



OMi Management Pack for SAP HANA

Software Version: 1.00

Operations Manager i for Linux and Windows® operating systems

Installation Guide

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Chapter 1: Introduction

The OMi Management Pack for SAP HANA (OMi MP for SAP HANA) works with Operations Manager i (OMi) and enables you to monitor SAP HANA environments. The OMi MP for SAP HANA includes the following components for monitoring the health and status of SAP HANA databases.

Note: For more information about the components, see the *OMi MP for SAP HANA Online Help or User Guide*.

- HANA Management Templates
- HANA Aspects and Policy Templates
- Parameters
- Run-Time Service Model (RTSM) Views
- Health Indicators (HIs)
- Tools
- Graphs

Abbreviations Used in this Manual

Abbreviations	Expansion
OMi	Operations Manager i
RTSM	Run-time Service Model
OMi MP	OMi Management Pack
OMi MP for SAP HANA	OMi Management Pack for SAP HANA

Related Documentation

For more information about OMi MP for SAP HANA, see the following documents:

- OMi MP for SAP HANA - *Release Notes*
- OMi MP for SAP HANA - *User Guide*

Licensing

The OMi MP licenses are available in a pack of 25 license units. Each license can be used per OS instance, irrespective of the application type. For example, the license pack can contain 5 licenses of OMi MP for Microsoft Skype for Business Server, 10 licenses of OMi MP for Oracle Database with any other combination of supported applications.

There are three types of licenses:

- Evaluation: A license with a fixed trial period of up to 60 days. This type of license is available only until a Time Based or Permanent license is purchased. Once purchased, the trial period immediately terminates.
- Term: A license that has a time-based expiration date.
- Perpetual: A license that does not expire.

To procure the license for the Entitlement Order Number (EON), go to <http://enterpriselicense.hpe.com> and log on using your HPE Passport credentials to redeem the license.

For information about applying the license, see "[Applying the License](#)".

Chapter 2: Installing OMi MP for SAP HANA

This section provides information about installing OMi MP for SAP HANA on BSM 9.2x or OMi 10.x (Linux or Windows) servers.

Installation Media

The following section provides information about the installation media for OMi MP for SAP HANA. The OMi MP for SAP HANA is available in the OMi MP for SAP HANA DVD (MPDVD) and also through electronic media (e-media). The MPDVD and e-media are available for English and Non-English locale environments. You can use the appropriate installation media based on your locale requirements.

Product	Marketplace links
OMi MP for SAP HANA	Unified Marketplace

The OMi MP for SAP HANA DVD and e-media contains the software and the product documentation. In a distributed environment, it must be installed on all BSM or OMi Data Processing Servers (DPS) and BSM or OMi Gateway Servers (GWS).

The following table provides information about the documentation available in the MPDVD and the e-media:

Document	Location	Purpose
Online Help	Available in the BSM 9.2x console Help menu. From the BSM console, go to Help > BSM Help > Application Administration > Operations Management > OMi Management Pack for SAP HANA Available in the OMi 10.x console ? menu. From the OMi console, go to ? > General Help > Administration Guide > Management Packs > OMi Management Pack for SAP HANA .	To provide information about the following: <ul style="list-style-type: none">• Using Management Templates• Using Aspects and Policy Templates• Using Indicators - HIs and ETIs
Installation Guide	<MPDVD>\DOCUMENTATION\en	
User Guide	<MPDVD>\DOCUMENTATION\en	

Document	Location	Purpose
Release Notes	<MPDVD>\DOCUMENTATION\en	To provide information about the following: <ul style="list-style-type: none">• Salient Features• Installation Notes

Installation Prerequisites

The following section lists the hardware and software prerequisites for installing OMi MP for SAP HANA on BSM 9.2x (Linux and Windows) or OMi 10.x (Linux and Windows) Servers. It also provides information about the prerequisites required for monitoring SAP HANA.

Software Requirements

Before installing OMi MP for SAP HANA, the following components must be installed and configured on the BSM 9.2x or OMi 10.x servers.

Component	Version
BSM	9.23 or higher*
Operations Manager i	9.23 or higher*
Monitoring Automation	9.23 or higher*

* See the Support Matrix for latest versions supported

Note: For large scale environments, it is recommended to use BSM 9.24.

Managed Node

Component	Version
Operations Agent	11.12 or higher*
Java	1.6 or higher

Note: You must use 64 bit JRE with 64 bit Operations Agent and 32 bit JRE with 32 bit Operations

Agent.

* See the Support Matrix for latest versions supported

Installation Checklist

Ensure that the installation tasks described in the following table are completed in the specified order.

If you have already installed OMi 10.x, skip to [Task 6](#).

Serial	Task	Reference
1	Check the Installation prerequisites for BSM	See the chapter <i>General Prerequisites</i> in the <i>BSM Installation Guide</i> .
2	Install BSM version 9.20 and the BSM 9.23 or higher Service Pack	See the chapter <i>Install BSM 9.20</i> and the chapter <i>Install the latest BSM 9.2x Minor Release and Patch</i> in the <i>BSM Installation Guide</i> .
3	Install Monitoring Automation version 9.23 or higher	See the chapters <i>Installation Prerequisites</i> and <i>Installing and Configuring Monitoring Automation on BSM servers</i> in the <i>Monitoring Automation for Operations Manager i Installation Guide</i> .
4	Verify the Monitoring Automation installation	See the chapter <i>Verifying the Installation</i> and <i>Using Monitoring Automation</i> in the <i>Monitoring Automation for Operations Manager i Installation Guide</i> .
5	Installing Additional Software Update for Monitoring Automation 9.23	See the section " Installing Additional Software Update for Monitoring Automation 9.23 ".
6	Install OMi MP for SAP HANA 1.00	See the section Installing SAP HANA version 1.00 on BSM or OMi .

Serial	Task	Reference
7	Applying the License	See the section "Applying the License" .

Managed Node

Task	Reference
Install Operations Agent 11.12	See the chapter <i>Installing Operations Agent 11.12</i> in the <i>Operations Agent and Operations Smart Plug-ins for Infrastructure Installation Guide</i> .

User Privileges

OMi MP for SAP HANA user must be assigned the **MONITORING** role of the standard SAP HANA database, that contains the read-only privileges for all the system and monitoring views.

OMi MP for SAP HANA uses the following are the monitoring views:

- M_BACKUP_CATALOG
- M_BLOCKED_TRANSACTIONS
- M_CONNECTIONS
- M_CS_COLUMNS
- M_CS_TABLES
- M_DATABASE
- M_DISKS
- M_EVENTS
- M_HOST_INFORMATION
- M_HOST_RESOURCE_UTILIZATION
- M_INIFILE_CONTENTS
- M_LANDSCAPE_HOST_CONFIGURATION
- M_LICENSE
- M_SAVEPOINT_STATISTICS
- M_SERVICES
- M_SERVICE_MEMORY

- M_TABLES
- M_TENANTS
- _SYS_STATISTICS.HOST_LONG_IDLE_CURSOR
- _SYS_STATISTICS.HOST_LONG_RUNNING_STATEMENTS
- _SYS_STATISTICS.HOST_LONG_SERIALIZABLE_TRANSACTION
- _SYS_STATISTICS.HOST_UNCOMMITTED_WRITE_TRANSACTION
- _SYS_STATISTICS.STATISTICS_ALERTS
- _SYS_STATISTICS.STATISTICS_ALERT_INFORMATION
- _SYS_STATISTICS.STATISTICS_CURRENT_ALERTS

Installing Additional Software Update for Monitoring Automation 9.23

Note: You must install additional software update for Monitoring Automation 9.23 only for BSM 9.23.

Before installing OMi MP for SAP HANA , you must install an additional software update for Monitoring Automation 9.23. If you are using Monitoring Automation 9.24 or a later version, you do not need to install this additional software update. The additional software update for Monitoring Automation 9.23 (HPOprMA_update.zip) is available in the e-media or MPDVD, under the folder HPOprMA_update.

For more information about installing the update software, see ["Installing Monitoring Automation 9.23 Software Update"](#).

Installing OMi Management Pack for SAP HANA version 1.00 on BSM or OMi

You can use the e-media or MPDVD to install the OMi MP for SAP HANA on BSM or OMi Server (Linux or Windows). The following section provides information about installing the OMi MP for SAP HANA on the BSM 9.2x or OMi 10.x Server.

Note: In a BSM 9.2x or OMi 10.x distributed environment, OMi MP for SAP HANA must be installed on all BSM or OMi Servers - (BSM or OMi) DPS and (BSM or OMi) GWS.

For BSM 9.2x, you must make sure that Monitoring Automation is running before proceeding with the installation. To check the status, log on to BSM console and navigate to **Admin > Setup and Maintenance > Server Deployment** and then check if Monitoring Automation is enabled.

On a Linux BSM 9.2x or OMi 10.x Server

To install the OMi MP for SAP HANA on a Linux BSM 9.2x or OMi 10.x Server, follow these steps:

1. Log on as a root user.
2. Set the umask by typing the command `umask 022`.
3. Create a directory to mount the DVD or e-media by typing the command `mkdir /<mount_point>`.

For example: `mkdir /dvdrom`

4. Insert the DVD into the disk drive or you can copy the e-media installation package and mount using the following commands:

For DVD: `mount /dev/<dvdrom_drive_name> /<mount_point>`

For e-media: `mount -o loop <e-media> /<mount_point>`

5. Change the directory to `/<mount_point>`.
6. Run the following command:

`<PATH>/mpinstall.sh -i`

Based on the locale, you can see the following table and run the command accordingly:

E-media	MP locale same as BSM locale	MP locale different from BSM locale
English e-media	<code>./mpinstall.sh -i</code>	<code>./mpinstall.sh -i</code>
Non-English e-media	<code>./mpinstall.sh -i</code>	<code>./mpinstall.sh -i -locale <mplocale></code>

For example, to install OMi MP for SAP HANA in the Simplified Chinese locale with BSM in a non Simplified Chinese locale, specify the following command:

`./mpinstall.sh -i -locale zh_CN`

Note: You can use the following command options:

```
./mpinstall.sh -i [-locale <MP Locale>] [-h|help]
```

-i : Install Management Pack.

-locale: Locale specific Management Pack to install.

-h| -help: Shows the help message.

You can specify the <mplocale> as follows:

- zh_CN: Simplified Chinese locale
- ja: Japanese locale

7. To accept the End User License Agreement (EULA), type **Yes** or **Y** and to decline the license agreement, type **No** or **N**.

Note: If you decline the EULA, the OMi MP for SAP HANA will not be installed.

After the installation is completed, a message appears stating that the installation of OMi Management Pack for SAP HANA is completed.

On a Windows BSM 9.2x or OMi 10.x Server

To install the OMi MP for SAP HANA on a Windows BSM 9.2x or OMi 10.x Server, follow these steps:

1. Insert the DVD into the disk drive or you can copy the ZIP file to the BSM or OMi Server and extract it.
2. Open the command prompt, change the directory to <DVD- ROM> or to folder that has the installer script and run the following command:

```
cscript mpinstall.vbs -i
```

Based on the locale, you can see the following table and run the command accordingly:

E-media	MP locale same as BSM locale	MP locale different from BSM locale
English e-media	cscript mpinstall.vbs -i	cscript mpinstall.vbs -i
Non-English e-media	cscript /nologo mpinstall.vbs -i	cscript /nologo mpinstall.vbs -i -locale <mplocale>

For example, to install OMi MP for SAP HANA in Simplified Chinese locale with BSM in a non Simplified Chinese locale, specify the following command:

```
cscript /nologo mpinstall.vbs -i -locale zh_CN
```

Note: You can use the following command options:

```
cscript /nologo mpinstall.vbs -i [-locale <MP Locale>] [-h|help]
```

-i: Install Management Pack.

-locale : Locale specific Management Pack to install.

-h| -help: Shows the help message.

You can specify the <mplocale> as follows:

- zh_CN: Simplified Chinese locale
- ja: Japanese locale

3. To accept the End User License Agreement (EULA), type **Yes** or **Y** and to decline the license agreement, type **No** or **N**.

Note: If you decline the EULA, the OMi MP for SAP HANA will not be installed.

After the installation is completed, a message appears stating that the installation of OMi Management Pack for SAP HANA is completed.

Applying the License

This section provides information about updating and activating the license.

Note: For more information about procuring the license, see the ["Licensing"](#) section.


To update your deployment with a new license and to activate the license, follow these steps:

1. Navigate to the License Management pane:

On BSM 9.2x, click **Admin > Platform > Setup and Maintenance > License Management**.

On OMi 10.x, click **Administration > Setup and Maintenance > License Management**.

The License Management provides details about the name, license type, days left to expiry of license, expiration date, capacity, and capacity details.

2. Click  to open the Add License dialog box where you can search for the relevant .dat file.

Note: You can download .dat file from <http://enterpriselicense.hpe.com>.

Verifying the OMi MP for SAP HANA Installation

This section provides information about verifying the installation of OMi MP for SAP HANA on BSM 9.2x or OMi 10.x (Linux and Windows) servers.

You can perform any one of the following checks to verify the OMi MP for SAP HANA installation:

- Check the log files for any errors on GWS (BSM 9.2x or OMi 10.x), DPS (BSM 9.2x or OMi 10.x), and typical servers (BSM 9.2x or OMi 10.x) at the following locations:

For Linux:

`/opt/HP/BSM/log/mpinstall.log`

For Windows:

`%TOPAZ_HOME%\log\mpinstall.log`

Note: The OMi logs are available on both (BSM 9.2x or OMi 10.x) GWS and (BSM 9.2x or OMi 10.x) DPS at the following location:

On BSM < or = 9.25

Linux: `/opt/HP/BSM/log/EJBContainer/opr-configserver.log`

Windows: `%TOPAZ_HOME%\log\EJBContainer\opr-configserver.log`

On BSM > or = 9.26 and OMi 10.x

Linux: `/opt/HP/BSM/log/jboss/opr-webapp.log`

Windows: `%TOPAZ_HOME%\log\jboss\opr-webapp.log`

- Check the following location BSM 9.2x or on the OMi 10.x console:
 - On BSM 9.2x, click **Admin > Operations Management > Setup > Content Packs**.
The **OMi Management Pack for SAP HANA** must appear in the Content Pack Definitions pane.
 - On OMi 10.x, click **Administration > Setup and Maintenance > Content Packs**.

The **OMi Management Pack for SAP HANA** must appear in the Content Pack Definitions pane.

- To list the OMi MPs installed on the BSM 9.2x or OMi 10.x server, run the following command on BSM 9.2x or OMi 10.x GWS:

For Linux:

```
/opt/HP/BSM/bin/ContentManager.sh -l -username <username> -password <pwd>
```

For Windows:

```
%TOPAZ_HOME%\bin\ContentManager.bat -l -username <username> -password <pwd>
```

Note: The ContentManager.bat or ContentManager.sh command lists the Content Pack name and version.


Chapter 3: Getting Started

The following section provides step-by-step instructions for monitoring SAP HANA databases using OMi MP for SAP HANA.

Task 1: Adding Remote Managed Node to the BSM 9.2x or OMi 10.x Console

Note: OMi MP for SAP HANA monitors SAP HANA databases through remote monitoring. The remote managed node is a node outside the HANA system that needs to be configured and added to BSM for monitoring SAP HANA databases.

Before you begin monitoring, follow these steps to add the nodes.

1. Open the Monitored Nodes pane from Administration:
On BSM 9.2x, click **Admin > Operations Management > Setup > Monitored Nodes**.
On OMi 10.x, click **Administration > Setup and Maintenance > Monitored Nodes**.
2. In the Node Views pane, click **Predefined Node Filters > Monitored Nodes** and then click  and then click **Computer > Windows** or **Unix**. The Create New Monitored Node dialog box appears.
3. Specify the Primary DNS Name, IP address, Operating System, and Processor Architecture of the node and click **OK**.

The newly created node is saved as a Configuration Item (CI) instance in Run-time Service Model (RTSM).

Note: The remote managed node with Operations Agent needs to be activated on OMi server and certificate needs to be granted.

Task 2: Enabling the Enrichment Rules


You must enable the following enrichment rules to populate the SAP HANA CI's display label with additional information about container or the hostname:

- **SoftwareElementDisplayLabelForNewHost**
- **SoftwareElementDisplayLabelForExistingHost**
- **SoftwareElementDisplayLabelPopulator**

To enable the Enrichment rules, follow these steps:

1. Open the Enrichment manager pane:

On BSM 9.2x, click **Admin > RTSM Administration > Modeling > Enrichment manager**.

On OMi 10.x, click **Administration > RTSM Administration > Modeling > Enrichment manager**.
2. In the Enrichment Rules pane, select **SoftwareElementDisplayLabelForNewHost** from the list.
3. Right-click and select **Properties**. The Enrichment Rule Properties window appears.
4. Click **Next**.
5. Select **Rule is Active**.
6. Click **Finish**.
7. In the Enrichment Rules pane, click  to save the changes.
8. Select **SoftwareElementDisplayLabelForExistingHost** and repeat steps 3 to 7.
9. Select **SoftwareElementDisplayLabelPopulator** and repeat steps 3 to 7.

Task 3: Deploying the HANA Service Discovery Aspect

To discover the SAP HANA databases in the environment, you can deploy the HANA Service Discovery Aspect to the remote managed node by following these steps:


1. Open the Management Templates & Aspects pane:


On BSM 9.2x, click **Admin > Operations Management > Monitoring > Management Templates & Aspects**

On OMi 10.x, click **Administration > Monitoring > Management Templates & Aspects**

2. In the Configuration Folders pane:


Configuration Folders > Database Management > SAP HANA > Aspects

3. In the HANA Aspects folder, click the **HANA Service Discovery Aspect** that you want to deploy, and then click . The Assign and Deploy wizard opens.
4. In the **Configuration Item** tab, click the remote managed node CI and then click **Next** to go to **Required Parameters**.
5. In the **Required Parameters** tab, you must specify the mandatory parameters. To specify the values for the mandatory parameters, follow these steps:



- a. Select the **JDBC Url to connect with HANA system** instance parameter in the list, and then click . The Edit Parameter: JDBC Url to connect with HANA system dialog box opens.


For example, you can specify the following url:

```
jdbc:sap://hanavm1.ind.hpe.com:31015;hanavm1:31015?reconnect=true&timeout=0
```


- b. Specify the value and click **OK**.
- c. Select the **Directory containing HANA JDBC driver to connect to the HANA** parameter in the list, and then click . The Edit Parameter: User Name to connect to the HANA system dialog box opens.

For example, you can specify the directory on the remote managed node on Windows which contains *ngdbc.jar* as C:/HANA/driver.

- d. Select **Value**, specify the value and click **OK**.
 - e. Select the **User Name to connect to the HANA system** parameter in the list, and then click . The Edit Parameter: User Name to connect to the HANA system dialog box opens.
 - f. Select **Value**, specify the value, and then click **OK**.
 - g. Select the **Password to connect to the HANA system** parameter in the list, and then click . The Edit Parameter: Password to connect to the HANA system dialog box opens.
 - h. Select **Value**, specify the value, and then click **OK**.
6. In the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x, select the

JDBC Url to connect with HANA system parameter, and click  **Edit**. The Edit Instance Parameter: SAP HANA database SID window appears.

Note: For SSL configurations, you must specify the value for the Encrypt parameter. You need to set the value to true to enable SSL encryption. In addition, you need to specify the values for the other parameters related to SSL.

7. In the Dependent Values pane, you can edit and change the values by following these steps:
 - a. Select a parameter and click  **Edit**. For example, you can select JAVA installation directory. The Edit Parameter: JAVA installation directory window appears.
 - b. Click **Value**, specify the value and click **OK**.
 - c. Click **OK**.
8. In the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x, click **Next** to go to the **Configure Options** tab.
9. *(Optional)*. If you do not want to enable the assignment immediately, follow the step:
On BSM 9.2x, clear the **Enable Assigned Objects** check box.
On OMi 10.x, clear the **Enable Assignment(s)** check box.
You can then enable the assignment later using the Assignments & Tuning pane.
10. Click **Finish**.

Note: After the HANA Service Discovery Aspect is deployed, a message stating the Assignment and deployment jobs created appears. To check the status of the deployment job, go to the following location:

On BSM 9.2x, click **Admin > Operations Management > Monitoring > Deployment Jobs**.

On OMi 10.x, click **Administration > Monitoring > Deployment Jobs**.

Task 4: Verifying Discovery

After you deploy the HANA Service Discovery Aspect, you must verify if the CIs are populated in the Browse Views.

To view the CIs populated in the Browse Views, follow these steps:

1. Open the Event Perspective pane:

On BSM 9.2x, click **Applications > Operations Management > Event Perspective**.

On OMi 10.x, click **Workspaces > Operations Console > Event Perspective**.
2. In the Browse Views pane, select the **HANA_Topology** view.

The CIs are populated in the Browse Views pane.

Task 5: Deploying the HANA Management Templates or Aspects

This section provides information about collection process, deploying management templates and aspects. For more information about deploying HANA Management Template, go to [Task 5a: Deploying HANA Management Templates](#) and for more information about deploying HANA Aspects, go to [Task 5b: Deploying HANA Aspects](#).

Data Collection

Frequency (polling interval) at which each Aspect must be monitored is predefined with a default value in a specific frequency parameter. Frequency parameter is an expert parameter that is defined for each of the metrics regardless of whether they are for generating events or not.

Following are the four predefined frequency parameters:

Parameter	Frequency
Very High	5 mins
High	15 mins
Medium	1 hour
Low	24 hours

After Management Templates and Aspects are deployed, collector is triggered based on the predefined frequency parameter in a specific Aspect. You can modify the default value of the parameter at following two levels:

- During deployment of the Management Template or Aspects using the Management Templates & Aspects pane.
- After deployment using the Assignments & Tuning pane.

For more information about how to modify the parameter values, see section *Tuning Parameters in the OMi MP for SAP HANA User Guide*.

Task 5a: Deploying HANA Management Templates

You **must** deploy the HANA Service Discovery Aspect even if the CIs are already populated by any other source such as SiteScope, DDM and so on. For more information, see [Task 3: Deploying the HANA Service Discovery Aspect](#).

You can deploy the HANA Management Templates by following these steps:


1. Open the Management Templates & Aspects pane:

On BSM 9.2x, click **Admin > Operations Management > Monitoring > Management Templates & Aspects**.

On OMi 10.x, click **Administration > Monitoring > Management Templates & Aspects**.


2. In the Configuration Folders pane:



Configuration Folders > Database Management > SAP HANA > Management Templates

3. In the **HANA Management Templates** folder, select the **Management Template** that you want to deploy, and then click . The Assign and Deploy wizard opens.
4. In the **Configuration Item** tab, select the discovered HANA system to which you want to assign the Management Template, and then click **Next** to go to the **Required Parameters** tab.

Note: You do not need to specify the values for the required parameters as these have been already specified while deploying the HANA Service Discovery Aspect.

5. Click **Next** to go to **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x.

Note: In the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x, you can override the default values of any parameter. You can specify a value for each parameter at the Management Template level. By default, parameters defined as expert parameters are not shown. To view expert parameters, click  **Show Expert Parameters**.

6. *(Optional)*. In the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x, select the **SAP HANA Database SID** parameter, and click . The Edit Instance Parameter: SAP HANA database SID window appears.
7. *(Optional)*. In the Dependent Values pane, you can edit the values by following these steps:
 - a. Select a parameter and click  **Edit**.

For example, you can select **Frequency for Service Status**. The Edit Parameter: Frequency for Service Status window appears.
 - b. Click **Value**, specify the value.
 - c. Click **OK**.
8. In the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x, click **Next** to go to **Configure Options** tab.
9. *(Optional)*. If you do not want to enable the assignment immediately, follow the step:

On BSM 9.2x, clear the **Enable Assigned Objects** check box.

On OMi 10.x, clear the **Enable Assignment(s)** check box.

You can then enable the assignment later using the Assignments & Tuning pane.
10. Click **Finish**.

Task 5b: Deploying HANA Aspects

You **must** deploy the HANA Service Discovery Aspect even if the CIs are already populated by any other source such as SiteScope, DDM and so on. For more information, see [Task 3: Deploying the HANA Service Discovery Aspect](#).


You can deploy HANA Aspects to the remote managed nodes by following these steps:

1. Open the Management Templates & Aspects pane:

On BSM 9.2x, click **Admin > Operations Management > Monitoring > Management Templates & Aspects**


On OMi 10.x, click **Administration > Monitoring > Management Templates & Aspects**
2. In the Configuration Folders pane:



Configuration Folders > Database Management > SAP HANA > Aspects

3. In the Management Templates & Aspects pane, click the HANA Aspect that you want to deploy, and then click . The Assign and Deploy wizard opens.
4. In the **Configuration Item** tab, click the remote managed node CI to which you want to assign the Aspect, and then click **Next** to go to **Required Parameters**.

Note: To view remote managed node, select the **Also Show CIs of Type Node** check box.

5. In the **Required Parameters** tab, update the SAP HANA database SID.
6. Click **Next** to go to **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x.

Note: In the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x, you can override the default values of any parameter. You can specify a value for each parameter at the Aspect level. By default, parameters defined as expert parameters are not shown. To view expert parameters, click  **Show Expert Parameters**.

7. In the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x, select the **SAP HANA Database SID** parameter, and click . The Edit Instance Parameter: SAP HANA database SID window appears.
8. *(Optional)*. In the Dependent Values pane, you can edit the values by following these steps:
 - a. Select a parameter and click . For example, you can select **Frequency for Service Status**. The Edit Parameter: Frequency for Service Status window appears.
 - b. Click **Value**, specify the value and click **OK**.
 - c. Click **OK**.
9. Click **Next** to go to **Configure Options** tab.
10. *(Optional)*. If you do not want to enable the assignment immediately, follow the step:

On BSM 9.2x, clear the **Enable Assigned Objects** check box.

On OMi 10.x, clear the **Enable Assignment(s)** check box.

You can then enable the assignment later using the Assignments & Tuning pane.
11. Click **Finish**.

Appendix A: Installing Monitoring Automation

9.23 Software Update

This section provides detailed information about installing the software update in a distributed BSM environment.

If you do not have a distributed BSM environment, you can skip to the section "[Installing Additional Software Update in a Typical BSM Environment](#)".

Installing Additional Software Update in a Distributed BSM Environment

In a distributed BSM environment, the BSM DPS and BSM GWS are available on different systems. The additional software update needs to be installed on both the BSM DPS and BSM GWS.

Installing Additional Software Update on BSM DPS

To install the additional software update on BSM DPS running in a distributed BSM environment, follow these steps:

1. Run the following commands to check the version of the current `opr-config-content-server.war` file:

On Linux:

```
cd /opt/HP/BSM/opr/webapps  
  
/opt/HP/BSM/opr/support/what.sh ./opr-config-content-server.war
```

On Windows:

Go to the drive where BSM is installed:

```
cd /d %TOPAZ_HOME%\opr\webapps  
  
cscript %TOPAZ_HOME%\opr\support\what.vbs opr-config-content-server.war
```

Note: If the version number is lower than 09.23.174, then proceed to the next step. If the version number is 09.23.174 or higher, then the current BSM installation already contains the required software update and you do not need to perform the remaining steps in this section.

2. Run the following command to stop the BSM services running on BSM DPS:

On Linux:

```
/opt/HP/BSM/scripts/run_hpbsm stop
```

On Windows:

```
%TOPAZ_HOME%\bin\SupervisorStop.bat
```

3. Take a backup of the existing `opr-config-content-server.war` file, which exists in the following folder:

On Linux:

```
/opt/HPBSM/opr/webapps
```

On Windows:

```
%TOPAZ_HOME%\opr\webapps
```

The `opr-config-content-server.war` file must be backed up to a different folder.

4. Extract the `HP0prMA_update.zip` to a temporary folder and copy `opr-config-content-server.war` to the following folder:

On Linux:

```
/opt/HPBSM/opr/webapps
```

On Windows:

```
%TOPAZ_HOME%\opr\webapps
```

5. Run the following command to deploy the new WAR file from the extracted ZIP file:

On Linux:

```
/opt/HP/BSM/opr/bin/oprcfg-configuration.sh -setup omi -noGW
```

On Windows:

```
cscript %TOPAZ_HOME%\opr\bin\oprcfg-configuration.vbs -setup omi -noGW
```

6. Run the following command to start the BSM services:

On Linux:

```
/opt/HP/BSM/scripts/run_hpbsm start
```

On Windows:

```
%TOPAZ_HOME%\bin\SupervisorStart.bat
```

Installing Additional Software Update on BSM GWS

To install the additional software update on BSM GWS running in a distributed BSM environment, follow these steps:

1. Run the following commands to check the version of the current `opr-config-server.war` file:

On Linux:

```
cd /opt/HP/BSM/opr/webapps  
  
/opt/HP/BSM/opr/support/what.sh ./opr-config-server.war
```

On Windows:

Go to the drive where BSM is installed:

```
cd /d %TOPAZ_HOME%\opr\webapps  
  
cscript %TOPAZ_HOME%\opr\support\what.vbs opr-config-server.war
```

Note: If the version number is lower than 09.23.174, then proceed to the next step. If the version number is 09.23.174 or higher, then the current BSM installation already contains the required software update and you do not need to perform the remaining steps in this section.

2. Run the following command to stop the BSM services running on BSM GWS:

On Linux:

```
/opt/HP/BSM/scripts/run_hpbsm stop
```

On Windows:

```
%TOPAZ_HOME%\bin\SupervisorStop.bat
```

3. Take a backup of the existing `opr-config-server.war` file which exists in the following folder:

On Linux:

```
/opt/HPBSM/opr/webapps
```

On Windows:

```
%TOPAZ_HOME%\opr\webapps
```

The `opr-config-server.war` file must be backed up to a different folder.

4. Extract the `HPoprMA_update.zip` to a temporary folder and copy `opr-config-server.war` to the following folder:

On Linux:

```
/opt/HPBSM/opr/webapps
```

On Windows:

```
%TOPAZ_HOME%\opr\webapps
```

5. Run the following command to deploy the new WAR file from the extracted ZIP file:

On Linux:

```
/opt/HP/BSM/opr/bin/oprcfg-configuration.sh -setup omi
```

On Windows:

```
cscript %TOPAZ_HOME%\opr\bin\oprcfg-configuration.vbs -setup omi
```

6. Run the following command to start the BSM services:

On Linux:

```
/opt/HP/BSM/scripts/run_hpbsm start
```

On Windows:

```
%TOPAZ_HOME%\bin\SupervisorStart.bat
```

Installing Additional Software Update in a Typical BSM Environment

In a typical BSM environment, the BSM DPS and BSM GWS are available in the same system. To install the additional software update in a typical BSM environment, perform the following steps:

1. Run the following commands to check the version of the current `opr-config-server.war`:

On Linux:

```
cd /opt/HP/BSM/opr/webapps  
  
/opt/HP/BSM/opr/support/what.sh ./opr-config-server.war
```

On Windows:

Go to the drive where BSM is installed:

```
cd /d %TOPAZ_HOME%\opr\webapps  
  
cscript %TOPAZ_HOME%\opr\support\what.vbs opr-config-server.war
```

Note: If the version number is lower than 09.23.174, then proceed to the next step. If the version number is 09.23.174 or higher, then the current BSM installation already contains the required software update and you do not need to perform the remaining steps in this section.

2. Run the following command to stop the BSM services running on BSM Server:

On Linux:

```
/opt/HP/BSM/scripts/run_hpbsm stop
```

On Windows:

```
%TOPAZ_HOME%\bin\SupervisorStop.bat
```

3. Take a backup of the existing `opr-config-server.war` file which exists in the following folder:

On Linux:

```
/opt/HPBSM/opr/webapps
```

On Windows:

```
%TOPAZ_HOME%\opr\webapps
```

The `opr-config-server.war` file must be backed up to a different folder.

4. Extract the `HP0prMA_update.zip` to a temporary folder and copy `opr-config-server.war` to the following folder:

On Linux:

```
/opt/HPBSM/opr/webapps
```

On Windows:

%TOPAZ_HOME%\opr\webapps

5. Run the following command to deploy the new WAR file from the extracted ZIP file:

On Linux:

```
/opt/HP/BSM/opr/bin/oprcfg-configuration.sh -setup omi
```

On Windows:

```
cscript %TOPAZ_HOME%\opr\bin\oprcfg-configuration.vbs -setup omi
```

6. Run the following command to start the BSM services:

On Linux:

```
/opt/HP/BSM/scripts/run_hpbsm start
```

On Windows:

```
%TOPAZ_HOME%\bin\SupervisorStart.bat
```

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