

PROFICY® SOFTWARE & SERVICES

ORCHESTRATION HUB

Getting Started Guide



Proprietary Notice

The information contained in this publication is believed to be accurate and reliable. However, GE Vernova assumes no responsibilities for any errors, omissions or inaccuracies. Information contained in the publication is subject to change without notice.

No part of this publication may be reproduced in any form, or stored in a database or retrieval system, or transmitted or distributed in any form by any means, electronic, mechanical photocopying, recording or otherwise, without the prior written permission of GE Vernova. Information contained herein is subject to change without notice.

© 2024 GE Vernova and/or its affiliates. All rights reserved.

Trademark Notices

"VERNOVA" is a registered trademark of GE Vernova. "GE VERNOVA" is a registered trademark of GE Aerospace exclusively licensed to GE Vernova. The terms "GE" and the GE Monogram are trademarks of GE Aerospace and are used with permission.

Microsoft[®] is a registered trademark of Microsoft Corporation, in the United States and/or other countries.

All other trademarks are the property of their respective owners.

We want to hear from you. If you have any comments, questions, or suggestions about our documentation, send them to the following email address: doc@ge.com

Table of Contents

Introduction	1
Conceptual Overview	1
Architecture Overview	2
Installation	2
System Requirements	2
Minimum Hardware Requirements	2
Supported Operating Systems	2
Supported SQL Versions	3
Supported Browsers	3
Prerequisites	
Licensing	
Denodo Installation	4
Step 1	5
Step 2	6
Step 3	7
Step 4	7
Step 5	9
Step 6 – To change password	
Steps to Make Denodo Automatically Start as a Service	12
Denodo License Configuration	13
Step 7 – Patch update	16
Orchestration Hub Installation	
Step 1	
Step 2	
Step 3	20
Step 4	21
Step 5	22
Step 6	22
Step 7	23
	24

	Step 9	25
	Step 10	26
	Step 11	27
	Step 12	27
	Step 13	28
	Step 14 (Exception case)	29
Post	t Install Configuration	
Add	a L2/MES Plant Site	
	Step 1	
	Step 2	
	Step 3	
	Step 4	
	Step 5	
	Step 6	
Арр	lication Update	
Hov	v to simulate Level2 and Level4 (Test scenario)	
Le	evel4 mock data	
Le	evel2 (PA) mock data	
Trou	Jbleshooting	40
L	ogging	40
	Locations of Log and Configuration Files	40
	Log Files for Microservices	41
	Logging into Orchestration Hub	41

Introduction

Proficy Orchestration Hub enables manufacturing customers to stay in synch with constant updates to product manufacturing information. This solution provides out-of-the-box tools to unify product manufacturing information from disparate data systems like ERP and PLM, transforms and organizes this raw business-oriented information into production-ready formats like recipes and specifications, and orchestrates the information across the customer's factory floor systems at a single site or multiple facilities.

Proficy Orchestration Hub 2023 focuses on the first foundational theme of Manufacturing Product Data Management (mPDM). The 2023 release of Orchestration Hub focuses on the following issues: production delays, errors, and rework due to lack of up-to-date product data in production systems; quality variability due to ad-hoc modifications and lack of visibility into the cause of modifications; and inability to reduce non-productive time due to manual efforts trying to execute standard production work.

Conceptual Overview

The primary functional objective of Orchestration Hub software is to have a platform that allows you to integrate Level4 systems like ERP, PLM, SAP, ORACLE etc., with Level2 systems like Plant Applications, iFIX, CIMPLICITY and Batch, so that they can synchronize the latest / updated manufacturing data, classified as master data, available in the L4 systems with that in the L2 systems. One of the primary success criteria for Orchestration Hub software is to be independently installable and configurable and to be able to connect with any kind of L4 and L2 systems supporting multiple protocols for connection (SOAP/REST/ODATA/Native SQL, etc.), without major development work.

Architecture Overview



Process Flow in Production Orchestration

Installation

System Requirements

This topic provides the requirements for hardware components, browsers, and operating systems.

Minimum Hardware Requirements

You can install Orchestration Hub on a processor with 4-core configuration and a RAM of 16 GB.

Supported Operating Systems

You can install Orchestration Hub on any of the following desktop operating systems:

- Microsoft[®] Windows Server 2016
- Microsoft[®] Windows Server 2019
- Microsoft[®] Windows Server 2022

Supported SQL Versions

You can use Orchestration Hub with external data sources from the following relational databases:

- Microsoft[®] SQL Server 2016
- Microsoft[®] SQL Server 2017
- Microsoft[®] SQL Server 2019

Supported Browsers

You can access Orchestration Hub using any of the following web browsers:

- Google Chrome (recommended)
- Mozilla Firefox
- Chromium Edge

We recommend using a resolution of 1920x 1080 for the browser. Preferred display resolution zoom size for all application should be 100%. In addition, use a relatively modern device so that the browser has enough resources to render the visualizations and respond to user interactions with adequate performance.

Prerequisites

- Should have Operations Hub 2.1 or higher installed on any machine (To be installed with Fully Qualified Domain Name). To avoid any connectivity issues, it is recommended to install with the Fully Qualified Domain Name only.
- Should have Plant Applications 6.3 or higher installed on any machine (version of Plant Apps supported should also be supported by the version of Operations Hub you use)
- Install Microsoft[®] SQL Server Driver version 18.6.x (URL : <u>https://docs.microsoft.com/en-us/sql/connect/oledb/release-notes-for-oledb-driver-for-sql-server?view=sql-server-ver15#previous-releases</u>)
- Denodo should be downloaded and installed with license file. (Refer to <u>Denodo Installation</u> section for help on setting up Denodo).
- Remember the credentials used during Denodo installation and provide the same credentials when prompted during Orchestration Hub installation.
- If missing OLEDB, the following installer screen appears, which enables you to copy the URL for downloading the necessary connection.

Licensing

Orchestration Hub is a licensed application.

Microsoft OLEDB drive	er 18 for SOL Se	rver' is not fou	ind on the local	machine.
Please visit below link	to download an	d install.		
https://bit.ly/3qRvSdn	Сору			

With the short url mentioned, download the OLEDB driver. Post installation of the driver, restart the installation process.

• The Denodo Virtual DataPort service should be up and running before you begin. Denodo Virtual DataPort can be started from Denodo Platform Control Center by clicking on Launch Button. as shown in the following screen.

Denodo Platform	Control Center			- 🗆 🗙
Virtual DataPort	Denodo Platform Control Center CHTESTVM02.htclab.ge.com (10.181.251.215)			B Help
				Trop
ITPilot	Virtual DataPort Server Port 9999	O Running	 Stop 	
	Data Catalog http://127.0.0.1:9090/denodo-data-catalog	Stopped	Start	ж
				Configure
- -	Web Design Studio Not installed			
•	Diagnostic & Monitoring Tool http://127.0.0.1:9090/diagnostic-monitoring-tool	O Stopped	Start	0
	DOLS			Update
	Virtual DataPort Administration Tool		년 LAUNCH	
				Ū
				Uninstall
STOP ALL SERVERS	Virtual DataPort v8.0			

Note: If there is a reboot/restart of the system, you need to perform the previous steps to get Denodo up and running again.

Denodo Installation

After you download the Denodo .ISO, mount the .ISO file and open the 'GEOrchestrationHub.exe' file.

If Denodo is not already installed, then click the 'Denodo 8.0' link in installer screen as shown in the following figure.



Step 1

For installation of Denodo, click Next to proceed.



If Windows User Account Control is enabled, a dialog box displays in which you have to enter the credentials of an administrator user. Enter these credentials and continue.

Next, the install displays the product licensing conditions. Read them and accept; select **I accept the terms of this license** and click **Next**.



Default Installation: recommended for most users. You can select the modules you want to install and they will be installed with their default configuration values.

Select the license file from the directories – For example: if the .ISO file is mounted as E: then go to location - "E:\denodo-install-8.0\denodo-license" and select the license file.

Denodo - Installation of Denodo Platform	X
	Denodo Platform Setup
	Choose whether to use default or custom settings. Custom Installation allows you to manually configure the components to Install.
	Default Installation (recommended for most users)
	O Custom Installation (recommended for advanced users)
denodo ^{::}	
DATA VIRTUALIZATION	Installation path:
	C:\Denodo\DenodoPlatform8.0 Browse
	License file location (if you do not have a license file now, you will be able to provide it later using Denodo Control Center):
	ISIDTUS-TL-GDI-220001-047-SA-EVAL.lic Browse
() Help	Yerevious Next XQuit

Select Virtual DataPort and click Next.



Step 4

Details of the server ports appears as shown in the following figure.



Click the **Next** button and the installation begins.



Click **Next** button

Denodo - Installation of Denodo Platform			-		\times
	Shortcut creation Create shortcuts Create shortcut on the desktop Select a Program Group for the shortcuts:				
denodo	7-Zip Accessibility Accessories Administrative Tools Azure Data Studio Denodo Platform General Electric Git Java Java Development Kit JetBrains	*	Create sh Curren all use	ortcut for: nt user ers	
Help	Denodo Platform	>	Next	Reset	iit

Select the checkboxes to create shortcuts

Click **Next** button



Double-click the Denoto shortcut created on the desktop. The following screen appears. You can start and stop VDP using this UI.



Launch the Virtual Data Port Administration tool. Credentials by default are as follows: admin/<<Custom Set Password>> . The default password is "admin".



After a successful login, the Virtual Data Port screen appears as shown in the following figure.



Step 6 – To change password

To change the password, use the following steps in the Virtual Data Port tool.

File -> Change Password

: Den	odo Virtual DataPo	rt Administ	ration Too
<u>F</u> ile	Administration	Tools	<u>H</u> elp
<u>N</u> ew		•	пВ
Change	password		
Export g	latabase		
Export.			
Import .			
Extensi	on management		
<u>R</u> efresh	ı C	trl+Alt+R	
Disconr	nect		
E <u>x</u> it			
	recipe_aut	h	
	recipe_dat	а	
	spec_auth	_	
	spec_data		

A screen like the following appears where you can provide the new password details.

Log out and Log in again to make the new password is effective.

Edit Use	er	×
		0
Login:	admin	
	admin user	
Description		
Password:		
Retype pase	sword:	
80		
er		
2		
		Ok Cancel

IMPORTANT: The Denodo Virtual Data Port client should be started and running before starting the Orchestration Hub installation process

Steps to Make Denodo Automatically Start as a Service

Run the **services.msc** command.

🖅 Run		×			
Type the nar Internet reso	ne of a program, folder, document, ource, and Windows will open it for	, or you.			
Open: services.ms	5C	~			
	OK Cancel <u>B</u>	rowse			
Denodo Virtual DataPort 8.0	Name	Description	Status	Startup Type	Log On As
Start the service	Dell Command Power Manager Notify Dell.CommandPowerManager.Service		Status	Manual Manual	Local System
Description:	Cenodo Browser Pool 8.0	Denodo Browser Pool Ser Denodo Data Catalog - D		Manual Manual	Local System Local System
Denodo Virtual DataPort 8.0 - Denodo Platform 8.0	Q Denodo Diagnostic and Monitoring Tool 8.0	Denodo Diagnostic and		Manual	Local System
	Denodo Index Engine Server 8.0	Denodo Index Engine Ser		Manual	Local System
	Denodo ITPliot web Admin Tool 8.0	Denodo ITPliot web Admi		Manual	Local System
	Denodo Scheduler Server 8.0	Denodo Scheduler Server		Manual	Local System
	🖏 Denodo Scheduler Web Admin Tool 8.0	Denodo Scheduler Web A		Manual	Local System
	🗛 Denodo Verification Server 8.0	Denodo Verification Serve		Manual	Local System
	Denodo Virtual DataPort 8.0	Denodo Virtual DataPort		Manual	Local System
	Constant President Service	Denodo Web Design Stu	Rupping	Manual Automatic (Tri	Local System
	Device Association Service	Enables pairing between t	Running	Manual (Trigg	Local System
	Device Management Enrollment Service	Performs Device Enrollme		Manual Manual	Local System
	Device Management Wireless Application Protocol (Routes Wireless Applicati		Automatic (De	Local System
	Q Device Setup Manager	Enables the detection, do		Manual (Trigg	Local System
	Operation Proker_13b29c	Enables apps to pair devi		Manual	Local System
	Operation Control C	This user service is used f		Manual	Local System
	🖾 DevicesFlow 13b29c	Allows ConnectUX and PC		Manual	Local System

Right-click the **Denodo Virtual DataPort 8.0** service and select **Properties.**

 Services (Local) 						
Denodo Virtual DataPort 8.0	Name		Description	Status	Startup Type	Log On As
	Data Sharing Service		Provides dat	Running	Manual (Tring	Local System
Start the service	Data Lkane		Network dat	Running	Automatic	Local Service
	DCOM Server Process Launcher		The DCOML_	Running	Automatic	Local System
Description:	Delivery Optimization		Performs co		Manual (Trigg	Network Se
Denodo Virtual DataPort 8.0 - Denodo	Denodo Data Catalog 80		Denodo Dat		Manual	Local System
Platform 8.0	Denodo Diagnostic and Monitoring Tool 8.0		Denodo Dia		Manual	Local System
	Denodo Diagnostic and Monitoring Tool 8.0 (1)		Denodo Dia		Manual	Local System
	Cenodo Index Engine Server 8.0		Denodo Ind		Manual	Local System
	Cenodo License Manager Server 8.0		Denodo Lice_		Manual	Local System
	Denodo Scheduler Server 8.0		Denodo Sch.		Manual	Local System
	Denodo Scheduler Web Admin Tool 8.0		Denodo Sch.,		Manual	Local System
	Q Denodo Scheduler Web Admin Tool 8.0 (1)		Denodo Sch.,		Manual	Local System
	Canada Solution Manager Server 8.0		Denodo Sol_		Manual	Local System
	Canada Denodo Solution Manager Web Tool 8.0		Denodo Sol_		Manual	Local System
	💁 Denodo Virtual DataPort 8.0		Denodo Virt		Manual	Local System
	🚳 Denodo Virtual DataPort 8.0 - Denodo Solution Manager	Start	Denodo Virt		Manual	Local System
	Q Denodo Web Design Studio 8.0	Stop	Denodo We	Running	Automatic	Local System
	Q Denodo Web Design Studio 8.0 (1)	Pause	Denodo We		Manual	Local System
	Q Device Association Service	Resume	Enables pairi	Running	Automatic (Tri	Local System
	Q Device Install Service	Portart	Enables a co		Manual (Trigg_	Local System
	Children Management Enrollment Service	Nestan	Performs De		Manual	Local System
	Q Device Management Wireless Application Protocol (WAP) Push message Rou	All Tasks	Routes Wirel		Automatic (De	Local System
	Q Device Setup Manager	Defrech	Enables the		Manual (Trigg	Local System
	DeviceAssociationBroker_11e678	rveiresti	Enables app		Manual	Local System
	Character DevicePicker_11e678	Properties	This user ser		Manual	Local System
	Q DevicesFlow_11e678	Help	Allows Conn		Manual	Local System
	A DevQuery Background Discovery Broker	nap	Enables app		Manual (Trigg	Local System
	Q. DgUpdate				Manual	Local System
	G DHCP Client		Registers an	Running	Automatic	Local Service
	Chagnostic Execution Service		Executes dia		Manual (Trigg	Local System
	Q Diagnostic Policy Service		The Diagnos	Running	Automatic	Local Service
	Uignostic Service Host		The Diagnos	Running	Manual	Local Service
	Gine Diagnostic System Host		The Diagnos	Running	Manual	Local System
	ChalogBiockingService		Dialog Block		Disabled	Local System

Change the Start type from Manual to Automatic.

Click **Apply** to save the changes.

Denodo V	'irtual Da	taPort 8.0	Properties (Loc	al Computer)	×
General	Log On	Recovery	Dependencies			
Service	name:	vdpserver8	0			
Display r	name:	Denodo Vi	rtual DataPort 8.	D		
Descript	ion:	Denodo V	irtual DataPort 8.	0 - Denodo P	latform 8.0	
Path to e C:\Deno	executabled	e: doPlatform8.	.0\jre\bin\java.exe	-classpath C	:\Denodo\Den	oc
Startup 1	<mark>.ype:</mark>	Automatic	;		~	
Service s	status:	Stopped				-
S	tart	Stop	D Pa	ause	<u>R</u> esume	
You can from her	specify ti e.	ne start para	meters that apply	y when you st	art the service	
Start par	ameters:					
			OK	Cancel	Appl	/

The previous change will enable the Denodo service to start automatically in the case of a reboot of the system.

Denodo License Configuration

The Denodo license is configured to have a maximum of 4 processors. If your system has number of processors more than 4, the Denodo Virtual Data Port will fail to start.

Base speed:	1.90 GHz
Sockets:	1
Cores:	4
Logical processors:	8
Virtualization:	Enabled
virtualization.	Enableu
L1 cache:	256 KB
L1 cache: L2 cache:	256 KB 1.0 MB

In such cases, changes must be made to the Virtual Data Port service from the Task Manager.

Select the Denodo Virtual Data Port (OpenJDK Platform binary) from the Task Manager. Select **Go to details** of the Denodo.



Right-click the Service under Details and select Set affinity.

ॷ Task Manager					
File Options View					
Processes Performance	App histor	y Startup	Users	Details	Services
^					
Name	PID	Status			
IntelCpHeciSvc.exe	2804	Running			
🛓 java.exe	9196	Running			
🛃 java.exe	21524	Running			
🛓 java.exe	33752	Running			
🛓 java.exe	28496	Running			
🛓 java.exe	18496	Running			
🛃 javaw.exe	18864	Running			
🛃 javaw.exe	15592	Running			
🚉 javaw.exe	End task				
jcef_helper.exe	End proc	cess tree			
jcef_helper.exe	Provide	feedback			
jenkins.exe	Set prior	ity	>		
jhi_service.exe	Set offici	ity its			
i jucheck.exe	Set ann	ity			
🛃 jusched.exe	Analyze	wait chain			
kvoop.exe	Debug				
kvoop.exe	UAC virt	ualization			
kvoop.exe	Create d	ump file			
kvoop.exe	Open file	e location			
kvoop.exe	Search o	nline			
kvoop.exe	Propertie	25			
kvoop.exe	Go to se	rvice(s)			
kvoop.exe	16200	Puppin-	_	1	
kvoop.exe	16200	Running			
	16226	Running			
kvoop.exe	16249	Running			
Ekvoop.exe 16248 Kunning					
> Fewer <u>d</u> etails					
Type h	ere to sea	irch			O 🗐 😯

The number of processors used by Denodo will be displayed.

🚱 Task Manager

Fi	le	0	pti	ions	V	iev
_						

	Processor affinity			\times	ails	Services
	Which processors are allow <pre></pre>	ved to run	"javaw.exe"?			
	icef helper exe	OK	Cancel			
1	jenkins.exe	6432	Running			

Limit the number of processors to a maximum number of 4.



After the above changes are made, the Virtual Data Port can be started.

Note: Please note that the affinity can get reverted in case of a system restart or any other events. Make sure that the affinity is set to the required numbers in case the Virtual Data Port fails to start.

Step 7 – Patch update

Check the version of the Denodo Virtual Data Port: Help: About Virtual DataPort

About Denodo Virtual DataPort $ imes$
denodo Virtual DataPort
Denodo Platform 8.0 Subscription: Enterprise Plus Administration Tool 8.0 20220126 VDP Server 8.0 20220126 Copyright © 2021 Denodo. All rights reserved.
OK

If the version is not same as listed above, the latest patch update must be added.

The update is also provided in the .ISO file. Navigate to installed location - 'E:\denodo-install-8.0\ denodo-v80-update-20220126' folder for updates.

> This PC > DVD Drive (E:) GE Orchestration Hub - 2022 >> denodo-install-8.0 >> denodo-v80-update-20220126					
	Name	×	Date modified	Туре	Size
	📄 denodo-v80-update-202201262200.jar		26-01-2022 21:29	JAR File	10,31,515 KB
77	RELEASENOTES_COMMON_V80_UPDAT	E	26-01-2022 21:19	File	11 KB
A	RELEASENOTES_ITPILOT_V80_UPDATE_2	0	26-01-2022 21:20	File	2 KB
*	RELEASENOTES_SCHEDULER_V80_UPDA	т	26-01-2022 21:20	File	20 KB
*	RELEASENOTES_VDP_V80_UPDATE_2022	0	26-01-2022 21:21	File	135 KB

Open the Denodo platform and click **Update.**

			Help
Virtual DataPort Server Port 9999	O Running	Stop	
Data Catalog http://kubernetes.docker.internal:9090/denodo-data-c	O Stopped	Start	×
WEB TOOLS			Configure
Web Design Studio http://kubernetes.docker.internal:9090/denodo-desig	O Stopped	Start	
Diagnostic & Monitoring Tool http://kubernetes.docker.internal:9090/diagnostic-mo	O Stopped	Start	0
🗘 TOOLS			Update
Virtual DataPort Administration Tool		I LAUNCH	
			m
			Uninstall

Click the Install update link.



Select the denodo-v80 jar file and install it.

	Name	Date modified	Туре	Size
	📋 denodo-v80-update-202201262200.jar	26-01-2022 21:29	JAR File	10,31,515 KB
7	RELEASENOTES_COMMON_V80_UPDATE	26-01-2022 21:19	File	11 KB
Я	RELEASENOTES_ITPILOT_V80_UPDATE_20	26-01-2022 21:20	File	2 KB
*	RELEASENOTES_SCHEDULER_V80_UPDAT	26-01-2022 21:20	File	20 KB
*	RELEASENOTES_VDP_V80_UPDATE_20220	26-01-2022 21:21	File	135 KB

> This PC > DVD Drive (E:) GE Orchestration Hub - 2022 > denodo-install-8.0 > denodo-v80-update-20220126

Restart the servers after the update.

Orchestration Hub Installation

Step 1

Right-click the downloaded .ISO file and select the "Mount" option.

≻ Th	> This PC > DVD Drive (E:) GE Orchestration Hub - 2022					
	Name	Date modified				
	📙 denodo-install-8.0	04-08-2020 22:03				
Ж.	GE_Operations_Hub_v2022	27-06-2022 21:00				
A	GE_Orchestration_Hub_v2022	27-06-2022 20:39				
*	🔊 autorun.inf	27-06-2022 20:35				
*	GEOrchestrationHub.bmp	27-06-2022 20:35				
	🌀 GEOrchestrationHub.exe	27-06-2022 20:35				
	🍘 GEOrchestrationHub.ico	27-06-2022 20:35				
	📓 installation.ini	27-06-2022 20:35				

Double-click "GEOrchestrationHub.exe" which will open the install wizard.



Select the 'Orchestration Hub 2023' installer option and the welcome wizard appears. Select Enterprise for the installation with Denodo, or Standard for only with the Plant Connect (No Denodo Required).



Step 2

Go through the license agreement and click if you accepts license terms, and then click Next.



The next page of the wizard checks the pre-requisites, check your system and then click Next.



Note: "Denodo installation on your local machine" prerequisite will not be present if the installation mode selected is **Standard** (as shown in the following screen).



Next, you are notified regarding the destination folder of where it is getting setup, your pre-req installation path, and the Logging base folder path. You may change this path, according to your convenience.

Orchestration Hub 2023					
Installation Directory					
Destination Folder:	C:\Program Files\GE Digital\OrchestrationHub	Change			
Prerequisites Path:	C:\Program Files\				
Log Files Folder:	C:\Program Files\GE Digital\OrchestrationHub\Se	rviceL Browse			
Note : Ensure that there is minimu	m of 10 GB free disk space available on the volume which	you are installing.			
Cancel	Orchestration Hub 2023	Previous Next			

In the next screen, enter/verify your Operation Hub credentials and port details.

- Host name: Existing Operations Hub server details (Fully Qualified Domain Name)
- Port: 443
- Tenant Username: Existing Operations Hub user name
- Tenant Password: ***** Existing Operations Hub user password

Enter these details and click Next.

Orchestration Hub 2023						
Operations Hub Credentials						
Server Name Port	pentestoh.htclab.ge.com	ļ				
Tenant Username	OphubAdmin					
Tenant Password		Validate				
Note: Tenant Username is case ser correct.	isitive. Orchestration Hub app import may fail if the	above details are not				
Cancel	Orchestration Hub 2023	Previous Next				

Step 6

Next, enter Proficy Authentication (UAA) credentials and details needed to enter/verify/validate.

- Proficy Authentication Server: UAA server (Fully Qualified Domain Name)
- Admin Client ID: Existing Proficy Authentication client id
- Admin Client Secret: ***** (Existing Proficy Authentication admin client secret)
- Port: 443

Once details are entered, click Validate to give you the green checkmark, and then click Next to continue.

Orchestration Hub 20	023	20	-
UAA Credentials			
Server Name: Port: Admin Client ID:	pentestoh.htclab.ge.com 443 admin		
Admin Client Secret:	•••••	Validate	
Cancel C	Orchestration Hub 2023	Previo	us Next

In the next page, enter the Denodo credentials.

- Denodo Install Path Installed Location of Denodo C:\Denodo\DenodoPlatform8.0 (Default location
- Denodo Server name: hostname/ IP address of machine where Denodo is installed, in fully qualified domain name
- Denodo Database: admin
- Denodo Username: admin
- Denodo Password: Updated password set during installation
- Denodo Port: 9999

Note: After clicking on Validate button, please wait for 30 seconds for the validation process.

Note: The following screen will not be available if the installation mode selected is **Standard.**

Orchestration Hub 2023								
Denodo Credentia	Denodo Credentials							
Denodo Install Path:	C:\Denodo\DenodoPlatforn	Browse						
Denodo Server Name:	localhost							
Denodo Port:	9999							
Denodo Database:	admin							
Dendodo Username:	admin							
Denodo Password:	•••••	Validate Connection						
Cancel	Orchestration Hub 2023	Previous Next						

In the next screen, enter Plant Applications database credentials,

- Database credentials
- server name: Existing Plant Applications database server details (Fully Qualified Domain Name)
- Username: Existing Plant Applications database username
- Password: ****** (Password of the existing database)
- Database name: Existing Plant Applications database name
- Port :1433
- Site Name:- Friendly name for the L2/MES Plant site

After clicking Validate Connection and it is validated, click Next.

Orchestration Hub 2	023	20,00
PlantApps Databa	se Credentials	
PA Server Name:	10.181.250.97	
PA Port:	1433	
PA Database:	SOADB	
PA Username:	sa	
PA Password:	•••••	
PA Site Name:	siteone	Validate Connection
		•
Cancel	Orchestration Hub 2023	Previous Next

In the next screen, enter the Orchestration Hub Database credentials.

- Database credentials
- server name: Existing Plant Applications database server details (Fully Qualified Domain Name)
- Username: Existing Plant Applications database username
- Password: ***** (Password of the existing database)
- Database name: OHDB
- Port: 1433

Click Validate Connection and then click Next.

(W) Orchestration Hub 2	2023	
Orchestration Hu	b Database Credent	ials
OH Server Name:	10.181.250.97	
OH Port:	1433	
OH Database:	ohtp4	
OH Username:	sa	
OH Password:	•••••	Validate Connection
Note: Creating a new Database If do	pesn't exist.	
Cancel	Orchestration Hub 2023	Previous Next

The next screen, checks the availability of certain pre-requisites and their status. For instance: -Open JDK, Apache Tomcat, Node.js, and The Microsoft[®] OLEDB driver 18 for SQL Server. If prerequisites are met, click Next to continue.

() Orchestration	Hub 2023	84.00	
Prerequisites			
Microsoft OLEDB driver 1	8 for SQL Server	Installed	
7-Zip 21		Installed	
Open JRE 11		Will be installed	
Node.js 16.x		Will be installed	
Apache Tomcat 9.x		Will be installed	
Cancel	Orchestration Hub 2023	Previous	Next

You are now ready for installation. If you are upgrading, all you need to do is click Upgrade/Install Button.



Step 12

When you click Upgrade/Install, the following screen appears showing the installation progress.



After Installation is successful, a message like the following appears and the Denodo services are established.

Orchestration Hub 2023	-
Installation Successful.	
Log Location: C:\Users\212792~1\AppData\Local\Temp\GE_Orchestration_Hub_2023_20221212163138\ Tomcat Port: 8090 OpsHub Port: 443 UAA Port: 443	
View Logs	
Orchestration Hub 2023	Exit

🔍 Services				-	٥	×
File Action View	Help					
(n 🔿 📅 🔒	2 🖬 🕨 🖩 H 🕪					
🔍 Services (Local)	Services (Local)					
	Select an item to view its description.	CodeMeter Runtime Server Code Server Convected Devices Platform Service Connected Devices Platform User Service, 1b425c Connected Devices Platform User Service, 1b425c Connected User Experiences and Telemetry Connected User Experiences and Telemetry Connected User Experiences Contact Data Ju425c CondentialEnrolmentManagerUserSvc, 1b425c CondentialEnrolmentManagerUserUserSvc, 1b425c Co		GiberQueey Background Discovery Broker GiberQ Cleare DiAPC Cleare Diapositic Execution Service Diapositic Exercise Host Diapositic Service Diapositic Service Diapositic Service Diapositic Service Diapositic Service Display Folinoy Service Display Polinoy Service Distributed Intra-Racing Client Distributed Intra-Racing Client Distributed Intra-Racing Client Distributed Intra-Racing Client Display Folinoy Service Display Folinoy Service Display Folinoy Service Display Folinoy Service Distributed Intra-Racing Client Distributed Interaction Protocol Exterprise Poly Management Service Fer Sincerbon Discourge Dravider Mat		
		Demodo Virtual DataPorte 80 Demodo Web Design Studio 80 Device Install Service Device Management Enrollment Service Device Management Enrollment Service Device Management Virtuels: Application Protocol (WAP) Pust DeviceService Management DeviceService 19425c DevicesProv. 19425c	h message Routing Service	Findion Discovery Freeure Abilitation Findion Discovery Resource Abilitation Genery Resource Genery Resource Abilitation Genery Resource Genery R)	

You can now access the Orchestration Hub application using the icon and can use the application in the browser.

Step 14 (Exception case)

There can be a scenario where the installation was a success, but the app plugin could not be added due to user permissions or any flaw in the prerequisites.

This warning can be seen if any previous version of the application is Locked in the operations Hub. In such cases user has to unlock the application through operations hub and import the application by following the below steps.

In such cases, the installer page displays a warning similar to the following:



To complete the installation, the Orchestration Hub app plugin has to be imported on Operations Hub.

The plugin can be found in the installer folder at the location:

C:\Program Files\GE Digital\OrchestrationHub\OperationsHub_PostingUtility

Import the **OH_IQPPackage.zip** into Operations Hub.



Post Install Configuration

After successful installation, check the execution of VQL scripts. From the Denodo Platform Control Center, open the Denodo Virtual Dataport Administration tool. Check each section for successful execution of VQLs.



As part of the install, OH. change_notification_queue, OH. MasterBomFormulationDataTray,OH. MasterFormulationExpireDataTray,OH. MasterNewProductDataTray,OH. MasterSpecDataTray, OH. Site_Synch_Status tables will be created.

To connect to the system and fetch the data, execute the below given VQL with the server and password details.



Update the VQL with IP address(<<IP_ADDRESS>>), port number(<<PORT_NUMBER>>), database name(<<DB_NAME>>), password (<<PASSWORD>>) and table name (<<TABLE NAME>>) and set the spec names accordingly.

Select **VQL Shell** from the tool section in the denodo

rtual DataPort Administration Tool – Ć										
dministration	<u>T</u> ools	<u>H</u> elp								
Explorer	<u>V</u> QL Shell		Ctrl+Alt+V	b.externaldb 🗙 🤤 cedb.ohdb 🗙 🖃 VOL Shell X 🔲 cedb.change notification gueue 🗙 🖃 VOL Shell (2) 🗙 🔉						
	Query Mor	nitor								
s Tags	Catalog Se	earch		zute 🖤 Stop 🔂 Load 🐼 Clear 🔏 Cut 🚺 Copy 📲 Paste 🗬 Previous 🌳 Next 😈						
	<u>I</u> nvalidate	cache		e: cedb Display rows: 150 Retrieve all rows Open query results						
🥃 masterspe	Query opti	mizations	•	Four terrar broader aber aber aber aber aber aber aber ab						
Site_synch	Tr <u>a</u> ce view	ver		_products.product_status AS product_status, external_products.insert_timestamp AS insert_timestamp,						
🥃 sitedata	Web servio	ces container		al_products.specname_1 AS specname_1, external_products.specname_2 AS specname_2, external_products.specname_3 AS						
L4 Views	JMS listen	ers		ie_3, external_products.specname_4 AS specname_4, external_products.specname_5 AS specname_5, l_products.specname_6 AS specname_6, external_products.specname_7 AS specname_7, external_products.specname_8 AS ie 0, external products.specname 9 AS specname 9, external products.specname 10 AS specname 10,						
Trigger	OAuth cree	dentials wizards	•							
ning	Admin Too	ol preferences		al_products.specname_11 AS specname_11, external_products.specname_12 AS specname_12, external_products.specname_						
	<u>R</u> eset layo	ut		name 13, external products.specname 14 AS specname_14, external products.specname_15 AS specname 15, al products.specname 16 AS specname 16, external products.specname 17, AS specname 17, external products.specname						
то L mo1			AS spe	<pre>produces special products special products special produces special products special products special products special products special products produc</pre>						
DS			extern	al_products.specname_21 AS specname_21 FROM external_products;						
Expiration										
New Product			💽 🕞 😋	Dutput 🕓 Execution Log 🏢 Query Results 🗙						
Recipe			Resul	ts Execution Trace 🛛 🜑 Stop 🎅 Refresh 💾 Save Query: select * from masterspecdatatray where product_code = '12572'						
Route			Total r	nue raciuad: 19 (shown 19)						
Specification			Totarr	ono received. To (circuit ref)						
t										
alsr										
DS			produ	ct_c propertyn characteri specificationname target lowerreject upperreject specnumb productpr characteri						

Paste the External system VQL and execute in the **cedb** Database



This will create a view **p_external_system** which will connect to the system provided and the services will fetch and update the above given tables with the changes.

To add sample data to Plant applications and Orchestration Hub database, follow the steps under this section

Add a L2/MES Plant Site

After successful installation, add a L2/MES Plant Site. Please use the following steps.-

Step 1

Locate the files in Tomcat inside the oh-connector-service SiteData.json and ConnectionData.json.

For example: - C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\oh-connectorservice-1.0-devlocal-SNAPSHOT\WEB-INF\classes

📜 com	11-05-2022 12:37	File folder	
📜 Database	11-05-2022 12:37	File folder	
META-INF	11-05-2022 12:37	File folder	
📜 siteVqls	13-05-2022 18:54	File folder	
📜 TestDatabase	11-05-2022 12:37	File folder	
application	11-05-2022 12:39	Properties Source File	5 KB
connectionData	11-05-2022 12:36	JSON Source File	1 KB
🔟 site	11-05-2022 12:36	VQL File	545 KB
() siteData	13-05-2022 18:54	JSON Source File	1 KB
length states with the second states with the second states and se	13-05-2022 18:54	Windows Batch File	1 KB
🔟 vqlimport.bat	13-05-2022 18:28	BAK File	5 KB

Step 2

Add the L2/MES/PlantApps details in the json file by copying the exact same json object which is created for the 1st L2/MES/PlantApps and change the values described as follows:

SiteData.Json

{

"connectionUserName"*: "UserName", → Existing PA DB username

"siteAlias": "siteAlias",

"passwordEncrypted"*: "false",

"siteName"*: "SiteOne", → Friendly Site Name (this value should be unique)

"connectionId"*: 1, \rightarrow value connection details entered in connection.json for the same site

"id"*: 1, \rightarrow list it as the Site Number in the json

"connectionPassword"*: "****" → Password of the existing database,

"version": "version",

"siteType": "siteType"

}

* Fields are Required for new Site

Note:- Site Name spaces are replaced with the Underscore



connectionData.json

{

"id": 1,

"connectionName": "jdbc",

"dataBaseAdapter": "HikariDataSource",

"driverClassPath": "com.microsoft.sqlserver.jdbc.SQLServerDriver",

"driverClass": "com.microsoft.sqlserver.jdbc.SQLServerDataSource",

"dataBaseUri": "jdbc:sqlserver://ServerName;databaseName=DatabaseName "

}

Server name: Existing PA DB server details (Fully Qualified Domain Name).

Database name: Existing PA Database name .

siteData	.json	{} connectionDatajson ×
C: > Progra	am Files >	Apache Software Foundation > Tomcat 9.0 > webapps > oh-connector-service-1.0-devlocal-SNAPSHOT > WEB-INF > classes > {} connectionDatajson
2	{ id":	: 1,
	"conr	nectionName": "jdbc",
	"data	aBaseAdapter": "HikariDataSource",
	"driv	verClassPath": "com.microsoft.sqlserver.jdbc.SQLServerDriver",
	"driv	verClass": "com.microsoft.sqlserver.jdbc.SQLServerDataSource",
8	"data	aBaseUri": "jdbc:sqlserver://ServerName;databaseName=DatabaseName"
	}.	
10	{	
11	"id":	: 2,
12	"conr	nectionName": "jdbc",
13	"data	aBaseAdapter": "HikariDataSource",
14	"driv	verClassPath": "com.microsoft.sqlserver.jdbc.SQLServerDriver",
15	"driv	verClass": "com.microsoft.sqlserver.jdbc.SQLServerDataSource",
16	"data	aBaseUri": "jdbc:sqlserver://ServerName;databaseName=DatabaseName"
17	}	
18]		

After details are entered, restart the oh-connector-service from the Tomcat Server .

- Open Task Manager
- Go to Services
- Look for Tomcat
- Right click and select restart

Name	PID	Description	Status	Group
SabletInputService	1920	Touch Keyboard an	Running	LocalSyste
🔍 tapisrv	3860	Telephony	Running	NetworkSer
Service	1208	Remote Desktop S	Running	termsvcs
S Themes	1924	Themes	Running	netsvcs
SteringEngineService		Storage Tiers Mana	Stopped	
SimeBrokerSvc	1316	Time Broker	Running	LocalServic
🔍 TokenBroker	3208	Web Account Man	Running	netsvcs
🔍 Tomcat9	13308	GE OH Tomcat We	Running	
🧠 TrkWks	3268	Distributed Link Tra	Running	LocalSyste
🧠 TrustedInstaller		Windows Modules	Stopped	
🧠 tzautoupdate		Auto Time Zone U	Stopped	LocalService
🧠 uaaPgSql		GE Proficy Authenti	Stopped	
Q UALSVC	10124	User Access Loggin	Running	LocalSyste
QuevAgentService		User Experience Vir	Stopped	
Q UmRdpService	2220	Remote Desktop S	Running	LocalSyste
Q UnistoreSvc		User Data Storage	Stopped	UnistackSvc
(K)				

🤤 Task Manager								
File Options View								
Processes P	erforman	ce Users	Details	Services				
		~						
Name				PID	Description	Status	Group	
🔍 TabletInp	utService			1920	Touch Keyboard an	Running	LocalSyste	
🔍 tapisrv				3860	Telephony	Running	NetworkSer	
Same TermService				1208	Remote Desktop S	Running	termsvcs	
🔍 Themes				1924	Themes	Running	netsvcs	
Service				Storage Tiers Mana	Stopped			
SimeBrokerSvc			1316	Time Broker	Running	LocalServic		
🔍 TokenBroker				3208	Web Account Man	Running	netsvcs	
🔍 Tomcat9				1330	GE OH Tomcat We	Running		
🔍 TrkWks	5	Start		3268	Distributed Link Tra	Running	LocalSyste	
🔍 Trusted In:	stal S	Stop			Windows Modules	Stopped		
🧠 tzautoupo	dati F	Restart			Auto Time Zone U	Stopped	LocalService	
🔍 uaaPgSql	C	Dpen Serv	vices		GE Proficy Authenti	Stopped		
🔍 UALSVC	9	Search on	line	10124	User Access Loggin	Running	LocalSyste	
Sev Agent	tSe (Go to deta	ails		User Experience Vir	Stopped		
🔍 UmRdpSe	ervice	55 15 dett		2220	Remote Desktop S	Running	LocalSyste	
Subject Contract Cont	vc				User Data Storage	Stopped	UnistackSvc	

Denodo VQLs are generated on restart of the oh-connector-service locate the VQLs inside the siteVqls folder and all the VQLs are generated on the same.

C:\Denodo\DenodoPlatform8.0\bin\siteVqls

Thi	s PC » OS (C:) » Denodo » Deno	doPlatform8.0 > bin > siteVqls		
	Name	Date modified	Туре	Size
	📔 siteone	17-05-2022 15:25	VQL File	184 KB

Step 5

After the generation of the VQLs run the bat file once all the VQLs are generated in the Denodo folder inside bin folder.

For eg:- C:\Denodo\DenodoPlatform8.0\bin

🐁 regenerateMetadata	08-02-2022 15:39	Windows Batch File	3 KB
耳 update	05-08-2020 00:45	Application	30 KB
🔊 vdpadmin	08-02-2022 15:39	Windows Batch File	3 KB
S vdpservice	08-02-2022 15:39	Windows Batch File	4 KB
vqlimport	18-05-2022 17:54	Windows Batch File	1 KB

Denodo will have the new VQLs executed and will be imported in Denodo

D 🕄	enodo Virtual DataPort Adminis	tration Tool				- 0 ×
Eil	e <u>A</u> dministration <u>T</u> ool	ls <u>H</u> elp				
	Server Explorer	– ď	🗉 🔩 Database Management	🗙 🛃 VQL Shell 🗙 🍔 a	admin.pa 🗙 📑 admin.view_change_notification_qu	ieue 🗙 > 🛛 – 🗗 🗖
∇	Search		So New So Edit 💼 Dele	ete 💱 Cache 🥞 Memory usage	🕞 Assign privileges 📩 Export 🚺	
+	曼 admin		Search			
÷	siteone			Name		Description
	E BOM_POST		admin			
	Customer		siteone			
	DataSource		sitetwo			
	ExecutionPath					
	Expire Expire					
	Emile Level 4					
	sitetwo					
	BOM_POST					
	Customer					
	DataSource					
	ExecutionPath					
	Expire					
	Level 4					
					Connected to database //localhost:9999/ac	dmin as user admin 🗄 🖋 🗄 May 16, 2022 6:07 PM
	P O 🖽 🧿 🛛	e 🤹 刘	🕫 😫 🚸 🔟 🦉	🛷 💊 🔅 🔅		へ 🔄 🖳 🕼 ENG 18:07 🍃

Application Update

Uninstall old Orchestration Hub(/1.1.16.0-custom). Refer below screenshot.

En r Elp Enor (Kor caldon)	Igor Lation	JU IL LULL	0.40 000	21.01.00.0
😹 Apache Tomcat 9.0 Tomcat9 (remove only)	The Apache Software Foundation	04-01-2023		9.0.63
😋 CodeMeter Runtime Kit Reduced v7.30	WIBU-SYSTEMS AG	27-12-2022	51.0 MB	7.30.4811.500
Common Licensing	GE Digital	03-01-2023		00020.00002.02002.0
GE GE Operations Hub 2022.06	GE	03-01-2023	3.67 GB	2.8.2224.0
GE Orchestration Hub 2022	GE Digital	04-01-2023	861 MB	1.0.0.16
🚸 Git	The Git Development Community	30-12-2022	293 MB	2.39.0.2
Coogle Chrome	Geogle II C	10 12 2022		100.0.5250.125

If the Apache tomcat is not uninstalled, unintstall Tomcat manually

Uninstall Apache Tomcat 9.0 Tomacat9(remove only). Refer below screenshot

Name	Publisher	Installed On	Size	Version
T-Zip 21.07 (x64 edition)	Igor Pavlov	30-12-2022	5.48 MB	21.07.00.0
😹 Apache Tomcat 9.0 Tomcat9 (remove only)	The Apache Software Foundation	04-01-2023		9.0.63
😋 CodeMeter Runtime Kit Reduced v7.30	WIBU-SYSTEMS AG	27-12-2022	51.0 MB	7.30.4811.500
Common Licensing	GE Digital	03-01-2023		00020.00002.02002.0

Go to GE Digital folder location and delete OrchestrationHub folder. Refer below screenshot

ie A	Date modified	Туре	Size
rchestrationHub	04-01-2023 14:09	File folder	

Install new latest Orchestration Hub (1.1.94.0)

How to simulate Level2 and Level4 (Test scenario)

Sample data is provided for testing scenarios in case of unavailability of the environment.

Level4 mock data

Create a database in the server to mock the L4 system.

On the Databases option, right-click and select option **New Database.**



Give the database name as **EXTERNALDB** and click OK.

New Database						- 0			
Select a page & General	⊥ Script ▼ 🥹 Help								
OptionsFilegroups	Database name								
	Owner:		<default></default>	•					
	Use full-text i	ndexing							
	Database files:								
	Logical Name	File Type BOWS	Filegroup	Initial Size (M 8	Autogrowth / Ma By 64 MB Unlimi	xsize ted	Path C:\Progra		
	_log	LOG	Not Applicable	8	By 64 MB, Unlimi	ted	C:\Progra		
Connection									
Sonor									
DECIBELSPO									
Connection: sa									
View connection properties									
Progress									
Ready	<						>		
					Add	Ren	nove		

After creation of the database, execute the below SQL in the newly created Database using the SQL query execution window to insert data.



Use the below given VQL to for creating external system baseview for testing. Update the VQL with IP address(<<IP_ADDRESS>>), port number(<<PORT_NUMBER>>), password (<<PASSWORD>>)



To add mock data for Recipe in the Orchestration Hub tables, update the below given sql sequentially with appropriate details and run it in the Orchestration Hub Database. Update <<OH DB Name>> with OH Database name, <<notification id>> with notification id of the newly inserted record, <<sitename>> with sitename.



Level2 (PA) mock data

The sample data to mock the Plant Applications details.

Import the following the excel sheets to plant application if it doesn't have any data.







Troubleshooting

Logging

Locations of Log and Configuration Files

The installation log files can be found under the temp folder

Run the %temp% command

The location of files: C:\Users\ADMINI~1\AppData\Local\Temp



For Successful installations, a folder will be created which contains the log files

۰ 📕 ک	This PC > Local Disk (C:) > Users > ADMINI~1 > AppData > Local > Temp							
		Name	Date modified	Туре	Size			
ess		Orchestration_Hub_20220117113619	1/17/2022 11:46 AM	File folder				
	*	hsperfdata_Administrator	1/17/2022 11:47 AM	File folder				
ds	*	DEL3A93.tmp	9/16/2019 10:34 PM	TMP File	88	B		
nts	*	DEL3C26.tmp	9/16/2019 10:34 PM	TMP File	88	B		

This	s PC > Local Disk (C:) > Users > ADMINI~1 > AppData > Local > Temp	 Orchestration_Hub_20220117113619 		~	U
	Name	Date modified	Туре	Size	
	Orchestration_Hub_20220117113619.log	1/17/2022 11:52 AM	Text Document	21	I KB
*	Orchestration_Hub_20220117113619_000_WebDisplays.log	1/17/2022 11:46 AM	Text Document	262	2 KB
*					
	This * *	This PC > Local Disk (C:) > Users > ADMINI~1 > AppData > Local > Temp Name Orchestration_Hub_20220117113619.log Orchestration_Hub_20220117113619_000_WebDisplays.log	This PC > Local Disk (C) > Users > ADMINi~1 > AppData > Local > Temp > Orchestration_Hub_20220117113619 Name Date modified Date modified 1/17/2022 11:52 AM Orchestration_Hub_20220117113619_000_WebDisplays.log 1/17/2022 11:46 AM	This PC > Local Disk (C) > Users > ADMINI~1 > AppData > Local > Temp > Orchestration_Hub_20220117113619 Name Date modified Type Orchestration_Hub_20220117113619.log 1/17/2022 11:52 AM Text Document Orchestration_Hub_20220117113619_000_WebDisplays.log 1/17/2022 11:46 AM Text Document	This PC > Local Disk (C) > Users > ADMINI~1 > AppData > Local > Temp > Orchestration_Hub_20220117113619 Name Date modified Type Size Crichestration_Hub_20220117113619_log 1/17/2022 11:52 AM Text Document 22: Crichestration_Hub_20220117113619_000_WebDisplays.log 1/17/2022 11:46 AM Text Document 26: Text Document

For unsuccessful installations, log file will be generated in the temp folder.

. >	This	PC > Local Disk (C:) > Users > ADMINI~1 > AppData > Local > Temp				~	Ū
		Name	Date modified	Туре	pe Size		
SS		Orchestration_Hub_20220113113505_000_WebDisplays.log	1/13/2022 11:41 AM	Text Document		263 K	В
	R	Orchestration_Hub_20220113113505.log	1/13/2022 11:49 AM	Text Document		26 K	В

Log Files for Microservices

After successful installation, the services log files will be at the location:

C:\Program Files\GE Digital\OrchestrationHub\WebServiceLogs

Logging into Orchestration Hub

a. Creating user(s) in Proficy Authentication service:

For accessing Orchestration Hub application, you need to have user(s) created in the associated Proficy Authentication service instance. For the details on 'how to create users in Proficy Authentication service, please visit the online <u>help</u> and search for 'Create Users' and follow the steps listed in the help.

b. Assigning required permissions to the users

For accessing Orchestration Hub application, you need to have the users, created in the associated Proficy Authentication service instance, have required scopes (meaning added to the required Groups) assigned as well.

Below are the required scopes the users should have (or the Groups the users should have been added to):

1. iqp.user

For the details on 'how to assign scopes to users in Proficy Authentication service', please visit the on-line <u>help</u> and search for 'Add or Remove Members from Groups'.

Site selection is also required for site which user wants to connect to. This can be achieved in similar steps as mentioned above for assigning permission to the users. Sample site names mentioned below: First click Ok and then Save.



c. Adding the user to the application After adding the user, log into the Operation hub application and select **Manage** -> **Users**

¥	APPS	Users							
⊞	ENTITIES								
Ø	QUERIES	+ Add new user	2 Users				Quick Filter		
0	DATASOURCES	Username		First Name	Last Name	OpHub User		Origin	
	PLUGINS	OphubAdmin		Operations Hub	Admin	true		uaa	
 2	EVENTS	comxclient		comx	client	true		uaa	
8	EMAILS								
	PARAMETERS								
	ADMIN								
4	MANAGE								
-20	Users						Act	tivate Windows	
Ĥ	Poles						Go t	to Settings to activate Windov	NS.

From the users list, select the newly created user and add the Orchestration Hub application under the **Apps** section and click **Save.**

client Groups iqp.developer webhmi.user Parent Groups webhmi.user iqp.nodered webhmi.administrator Apps Orchestration Hub Group and Parent Group Apps Delete Cancel Save		Last Name	
2 Use Groups iqp.developer webhmi.administrator iqp.clouduser iqp.user webhmi.user Parent Groups webhmi.administrator Apps Orchestration Hub Group and Parent Group Apps Delete Cancel Save		client	
iqp.developer webhmi.administrator iqp.clouduser iqp.user webhmi.user Parent Groups webhmi.user iqp.nodered webhmi.administrator Apps Orchestration Hub Group and Parent Group Apps Delete Cancel Save	2 Use	Groups Conly GE	groups
Parent Groups webhmi.user [iqp.nodered] webhmi.administrator Apps Orchestration Hub Group and Parent Group Apps Delete Cancel		iqp.developer webhmi.administrator iqp.clouduser iqp.user webhmi.user	
Parent Groups webhmi.user iqp.nodered webhmi.administrator Apps Orchestration Hub Group and Parent Group Apps Delete Cancel Save			
webhmi.user iqp.nodered webhmi.administrator Apps Orchestration Hub Group and Parent Group Apps Delete Cancel		Parent Groups	_
Apps Orchestration Hub Group and Parent Group Apps Delete Cancel Save		webhmi.user iqp.nodered webhmi.administrator	_
Apps Orchestration Hub Group and Parent Group Apps Delete Cancel Save			
Orchestration Hub Group and Parent Group Apps Delete Cancel Save		Apps	
Group and Parent Group Apps Delete Cancel Save		Orchestration Hub	
Group and Parent Group Apps Delete Cancel Save			
Delete Cancel Save		Group and Parent Group Apps	
Delete Cancel Save			_
Delete Cancel Save			
Delete Cancel Save			
		Delete	Save

d. Launching and accessing the application

The Orchestration Hub installer, post successful installation, creates a short cut on the server desktop. Double click the short-cut icon to open the application from the default browser. Though you can open Orchestration Hub application in any popular browser, Google Chrome browser is the recommended browser to use.



About GE

GE (NYSE: GE) is the world's Digital Industrial Company, transforming industry with software-defined machines and solutions that are connected, responsive and predictive. GE is organized around a global exchange of knowledge, the "GE Store," through which each business shares and accesses the same technology, markets, structure and intellect. Each invention further fuels innovation and application across our industrial sectors. With people, services, technology and scale, GE delivers better outcomes for customers by speaking the language of industry.