



OMi Management Pack for SAP Sybase ASE

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 Sybase ASE (OMi MP for SAP Sybase ASE) works with Operations Manager i (OMi) and enables you to monitor SAP Sybase ASE (Adaptive Server Enterprise) servers in your environment and its underlying infrastructure using the Business Service Management (BSM). The OMi MP for SAP Sybase ASE includes the following components for monitoring the health and status of the SAP Sybase ASE Servers:

- SAP Sybase ASE Management Templates
- SAP Sybase ASE Aspects
- Parameters
- Run-time Service Model (RTSM) Views
- Event Type Indicators (ETIs)
- Health Indicators (HIs)
- Graph Templates
- Tools

Note: For more information about the components, see the *OMi Management Pack for SAP Sybase ASE Online Help* or *User Guide*.

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 Sybase ASE	OMi Management Pack for SAP Sybase ASE

Related Documentation

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

- OMi MP for SAP Sybase ASE - *Release Notes*
- OMi MP for SAP Sybase ASE - *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.
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For information about applying the license, see "[Applying the License](#)".

Chapter 2: Installing OMi MP for SAP Sybase ASE

This section provides information about installing OMi MP for SAP Sybase ASE 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 Sybase ASE. The OMi MP for SAP Sybase ASE is available in the OMi MP for SAP Sybase ASE 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 Sybase ASE	Unified Marketplace

The OMi MP for SAP Sybase ASE 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	<p>Available in the BSM console Help menu.</p> <p>From the BSM console, go to Help > BSM Help > Application Administration > Operations Management > OMi Management Pack for SAP Sybase ASE</p> <p>Available in the OMi console ? menu.</p> <p>From the OMi console, go to ? > General Help > Administration Guide > Management Packs > OMi Management Pack for SAP Sybase ASE.</p>	<p>To provide information about the following:</p> <ul style="list-style-type: none"> Using SAP Sybase ASE Management Templates Using SAP Sybase ASE Aspects and Policy Templates Using Indicators - HIs and ETIs

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

Installation Prerequisites

The following section lists the hardware and software prerequisites for installing OMi MP for SAP Sybase ASE on BSM 9.2x or OMi 10.x (Linux and Windows) Servers.

Software Requirements

Before installing OMi MP for SAP Sybase ASE version 1.00, the following components must be installed and configured on the BSM 9.2x or OMi 10.x Servers.

Server Requirements

Component	Version
BSM	9.23 or higher*
Operations Manager i	9.23 or higher*
Monitoring Automation	9.23 or higher*
OMi MP for Infrastructure	1.10

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

Managed Node Requirement

Component	Version
Operations Agent	11.12 or higher*

Note: * For more information about Support Matrix, see <https://softwaresupport.hpe.com/km/KM323488>.

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](#).

Server Checklist

Serial	Task	Reference
1	Check the installation prerequisites for BSM	See the chapter <i>General Prerequisites</i> in the Business Service Management Installation Guide.
2	Install BSM version 9.23 or higher	See the chapter <i>Install BSM 9.20</i> and the chapter <i>Install the latest BSM 9.2x Minor Minor Release and Patch</i> in the <i>Business Service Management Installation Guide</i> .
3	Install Monitoring Automation version 9.23 or higher	See the chapter <i>Installing Monitoring Automation</i> in the <i>Operations Manager i Monitoring Automation Installation Guide</i> .
4	Verify the Monitoring Automation installation	
5	Install Additional Software Update for Monitoring Automation 9.23 Note: If you are installing OMi MP for SAP Sybase ASE on BSM 9.23, you must install additional software update for Monitoring Automation 9.23.	See the section " Installing Additional Software Update for Monitoring Automation 9.23 ".
6	Clean up OMi MP for Infrastructure version 1.00	If OMi MP for Infrastructure version 1.00 is already installed, see <i>Migrating from OMi MP for Infrastructure version 1.00 to version 1.10</i> in the <i>OMi Management Pack for Infrastructure 1.10 Installation Guide</i> .
7	Install OMi MP for Infrastructure 1.10	See the chapter <i>Installing OMi MP for Infrastructure 1.10</i> in the <i>OMi Management Pack for Infrastructure 1.10 Installation Guide</i> .

Serial	Task	Reference
8	Install OMi MP for SAP Sybase ASE 1.00	See the section "Installing OMi Management Pack for SAP Sybase ASE version 1.00 on BSM or OMi" .
9	Apply the License	See the section "Applying the License" .

Managed Node Checklist

Task	Reference
Install Operations Agent 11.12 or higher	See the chapter <i>Installing the Operations agent 11.12</i> in the <i>Operations Agent and Operations Smart Plug-ins for Infrastructure Installation Guide</i> .
Special Configurations	See the section "Special Configurations" .
Configure library path on the managed node*	See the section "Configuring Library Path on a Solaris Managed Node" .

* This configuration check is applicable only for Solaris managed nodes.

Special Configurations

This section provides information about the special configurations that are different from standard configurations. It also includes information about using OMi MP for SAP Sybase ASE in environments with cluster configurations. You need to perform these configurations on the managed nodes.

Configuring Cluster and Fail-over Environments

OMi MP for SAP Sybase ASE can be configured to support cluster environments where fail-overs allow uninterrupted database availability. With the synchronized cluster environment, OMi MP for SAP Sybase ASE monitoring allows to enable or disable the active or passive nodes respectively.

To setup OMi MP for SAP Sybase ASE for a cluster environment, follow these steps:

1. *(Optional)*. Modify the XML file (*dbspi_sapsybasease.apm.xml*) included with the OMi MP for SAP Sybase ASE.
2. Configure each SAP Sybase ASE server instance on every node where the instance runs and then deploy the required OMi MP for SAP Sybase ASE Management Templates or Aspects on the CI.
3. Create an XML file that associates OMi MP for SAP Sybase ASE-monitored instances with the cluster packages.

Prerequisite

To monitor a cluster-aware application, OMi MP for SAP Sybase ASE requires that a monitored resource in the cluster group contains both a network name and an IP address.

Caution: If the cluster group does not meet these requirements, the following errors are logged in the `opcerror` file on the cluster node:

- Could not perform cluster API function, error code 1008 returned System Error Number: -1 (ffffffff) - (OpC30-3223)
- Could not read cluster information System Error Number: -1 (ffffffff) - (OpC30-3221)
- Application Package Monitor of subagent 0 aborted; process got signal 1 (OpC30-1041)

Software Requirements

OMi MP for SAP Sybase ASE is compatible with cluster software as follows:

- Microsoft Clustering Solutions (MSCS) on Windows
- MC/ServiceGuard on HP-UX nodes
- Veritas on Solaris nodes
- Sun Cluster on Solaris nodes

Task 1: XML file included with the OMi MP for SAP Sybase ASE

OMi MP for SAP Sybase ASE includes an XML file (`dbspi_sapsybasease.apm.xml`) for Sybase ASE Server type. This file works in conjunction with another file that you create in [Create the apminfo.xml file](#). The purpose of the file is to list all the OMi MP for SAP Sybase ASE Policy Templates on the managed node so that these files can be disabled or enabled as appropriate for inactive or active managed nodes.

The configuration describes a scenario where OMi MP for SAP Sybase ASE is enabled for monitoring a database instance for one node in the cluster, while it remains disabled for all other nodes in the cluster.

(Optional). Modify the OMi MP for SAP Sybase ASE file (which lists OMi MP for SAP Sybase ASE Policy Templates)

The OMi MP for SAP Sybase ASE (`dbspi_sapsybasease.apm.xml`) file for Sybase ASE Server type is generally ready to use without the necessary for any configurations. However, if you have renamed any Policy Templates, you need to modify the file.

The XML file lists all the Scheduled Task and Logfile Entry Policy Templates for purposes of disabling or enabling. These Policy Templates are disabled only when the last instance is moved to another node. The start or stop commands are performed for each instance that is started or stopped on the node.

1. On the managed node, the file is located in the following directory:

For Windows:

```
%OvDataDir%\bin\instrumentation\conf
```

For UNIX:

```
/var/opt/OV/bin/instrumentation/conf
```

The OMi MP for SAP Sybase ASE is named according to the database type as `dbspi_sapsybasease.apm.xml`.

2. Modify the OMi MP for SAP Sybase ASE file as required.

The unmodified file is automatically deployed with any OMi MP for SAP Sybase ASE Policy Templates that you deploy. If you modify the file, you must redeploy to each node in the cluster.

The following example shows the contents of `dbspi_sapsybasease.apm.xml`.

Example (uses SAP Sybase ASE configuration):

```
<?xml version="1.0"?>
<APMApplicationConfiguration xmlns="http://www.hp.com/OV/opcapm/app">
  <Application>
    <Name>dbspi_sapsybasease</Name>
    <Template>SAPSybaseASE_High</Template>
    <Template>SAPSybaseASE_Logger</Template>
    <Template>SAPSybaseASE_Low</Template>
    <Template>SAPSybaseASE_Medium</Template>
    <Template>SAPSybaseASE_VeryHigh</Template>
    <Template>SAPSybaseASE_ErrorLog</Template>
    <Template>SAPSybaseASE_Messages</Template>
    <StartCommand>dbspisybcol ON $instanceName</StartCommand>
    <StopCommand>dbspisybcol OFF $instanceName</StopCommand>
  </Application>
</APMApplicationConfiguration>
```

Task 2: Configuration or Discovery in a Cluster

Environment

In cluster environments, OMi MP for SAP Sybase ASE Sybase ASE Discovery Aspect may not be able to discover all possible locations of your database instances. In addition, the discovery might configure and map instances based only on physical names, not the virtual names that you are using in a cluster environment. In the following task you need to configure and deploy OMi MP for SAP Sybase ASE for any node to which a package may be moved.

Task 3: The XML file you create

The second XML file is one that you create and name: `apminfo.xml`.

This file, working in conjunction with the OMi MP for SAP Sybase ASE-included XML file, allows you to associate OMi MP for SAP Sybase ASE monitored instances with cluster packages. As a result, when

a package is moved from one node in a cluster to another node in the same cluster, monitoring stops on the failed node and starts on the new node.

Create the `apminfo.xml` file (which describes cluster instances)

The following example shows the OMi MP for SAP Sybase ASE Server instances. The file must be named `apminfo.xml`.

1. Using a text editor, create a file as specified:
 - a. In the `apminfo.xml` file, type the `Application Name` to match the prefix of the `apm.xml` file.
For Example, `dbspi_sapsybasease`
 - b. Type the `Instance Name` to match the instance name configured in OMi MP for SAP Sybase ASE.
Application Name: `dbspi_sapsybasease`
Instance Name: Name of Sybase server (from interfaces file)

User-created xml file with entry descriptions

Note: For Sybase, the package name has to be set to the name of the ServiceGroup.

```
<?xml version="1.0" ?>
<APMClusterConfiguration>
<Application>
<Name><xml_file name without .xml extension></Name>
<Instance>
<Name><SAP Sybase ASE server instance name to be monitored by OMi MP for SAP
Sybase ASE>
</Name>
<Package>< Resource group in which the first instance of SAP Sybase ASE server
runs>
</Package>
</Instance>
<Instance>
<Name><SAP Sybase ASE server instance #2 name to be monitored by OMi MP for SAP
Sybase ASE>.</Name>
<Package><Resource group in which the second instance of SAP Sybase ASE server
runs>
```

```
</Package>  
</Instance>  
</Application>  
</APMClusterConfiguration>
```

User-created xml file with entries to replace above descriptions

```
<?xml version="1.0"?>  
<APMClusterConfiguration>  
<Application>  
<Name>dbspi_sapsybasease</Name>  
<Instance>  
<Name>virtserv\sales</Name>  
<Package>virtserv</Package>  
</Instance>  
<Instance>  
<Name>customer</Name>  
<Package>customer</Package>  
</Instance>  
</Application>  
</APMClusterConfiguration>
```

To monitor multiple instances per resource group, modify the file as follows:

```
<?xml version="1.0" ?>  
<APMClusterConfiguration>  
<Application>  
<Name>dbspi_sapsybasease</Name>  
<Instance>  
<Name>sales1,sales2</Name>  
<Package>virtserv</Package>  
</Instance>  
</Application>  
</APMClusterConfiguration>
```

In addition, change the Start or Stop command to dbspisybcol:

```
<?xml version="1.0" ?>
<APMClusterConfiguration>
<Application>
<Name>dbspi_sapsybasease</Name>
...
<StartCommand>dbspisybcol ON $instanceName</StartCommand>
<StopCommand>dbspisybcol OFF $instanceName</StopCommand>
</Application>
</APMApplicationConfiguration>
```

2. Save the files in the following directories on all physical nodes in the resource group:

apminfo.xml

Nodes with a Windows operating system:

%OvDataDir%conf\conf\

Nodes with a UNIX or Linux operating system:

\$OvDataDir/conf/conf/

Note: These directories does not exist by default. When you create a file for the first time, you must manually create these directories. There is no special distribution mechanism to transport the files from the BSM Server to the nodes. Typically, the files are installed manually on all nodes. There is no merge mechanism to add further entries. You must update them manually.

3. On each physical node, check the syntax and configuration of the files using the command `ovappinstance`:

Nodes with a 32-bit Windows operating system:

%OvInstallDir%\bin\ovappinstance -vc

Nodes with a UNIX or Linux operating system:

\$OvInstallDir/bin/ovappinstance -vc

4. Stop and restart the Operations Agent after copying the files to the physical nodes.

To stop the agent, run the following command:

```
ovc -stop
```

To restart the agent, run the following command:

```
ovc -start
```

Installing MDA Table to Monitor Heavy SQL Statements (Metric 2043 Setup)

This section provides information about setting up metric 2043 to monitor Heavy SQL Statements.

2043 metric uses table `monSysStatement`. The MDA (Monitoring and Diagnostic) table must be installed on the Sybase ASE Server manually. The SAP Sybase ASE user including `sa` user must have `mon_role` privileges. A few monitoring parameters, described in the following section, must be configured using `sp_configure`.

As an example, let us consider setting up the special environment for Sybase version 15.7 on HP-UX platform.

Note: The steps to set up the special environment for Sybase varies across version and platform. If you are using a different Sybase version or platform, see *Sybase documentation* for installing or configuring MDA table.

Note: By default, 2043 metric is not monitored as the Heavy SQL Statements Count Frequency parameter is set to `NORUN`. If you want to monitor heavy SQL Statements using 2043 metric, perform the following tasks and set the Heavy SQL Statements Count Frequency parameter value.

Task 1: Connecting to Sybase Server and checking the configuration parameter

1. Connect to the Sybase ASE Server as a Sybase user and run the following command in the command prompt:

```
$SYBASE/$SYBASE_OCS/bin/isql -Usa -P<Password> -S<Server>
```

2. To check if the parameter `enable cis` is set to 1, run the following command:

```
sp_configure 'enable cis'  
go
```

3. If the parameter value is not set to 1, run the following command:

```
sp_configure 'enable cis', 1
```

```
go
```

Task 2: Adding loopback server name alias

To add the loopback server name, run the following command:

```
use master
```

```
go
```

```
sp_addserver loopback, null, @@servername
```

```
go
```

Task 3: Installing the MDA tables

To install the MDA tables, run the following command:

```
isql -U sa -P <yourpassword> -S <YourServerName> -i $SYBASE/$SYBASE_
ASE/scripts/installmaster
```

In this instance, SYBASE is Sybase install directory

SYBASE_ASE is ASE server directory inside SYBASE install directory

Task 4: Assigning mon_role to logins allowed MDA access

To grant permission to sa user, run the following command:

```
use master
```

```
go
```

```
grant role mon_role to sa
```

```
go
```

Task 5: Enabling the configuration parameters

To enable the configuration parameters, run the following command:

```
sp_configure "enable monitoring", 1
```

```
go
```

```
sp_configure "sql text pipe active", 1
```

```
go
```

```
sp_configure "sql text pipe max messages", 100
```

```
go
```

```
sp_configure "plan text pipe active", 1
```

```
go
```

```
sp_configure "plan text pipe max messages", 100
go
sp_configure "statement pipe active", 1
go
sp_configure "statement pipe max messages", 100
go
sp_configure "errorlog pipe active", 1
go
sp_configure "errorlog pipe max messages", 100
go
sp_configure "deadlock pipe active", 1
go
sp_configure "deadlock pipe max messages", 100
go
sp_configure "wait event timing", 1
go
sp_configure "process wait events", 1
go
sp_configure "object lockwait timing", 1
go
sp_configure "SQL batch capture", 1
go
sp_configure "statement statistics active", 1
go
sp_configure "per object statistics active", 1
go
sp_configure "max SQL text monitored", 2048
go
```

Restart the Sybase server

Task 6: Testing the basic MDA configuration

To test the basic MDA configuration, run the following command:

```
select count(*) from master..monSysStatement
go
```

Configuring Library Path on a Solaris Managed Node

This section provides information about configuring the library path on Solaris managed node.

Note: The following configuration is a prerequisite for only OMi MP for SAP Sybase ASE used for monitoring managed nodes on a Solaris platform.

For OMi MP for SAP Sybase ASE to monitor managed nodes on Solaris platform, ensure the `Expat.so` library used for XML parser perl module is able to resolve dynamic dependency for all the required libraries using following steps as agent user:

1. To find `Expat.so` library, run the following commands:

```
cd /opt/OV/nonOV/perl/a/lib
find . -name Expat.so
```

2. To find the list of dynamic dependencies, run the following commands:

```
Go to <Expat.so> path
ldd Expat.so
```

If you see an error message “file not found” for `libgcc_s.so`, configure the `libgcc_s.so` library path at `SYBMP_LIBPATH` environment variable on a Solaris managed node by following step 3.

3. Set `libgcc_s.so` library path in `SYBMP_LIBPATH` environment variable as root user by following these steps:

- a. Find `libgcc_s.so` on Solaris managed node using the following command:

```
find / -name libgcc_s.so
```

- b. Search 32-bit `libgcc_s.so` using the following command:

```
file <libgcc_s.so along with path>
```

- c. If 32-bit `libgcc_s.so` is not installed on the node, install GCC Runtime libraries package.

- d. Open `/etc/profile` in `vi` editor using the following command:

```
vi /etc/profile
```

- e. Add the following lines at the beginning of the `/etc/profile` file:

```
SYBMP_LIBPATH=<32-bit libgcc_s.so path>
```

```
export SYBMP_LIBPATH
```

Note: 32-bit `libgcc_s.so` path is the result of step 2.

- f. Save the file.

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 Sybase ASE, 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 MP for Infrastructure version 1.10

For information about installing OMi MP for Infrastructure version 1.10, see the chapter *Installing OMi MP for Infrastructure version 1.10 on BSM or OMi* in the *OMi Management Pack for Infrastructure Installation Guide*.

Installing OMi Management Pack for SAP Sybase ASE version 1.00 on BSM or OMi

You can use the e-media or MPDVD to install the OMi MP for SAP Sybase ASE on BSM or OMi Server (Linux or Windows). The following section provides information about installing the OMi MP for SAP Sybase ASE 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 Sybase ASE 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 Sybase ASE 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 Sybase ASE 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 Sybase ASE will not be installed.

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

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

To install the OMi MP for SAP Sybase ASE 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.

- 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 Sybase ASE 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:

- o zh_CN: Simplified Chinese locale
- o ja: Japanese locale

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

After the installation is completed, a message appears stating that the installation of OMi Management Pack for SAP Sybase ASE 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 Sybase ASE Installation

This section provides information about verifying the installation of OMi MP for SAP Sybase ASE 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 Sybase ASE 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 Sybase ASE** 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 Sybase ASE** 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 information about the tasks required to monitor SAP Sybase ASE Servers using OMi MP for SAP Sybase ASE. You can also analyze the status and health of SAP Sybase ASE Configuration Items (CIs) through event, health, and performance perspectives.

Task 1: Adding Nodes to BSM 9.2x or OMi 10.x Console

Note: If the SAP Sybase ASE Server that you want to monitor is already being monitored by Smart Plug-in (SPI) for Sybase Databases, then remove the SPI artifacts and data sources from the managed node hosting the SAP Sybase ASE Server before proceeding.

Note: If the node already exists in Run-time Service Model (RTSM), you can skip this step and proceed to Task 2.

Before you begin monitoring, you need to add the nodes by following these steps:

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 > <select required OS type>**. The Create New Monitored Nodes dialog box opens.
3. Specify the Primary DNS Name and verify the IP Address.
4. Specify the Operating System and Processor Architecture of the node from the drop-down list, and then click **OK**.

The newly created node is saved as a CI instance in RTSM.

Note: You must activate the node with Operations Agent on OMi Server and grant certificate.

Task 2: Enabling the Enrichment Rule

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

- SoftwareElementDisplayLabelForNewHost
- SoftwareElementDisplayLabelForExistingHost
- SoftwareElementDisplayLabelPopulator

To enable the Enrichment Rule, follow these steps:

1. Open the Enrichment manager:
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 SAP Sybase ASE Discovery Aspect

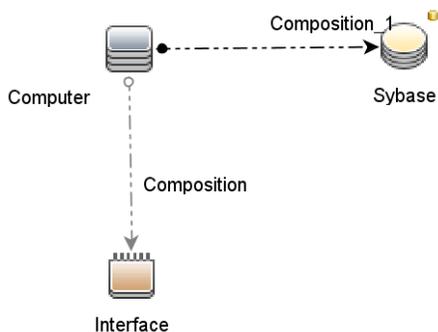
Note: If SAP Sybase ASE CIs are already discovered, you can skip this step and proceed to Task 4.

The SAP Sybase ASE Discovery Aspect enables you to discover SAP Sybase ASE Server instances in the environment. To discover both SAP Sybase ASE CIs and SAP Sybase Replication Server CIs

on the added managed nodes, you must deploy the SAP Sybase ASE Discovery Aspect to a Computer CI.

The SAP Sybase ASE Discovery Aspect deployment discovers the Configuration Item (CIs) of the following CI types (CITs):

- Sybase (Both SAP Sybase ASE Server and SAP Sybase Replication Server are identified with same CI)
- Computer



To deploy the SAP Sybase ASE Discovery Aspect, follow 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 Sybase ASE > Aspects.

3. Follow one of the below methods to assign and deploy the Aspect. In the Management Templates & Aspects pane:

- Select the **SAP Sybase ASE Discovery** Aspect, and then click .
- Right-click the **SAP Sybase ASE Discovery** Aspect, and then click **Assign and Deploy Item**.

The Assign and Deploy Wizard appears.

4. In the **Configuration Item** tab, select the required managed node CI and then click **Next**.
5. *(Optional)*. In the **Required Parameters** tab, click **Next**.

Note: SAP Sybase ASE Discovery Aspects do not have mandatory parameters. You will get a notification stating the following message: There are no parameters that require editing for this Assignment.

6. (Optional). In the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x, click **Next**.

Note: SAP Sybase ASE Discovery Aspect do not have any parameters. You will get a notification stating the following message: There is no parameter available for this assignment.

7. (Optional). If you do not want to enable the assignment immediately, perform the following:

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.

8. Click **Finish**.

Note: After the SAP Sybase ASE Aspect is deployed, the following message appears: Assignment and deployment jobs created. 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 SAP Sybase ASE Discovery Aspect, you can verify if the CIs are populated in the View Explorer.

To view the CIs discovered, follow these steps:

1. Open the Event Perspective pane:
 - On BSM 9.2x, click **Applications > Operations Manager > Event Perspective**.
 - On OMi 10.x, click **Workspace > Operations Console > Event Perspective**.
2. In the **Browse View** tab, select the **SAPSybaseASE_Deployment** View.

Task 5: Configuring OMi MP for SAP Sybase ASE for Operations Agent running with non-root user

In addition to the tasks mentioned above, the following tasks have to be performed for UNIX nodes that have Operations Agent running with non-root users.

After deploying the SAP Sybase ASE Discovery Aspect, you must follow these steps:

1. Run the following script as a root user under `/var/opt/OV/bin/instrumentation`:

```
# dbspisyb_perl dbspisyb_root.pl
```

The `/var/opt/OV/conf/dbspisyb.su` is created.

2. Edit the `dbspisyb.su` file as a root user by uncommenting the lines or adding new lines in the following format: `<user>:<commands>`

```
root:<SYBINSTPATH>/startserver -f <SYBINSTPATH>/RUN_<SVRNAME>
```

where `<SYBINSTPATH>` is the SAP Sybase ASE install path.

Task 6: Deploying the SAP Sybase ASE Management Templates or Aspects

This section provides information about collection process, permission required for monitoring SAP Sybase ASE instances and deploying Management Template and Aspects. For more information about deploying Management Template, go to [Task 6a: Identifying and Deploying the SAP Sybase ASE Management Template](#) and for more information about deploying Aspects, go to [Task 6b: Deploying the SAP Sybase ASE Aspects](#).

Management Pack Data Collection Process

The frequency (polling interval) at which each policy 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 logging data.

Following are the four predefined frequency parameters:

Scheduler Frequency	Default value
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 parameter value in a specific policy. 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 the section *Editing Parameters* in the *OMi Management Pack for SAP Sybase ASE 1.00 User Guide*.

Required User Privilege

To monitor SAP Sybase ASE Servers, provide a user with credentials and the following privileges: system administrator (sa).

Task 6a: Identifying and Deploying the SAP Sybase ASE Management Template

Before deploying the SAP Sybase ASE Management Templates, you must identify the SAP Sybase ASE Management Template suitable for your environment by following these recommendations:

- If you want to monitor the key performance and availability metrics on an SAP Sybase ASE server, you can deploy the **Essential SAP Sybase ASE Management Template**.
- If you want to monitor the advance features such as network packets, parallel processing, and so on along with key performance and availability, you can deploy the **Extensive SAP Sybase ASE Management Template**.

To deploy the SAP Sybase ASE Management Templates to the SAP Sybase ASE CIs, follow 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 Sybase ASE > Management Templates
3. In the SAP Sybase ASE Management Templates folder, select the Management Template that you want to deploy, and then click  **Assign and Deploy Item**. The Assign and Deploy wizard opens.
4. In the **Configuration Item** tab, select the CI to which you want to assign the Management Template, and then click **Next**.
5. In the **Required Parameters** tab, to enter the required parameters detail follow these steps:
 - a. Select the **SAP Sybase ASE Instance Username** parameter in the list, and then click . The SAP Sybase ASE Instance Username dialog box opens.
 - b. Click **Value** and type the Username. Click **OK**.
 - c. Select the **SAP Sybase ASE Instance Password** parameter, and then click . The SAP Sybase ASE Instance Password dialog box opens.
 - d. Click **Value** and type a value in the **Password** field.
 - e. In the **Verify Password** field and type the same password and then click **OK**.
 - f. Click **Next**.
6. *(Optional)*. In the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x, you can change the default values of the parameters. To change the default values of the parameters, follow these steps:
 - a. Select **SAP Sybase ASE Instance Name** parameter and then click . The Edit Instance Parameter window appears.
 - b. Select the parameter from the list and then click . The Edit Parameter dialog box opens. Click **Value**, specify the value, and then click **OK**.

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 displayed. To display expert parameters, click  **Show Expert Parameters**.

Note: Similarly, you can edit the **SAP Sybase ASE Error Log Frequency** parameter.

- c. Click **Next**.
7. *(Optional)*. In the **Configure Options** tab, if you do not want to enable the assignment immediately, perform the following:
 - 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.
8. Click **Finish**.

Task 6b: Deploying the SAP Sybase ASE Aspects

To deploy SAP Sybase ASE Aspects to the SAP Sybase ASE CIs, follow 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 Sybase ASE > Aspects**
3. In the Management Templates & Aspects folder, select the Aspect that you want to deploy, and then click  **Assign and Deploy Item**.
 - Alternately, you can right-click the SAP Sybase ASE Aspect that you want to deploy, and then click **Assign and Deploy Item** to open the Assign and Deploy Wizard.
4. In the **Configuration Item** tab, select the **Sybase** CI to deploy the Aspect and then click **Next**.

Note: If you want to deploy Aspects to Node CIs, select **Also show CIs of type Node** check box.

5. In the **Required Parameters** tab, you must specify the mandatory parameters by following these steps:
 - a. Select the **SAP Sybase ASE Instance Name** parameter in the list, and then click . The SAP Sybase ASE Instance Name dialog box opens.
 - b. Specify the value, and then click **OK**.
 - c. Select the **SAP Sybase ASE Instance Username** parameter in the list, and then click . The SAP Sybase ASE Instance Username dialog box opens.
 - d. Specify the value, and then click **OK**.
 - e. Select the **SAP Sybase ASE Instance Password** parameter in the list, and then click . The SAP Sybase ASE Password dialog box opens.
 - f. Click **Value** and type a value in the **Password** field.
 - g. In the **Verify Password** field and type the same password and then click **OK**.
 - h. Click **Next**.
6. *(Optional)*. In the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x, you can change the default values of the parameters. Else click **Next**.

To change the default values of the parameters, follow these steps:

- a. Select the **SAP Sybase ASE Instance Name** parameter and then click . The Edit Instance Parameter window appears.
- b. Select the parameter from the list and then click . The Edit Parameter dialog box opens. Click **Value**, specify the value, and then click **OK**.

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 displayed. To display expert parameters, click  **Show Expert Parameters**.

Note: Similarly, you can edit the **SAP Sybase ASE Error Log Frequency** parameter.

- c. Click **Next**.

7. *(Optional)*. In the **Configure Options** tab, if you do not want to enable the assignment immediately, perform the following:
 - 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.
8. Click **Finish**.

Task 7: Verifying SAP Sybase ASE Deployment

To verify the deployment of SAP Sybase ASE on the managed node, follow these steps:

1. Open the Browse View pane:
 - On BSM 9.2x, click **Application > Operations Management > View Explorer > Browse View**.
 - On OMi 10.x, click **Workspaces > Operations Console > Event Perspective > View Explorer > Browse View**.
2. In the **Browse View** pane, right-click a node and then click **Launch Tool**. The Select Tool page opens.
3. Select the **Verify SAP Sybase ASE Management Pack Deployment** tool and then click **Run Tool**.

Task 8: Configuring SAP Sybase ASE Error Log Monitoring for non-root Agent User

By default, the non-root agent user does not have permission to read error log file of SAP Sybase ASE Server. Set read permission to enable the error log file monitoring by following these steps:

1. To identify the SAP Sybase ASE server alert log to be monitored, run the following command:

```
/var/opt/OV/bin/instrumentation/dbspicas -l
```

The error log file name appears.
2. To provide read permission to the non-root user for error log monitoring, run the following command

as a Sybase user:

```
chmod +r <Sybase-error-logfile>
```

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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If you have comments about this document, you can [contact the documentation team](#) by email. If an email client is configured on this system, click the link above and an email window opens with the following information in the subject line:

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