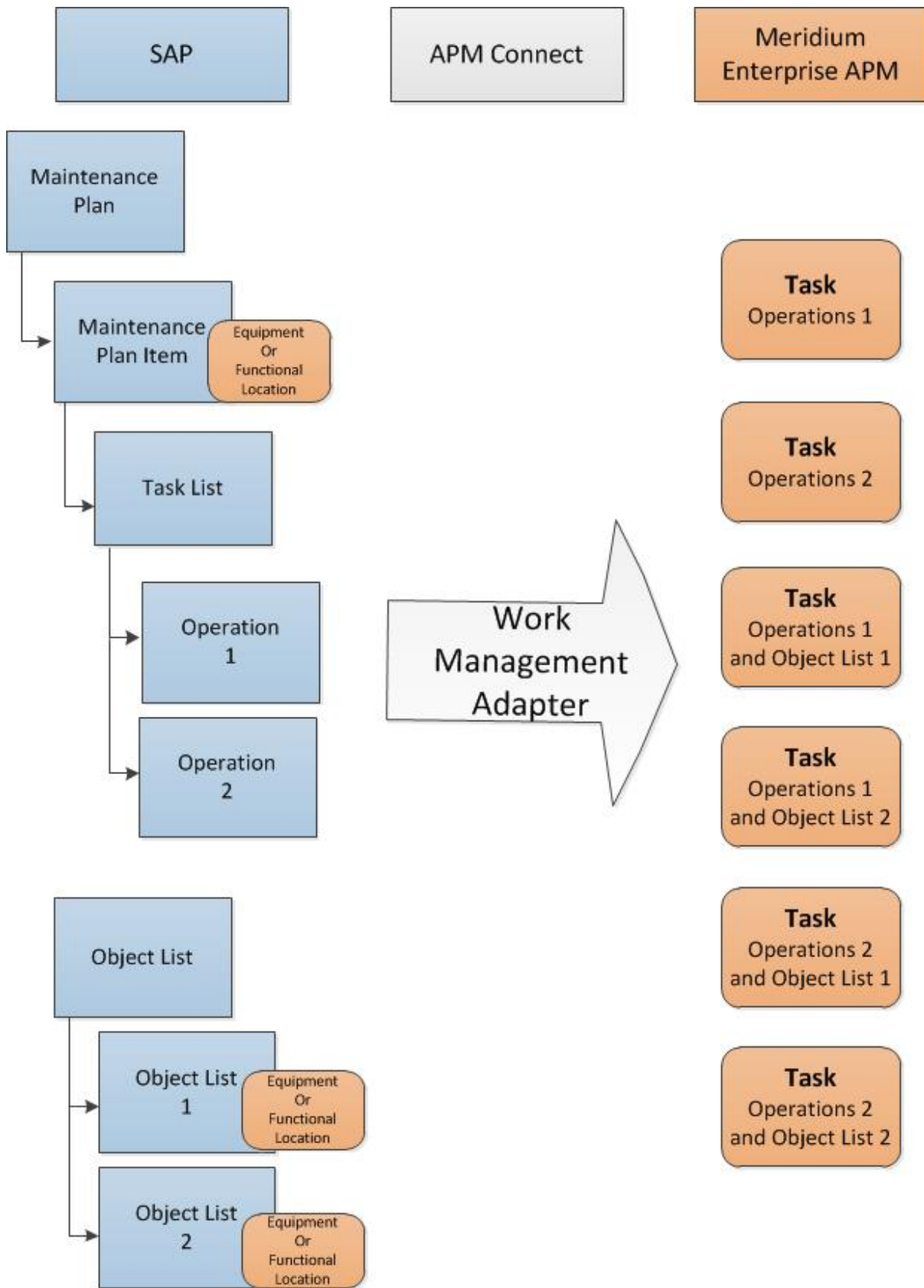
About Last and Next Date from SAP

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 *On Hold*, 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.

> ℹ **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:
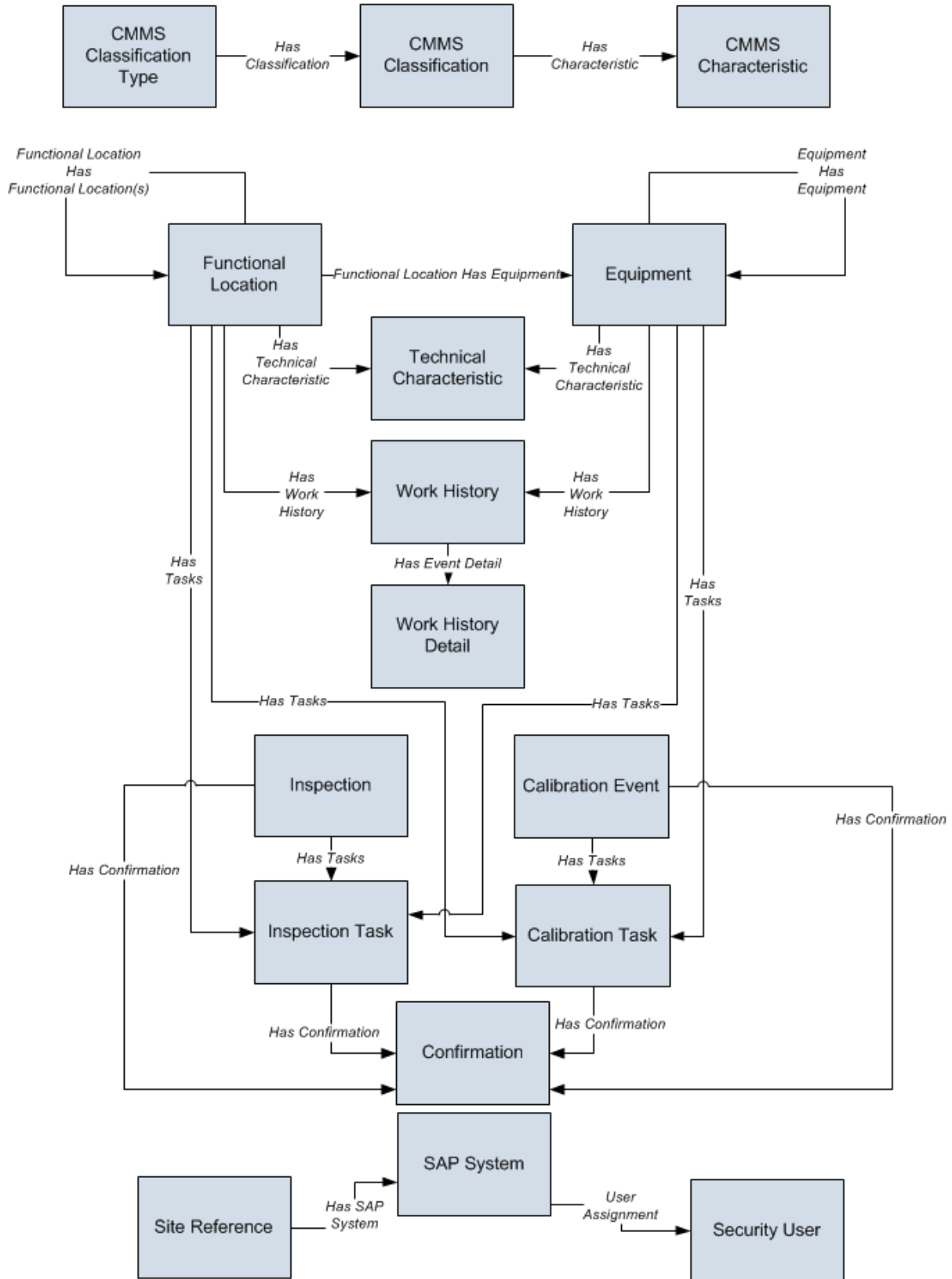
> **Note:** In the diagram, boxes represent entity families and arrows represent relationship families that are configured in the baseline database. You can determine the direction of the each relationship definition from the direction of the arrowhead: the box from which the arrow originates is the 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.

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.

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.
CMMS System ID	Character	The ID of the SAP System from which this characteristic will be extracted.	This field is populated automatically and used internally by the Meridium Enterprise APM system. This field is not available on the baseline datasheets.

Extract From CMMS System	Logical	A value that identifies whether or not this characteristic will be extracted.	On the datasheet, you can select this check box if you want to extract this characteristic.

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.

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.

Extract From CMMS System	Logical	A value that identifies whether or not characteristics for this classification will be extracted from the SAP system.	On the datasheet, you can select this check box if you want to extract characteristics belonging to this classification.
Internal Classification Number	Character	This value is used internally by the Meridium Enterprise APM system.	The value in this field is set automatically, and this field is disabled.

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.

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: • 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.

SAP 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.

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 EAMsystem 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 textits_or_integrated_its_server_ url 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 <SYSID>-<CLIENT>, where <SYSID> is the System ID of the SAP system and <CLIENT> 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 <SYSID>-<CLIENT>, where <SYSID> is the System ID of the SAP system and <CLIENT> 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.

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 Descrip-tion	MAKT	MAKTX	Construction Type Descrip-tion
MI_ EQUIP000	MI_ EQUIP000_ CREATE_ DATE_D	CMMS Creation Date	EQUI	ERDAT	SAP Creation Date
MI_ EQUIP000	MI_ EQUIP000_ CRITI_IND_ C	Criticality Indic-ator	ILOA	ABCKZ	Criticality Indic-ator

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 Draw-ing Number	EQUI	HZEIN	Technical Draw-ing 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 Con-structed	EQUI	BAUJJ	Year Con-structed
MI_ EQUIP000	MI_ EQUIP000_ MAINT_ PLANT_C	Maintenance Plant	ILOA	SWERK	Maintenance Plant
MI_ EQUIP000	MI_ EQUIP000_ MAINT_ PLANT_ DESC_C	Maintenance Plant Descrip-tion	T001W	NAME1	Maintenance Plant Descrip-tion

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_ EFFCT_ 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 System | SY-SYSID + "-" + SY-MANDT | | Name of SAP R/3 System - R/3 System, client number from logon |

Values Mapped to Records that were Created from Orders Without Notifications

Meridium Family ID	Meridium Field ID	Meridium Field Caption	SAP Table	SAP Field	SAP Field Caption
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 currency)
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 Oper-ation
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 Indic-ator
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 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 System	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 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)

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	VIAUFKS	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 Nar- rative	QMFE	LTXT	
MI_ DTWKHIST	MI_DTWKHIST_ EVNT_DTL_ DESC_C	Work History Detail Descrip- tion	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 Descrip- tion	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/MITAS-KINSP	MI_TASK_MAINT_PLAN_NBR_C	MPLA	WARPL	Maintenance Plan	WARPL
MI_TASKCALB/MITAS-KINSP	MI_TASK_MAINT_PLAN_ITEM_NBR_C	MPOS	WAPOS	Maintenance item	WAPOS
MI_TASKCALB/MITAS-KINSP	MI_TASK_TASK_LIST_TYPE_C	PLKO	PLNTY	Task List Type	PLNTY
MI_TASKCALB/MITAS-KINSP	MI_TASK_TASK_LIST_GROUP_C	PLKO	PLNNR	Key for Task List Group	PLNNR
MI_TASKCALB/MITAS-KINSP	MI_TASK_TASK_LIST_GROUP_CNTR_C	PLKO	PLNAL	Group Counter	PLNAL
MI_TASKCALB/MITAS-KINSP	MI_TASK_OPERATION_NBR_C	PLPO	VORNR	Operation/Activity Number	VORNR

MI_TASKCALB/MITAS-KINSP	MI_TASK_DESC_TX	VIMPOS / PLKO	EQUNR / TPLNR	Equipment / Functional Location	Con-catenate EQUNR or TPLNR with "-" and PLPO.LTX-A1 + PLPO.LTX-A2
MI_TASKCALB/MITAS-KINSP	MI_TASK_ID	PLPO	LTXA1, LTXA2	Oper-ation/Activity Number	LTXA1 + LTXA2
MI_TASKCALB/MITAS-KINSP	MI_TASK_DESIR_INTER_NBR	MMPT, T006	MMPT.ZY-KL1 / T006.ZAE-HL	Cycle/Unit	In the Meridium Rule the value for ZYKL1 needs to be converted from UOM type stored in the T006.MSE-H3 field to the UOM stored in the /MIAPM/TA-SK_CNFG table in the UOME_ID field
MI_TASKCALB/MITAS-KINSP	MI_TASK_DESIR_INTER_UOM_C	/MIAPM/TA-SK_CNFG	UOME_ID	Cycle/Unit UOM	UOME_ID

MI_TASKCALB/MITAS-KINSP	MI_TASK_MIN_INTER_NBR	MMPT, T006	MMPT.ZY-KL1 / T006.ZAE-HL	Cycle/Unit	In the Meridium Rule the value for ZYKL1 needs to be converted from UOM type stored in the T006.MSE-H3 field to the UOM stored in the /MIAPM/TA-SK_CNFG table in the UOME_ID field
MI_TASKCALB/MITAS-KINSP	MI_TASK_MIN_INTER_UOM_C	/MIAPM/TA-SK_CNFG	UOME_ID	Cycle/Unit UOM	UOME_ID
MI_TASKCALB/MITAS-KINSP	MI_TASK_MAX_INTER_NBR	MMPT, T006	MMPT.ZY-KL1 / T006.ZAE-HL	Cycle/Unit	In the Meridium Rule the value for ZYKL1 needs to be converted from UOM type stored in the T006.MSE-H3 field to the UOM stored in the /MIAPM/TA-SK_CNFG table in the UOME_ID field

MI_ TASKCALB/MITAS-KINSP	MI_TASK_ MAX_ INTER_ UOM_C	/MIAPM/TA-SK_CNFG	UOME_ID	Cycle/Unit UOM	UOME_ID
MI_ TASKCALB/MITAS-KINSP	MI_TASK_ CHANGE_ DATE_D	PLPO	AEDAT	SAP Last Changed Date	AEDAT
MI_ TASKCALB/MITAS-KINSP	MI_TASK_ CREATE_ DATE_D	PLPO	ANDAT	SAP Creation Date	ANDAT
MI_ TASKCALB/MITAS-KINSP	MI_TASK_ MAINT_ PLANT_C	MPOS	SWERK	SAP Main-tenance Plant	SWERK
MI_ TASKCALB/MITAS-KINSP	MI_TASK_ SAP_ SYSTEM_ C	None	SY-SID, SY-MANDT	SAP System	Con-catenate 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	EQUIPMENT	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 Person Reporting Notification	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 Caption	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

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 SAP database and your Meridium Enterprise APM database. This topic describes how to schedule a recurring Job in the APM Connect Administration Center.

> ℹ **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 in the context file for the Job you want to execute.

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.

   > ℹ **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.
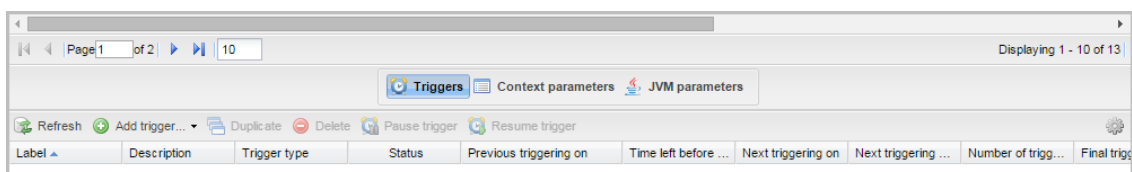
4. In the Triggers section, select **Add trigger**.

   A drop-down menu appears, displaying the options for the types of triggers you can add.
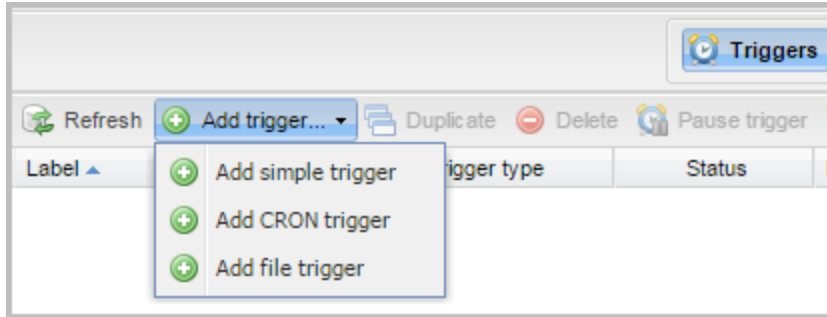
The following trigger is applicable to APM Connect data extractions:

- **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.
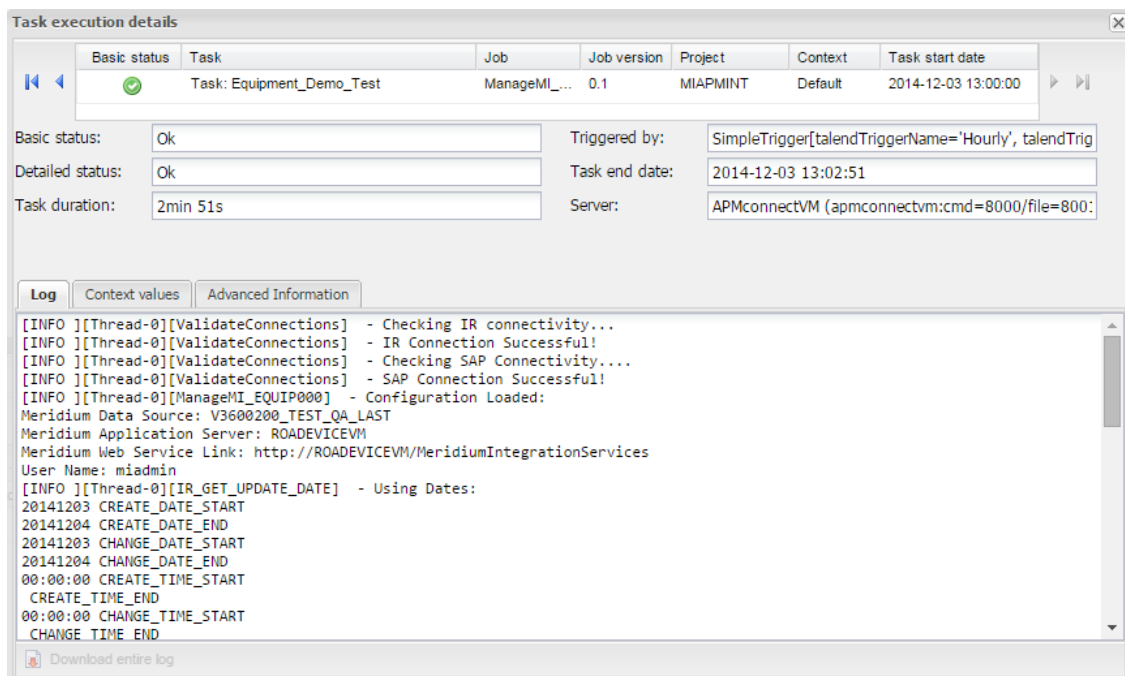
View the Execution Log

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.

   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.

Before You Begin

A file needs to be updated for the following reasons:

- A change has been made to the files that the adapter is using for Jobs.

Steps

To Update an Adapter Job:

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 [icon].

   The **Import generated code** window appears.
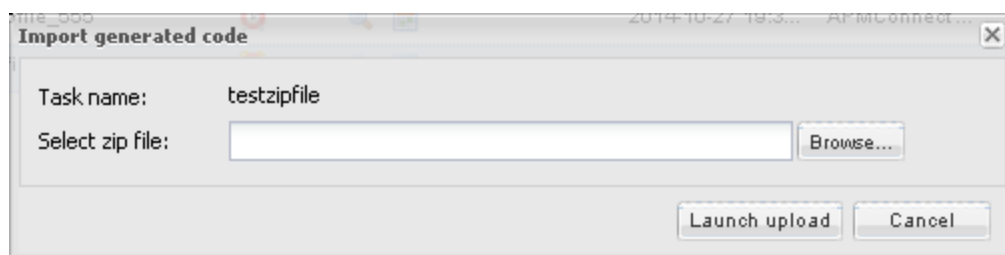
8. Select **Browse** to navigate to the file containing the adapter Jobs that have been updated.

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 Configuration

In the APM Connect Configuration 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.

Establish Connection from Meridium Enterprise APM

This topic describes how to set up the connection from Meridium Enterprise APM to APM Connect using the APM Operations Manager.

Steps

1. Access **Operations Manager** , and select **APM Connect Configuration**.

   The **APM Connect Configuration**workspace appears.

2. In the **APM Connect Server Setting** tab, configure the following parameters as necessary:

   - **Integration Server:** Enter the location of the APM Connect sever.
   - **Connection String:** Enter the connection string determined by the context file. The connection string is a combination of the APM Connect Connection parameters APM_CONNECT_HOST and APM_CONNECT_PORT. For example, if the host was *apmconnect* and the port was *8040*, the connection string would be *http://apmconnect:8040/*.

     > 🗋 **Note:** This is a required field.

   - **Timeout (ms):** Enter the connection timeout in milliseconds. The default value is 100,000 ms.

> 📄 **Note:** The parameters in the Staging Database Parameters section are only configured for the Data Loaders

- **Host Name**: Data Loaders staging database host name.
- **Database Name**: Data Loader staging database database name
- **Username**:Data Loader staging database username.
- **Password**:Data Loader staging database password.
- **Use Authentication:** To use authentication for network credentials, select the check box.
- **Username:** Enter the user name for the network.
- **Password:** Enter the password for the network.

3. In the **Proxy Server Settings**tab, configure the following parameters as necessary (if applicable):

- **Use Proxy Server**: To use the proxy server, select the check box.
- **Poxy Server**: Enter the location of the proxy server.
- **Use Proxy Server Authentication**: To use authentication for the proxy server, select the check box.
- **Username**: Enter the user name for the proxy server.
- **Password**: Enter the password for the proxy server.

4. In the **Remote File Server Setting** tab, configure the following parameters as necessary:

- **Base File Path**: Enter the file server path.

> 📄 **Note:** An example of a valid server path is *hostserver\share\subfolder*. If an invalid server path is entered, you will receive an error message.

Failed to save configuration
"Base File Path is not a valid UNC path" ✕
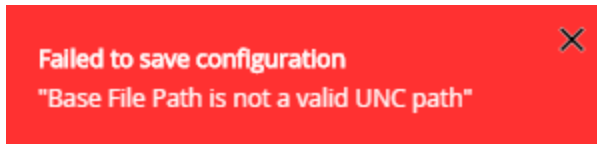
- **Use File Path Authentication**: To use authentication for the file server, select the check box.
- **Username** : Enter the user name for the file server.
- **Password**: Enter the password for the file server.

5. Select **Save**.

The connection between APM Connect and Meridium Enterprise APM is established.

What's Next?

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

  -or-

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

Schedule Work Orders

Steps

1. Access **Operations Manager** , and select **APM Connect Configuration**.

2. On the **APM Connect Configuration** page, in the **Scheduling Properties** section, select **Edit Schedule**.

   > ℹ **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**.

3. In the **Edit Schedule** window select **Recurrence**.

4. In the **Time Zone** section, use the drop-down to select the appropriate time zone.

5. In the **Start** section, select 📅 to schedule the start date and time.

   1. Select one of the following as appropriate:

      - **Now**: to use the current time and date as the starting point.
      - **Clear**: to clear the current selection.
      - **<Date>**: to use the selected date as the start date.

   2. Select 🕐, and then select the appropriate time.

   3. 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, use the drop-down to select the interval unit you would like the generation to occur i.e. minutes, hours, years, etc.

8. In the **Every** section in the begin box, use the drop down to select one of the following:

   - **From start time**: to start the recurrence from the previously selected start time.
   - **After last occurrence**: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**: the recurrence will not end
   - **After:** to enter a number of occurrences after which the generation will end.
   - **Time & Date**: to use the calendar to select a time and date when the generation will end.

10. Select **OK**.

The schedule summary appears next to **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.