Cisco IMC Smart Plugin 1.0

For HP Operations Manager - Windows

Installation Guide

Mar 12, 2014

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1 Introduction

Hewlett Packard Operations Manager (HPOM) software features a consolidated infrastructure Management Console that correlates fault and performance events across entire IT infrastructure. It monitors both physical and virtual servers to identify the cause of event storms, allowing faster time to resolution.

1.1 Purpose of the Document

The purpose of this document is to describe the procedure which is needed to:

* Install and configure IMC Smart Plugin for HPOM to receive faults generated in Cisco IMC.
* Display the faults in a user friendly manner in HPOM browser.
* Map the faults to the hardware element from which the faults are generated

1.2 Acronyms and Abbreviations

The following table describes the acronyms and abbreviations used in the document.

Abbreviation	Translation
IMC	Integrated Management Controller
DNS	Domain Name Server
FI	Fabric Interconnect
FQDN	Fully Qualified Domain Name
HP	Hewlett Packard
IIS	Internet Information Service
MOF	Management Object Format
OM	Operations Manager
OMW	Operations Manager Windows
SNMP	Simple Network Management Protocol
SPI	Smart Plug In
UCS	Unified Computing System
XML	eXtensible Markup Language

1.3 System Requirements

The HP Operations Management Server must meet the below mentioned minimum requirements for this plug-in to work

- Operating System - Windows Server 2008 R2 Standard (64 bit)
- HP Operations Manager Server - HPOM Windows (OMW) 9.0
- Operations Agent Version 11.0.44
- Java 1.6 (by default bundled with HP- OMW installation)

1.4 Major Features

The major features of Cisco IMC Smart Plugin are:

- The plugin server now runs as a windows service. The communication of GUI and CLI takes place through this service. The main idea behind converting the plugin into a service was to continue monitoring (receiving faults) of nodes even when the user has logged out
- The service hierarchy for each IMC node has been covered to a greater depth.
- The IMC nodes to be monitored can be added to the configuration file at the run-time through the application's user interface. (The application receives the faults from the IMC and then sends to HPOM).
- The faults are received by subscribing to the IMC event channel using IMC XML APIs.
- CLI is made non-interactive as the start and stop monitoring can be initiated in a single line
- Faults now appear on individual components from DP-MR3 version of cimc.

2 Installing Cisco IMC Smart Plugin

This section describes how to install and configure the Cisco IMC Smart Plugin.

1. Installing the Smart Plugin application. This is done automatically through an installer as described in **Section 2.1.**
2. Configuring the Cisco IMC Agent Controller application with management server information and the details of the IMC nodes to be monitored as described in **Section 2.2.**
3. Adding the node to be monitored, to the list of nodes in the HPOM (to view the faults under appropriate components on the node), and deploying the policies on the node (to form the hierarchy of the node and to enable the OM to receive the faults) as described in **Section 2.3.**
4. Receiving faults by using "Cisco IMC Agent Controller" as described in **Section 2.4.**

2.1 Installing the Smart Plugin

This section describes how to install the Cisco IMC Smart Plugin. The following three environment variables are set by default during the installation of HPOM. The installer verifies if the following environment variables are set:
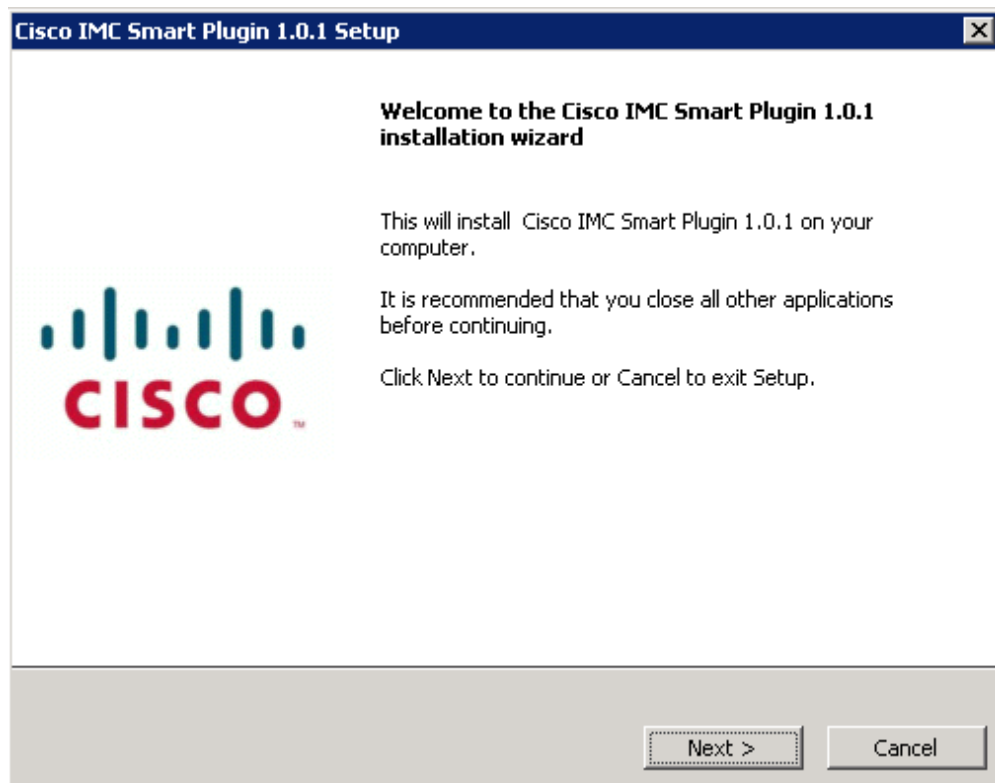
- OvInstallDir
- OvShareDir
- OvDataDir

2.1.1 Running the Installer

1. Double click the Cisco IMC Smart Plugin 1.0.1 Setup.exe to launch the installation. The **Install Cisco IMC Smart Plugin** window appears.
   Click the **Yes** button to proceed with the installation.
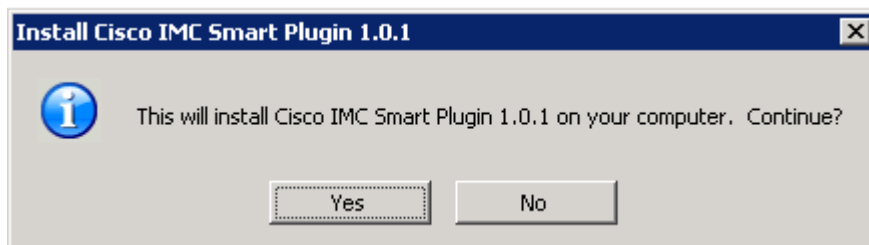
2. The **IMC Smart Plugin Setup** window appears.
    Click the **Next** button.

3. The **License Agreement** window appears.
   Select **I accept the terms of the license agreement** radio button.
   Click the **Next** button.
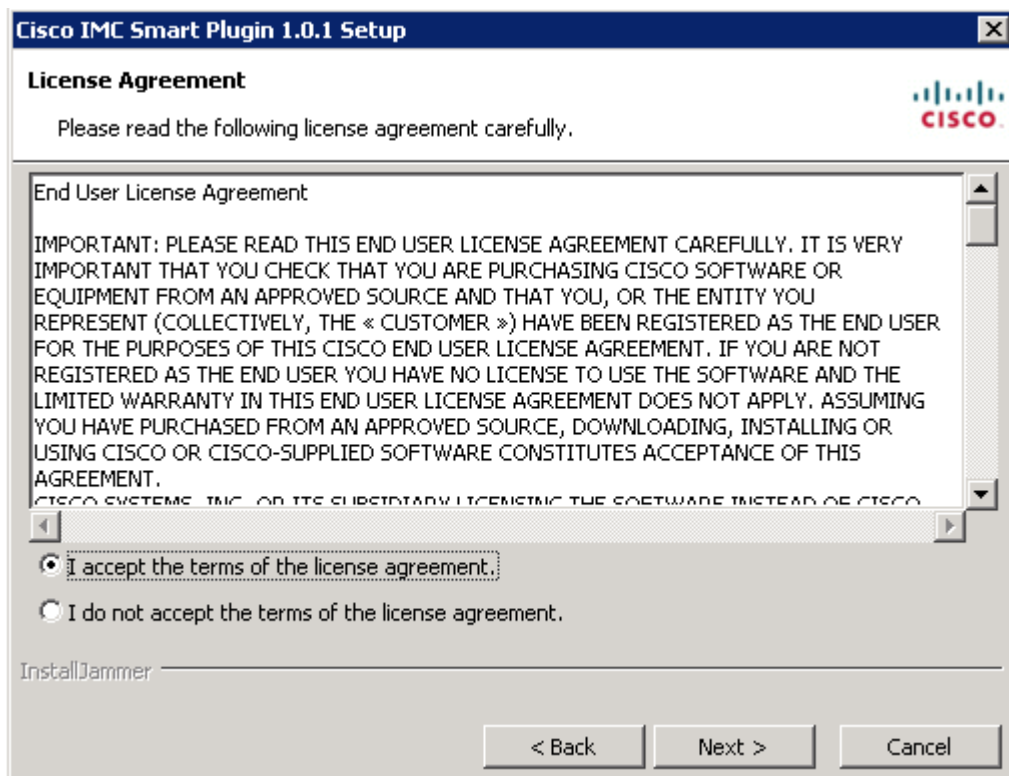
4. The **Start Copying Files** window appears.
   Click the **Next** button to begin copying files to default destination.
   Note: Make a note of the plugin Install Directory for future reference.
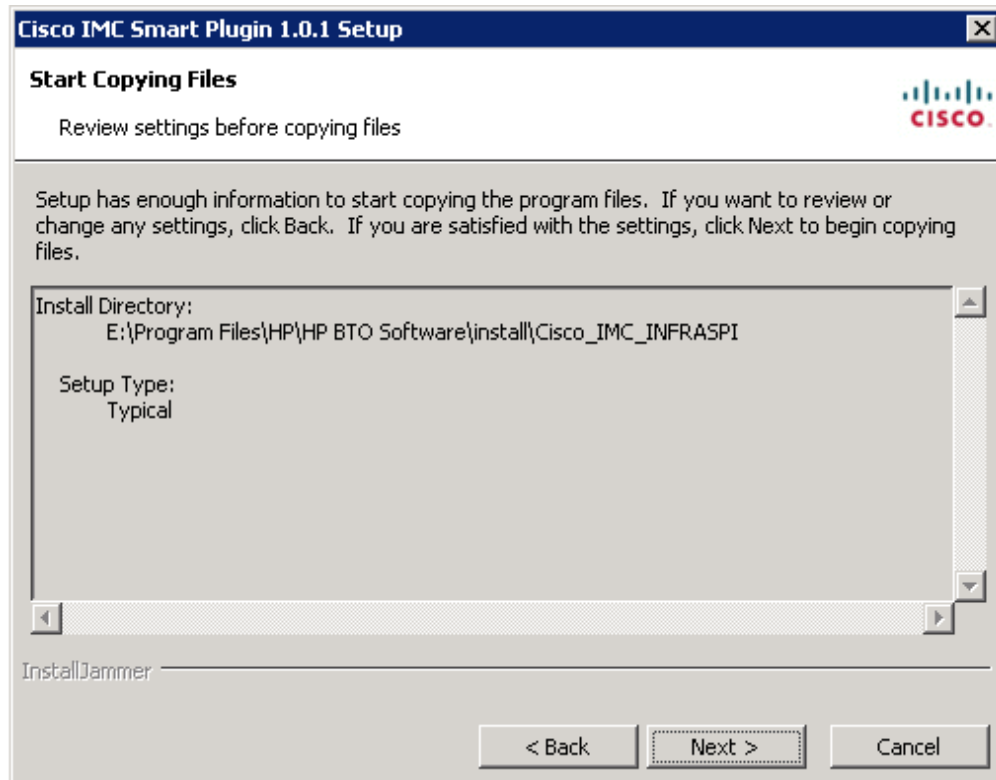
After the installation is complete, the **Installation Complete** window appears.
Click the **Finish** button to complete installation.
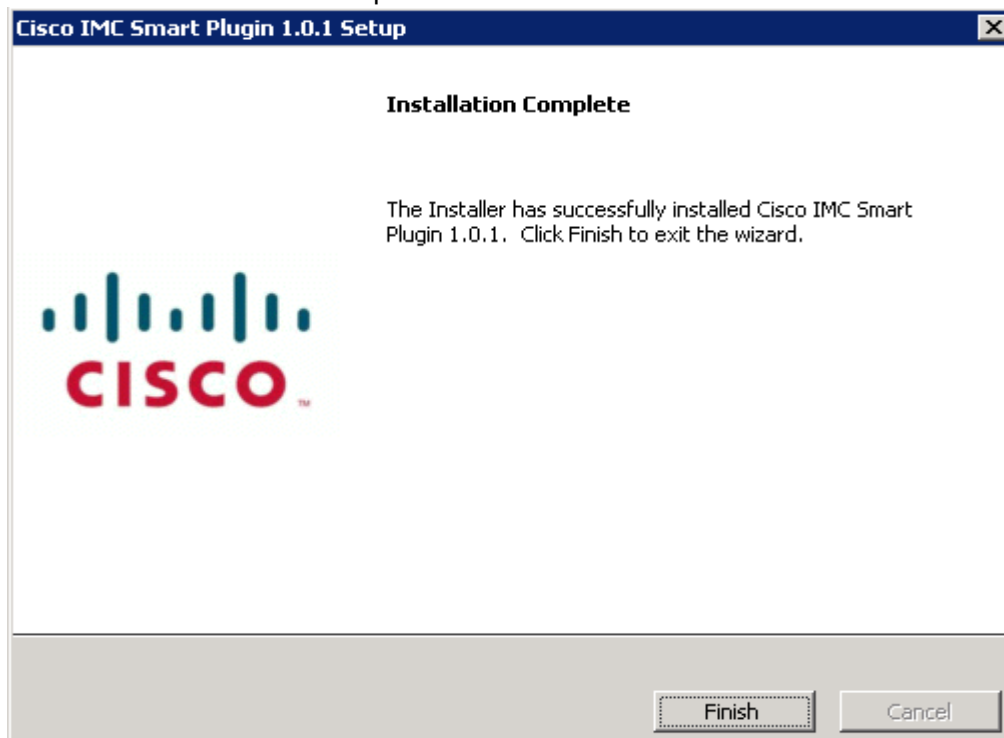
5. On click of "Finish" button "CiscoIMCMonitorService" is started.

```
C:\Windows\system32\net1.exe
The Cisco IMC Monitoring Service service is starting.
```
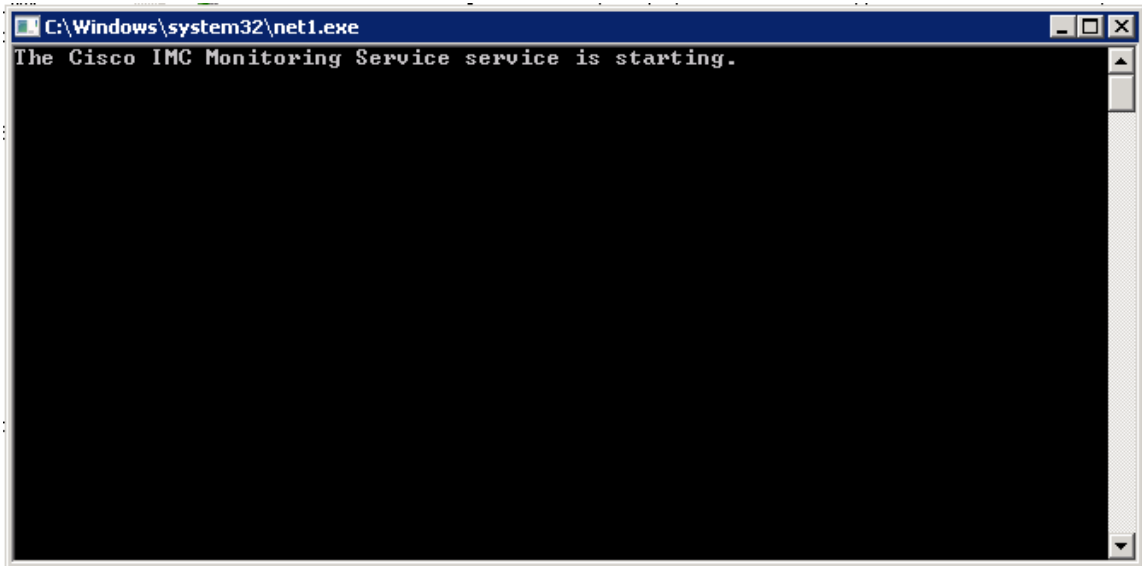
2.2 Configuring the Cisco IMC Agent Controller User Interface

This section describes the steps to configure the Cisco IMC Smart Plugin with management server information and the details of the IMC nodes to be monitored.
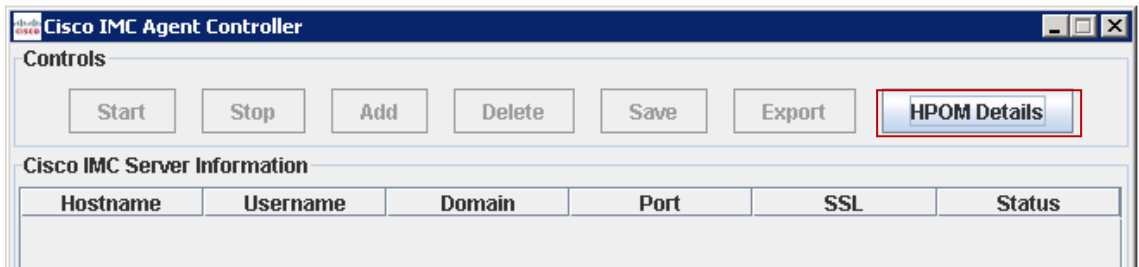
2.2.1 Launching the Cisco IMC Agent Controller

Launch the Cisco IMC Agent Controller by double-clicking its icon created on Desktop. The Cisco IMC Agent Controller User Interface (UI) window appears.
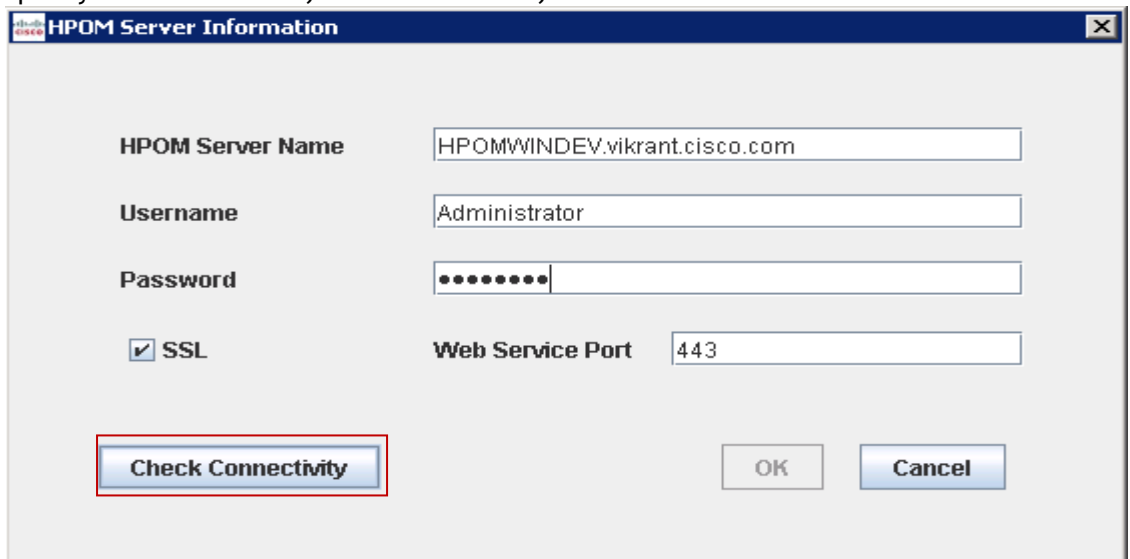

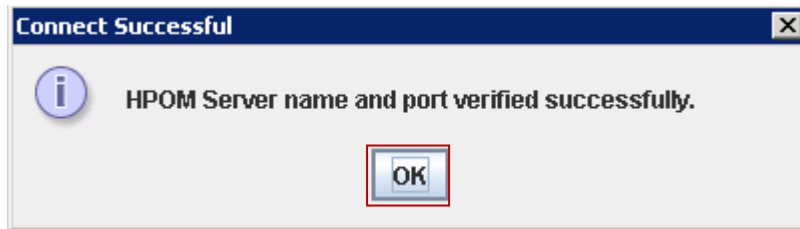## 2.2.2 Editing the Server Information

1. On the Cisco IMC Agent controller window, click the **Server Details** button to edit HPOM server information.
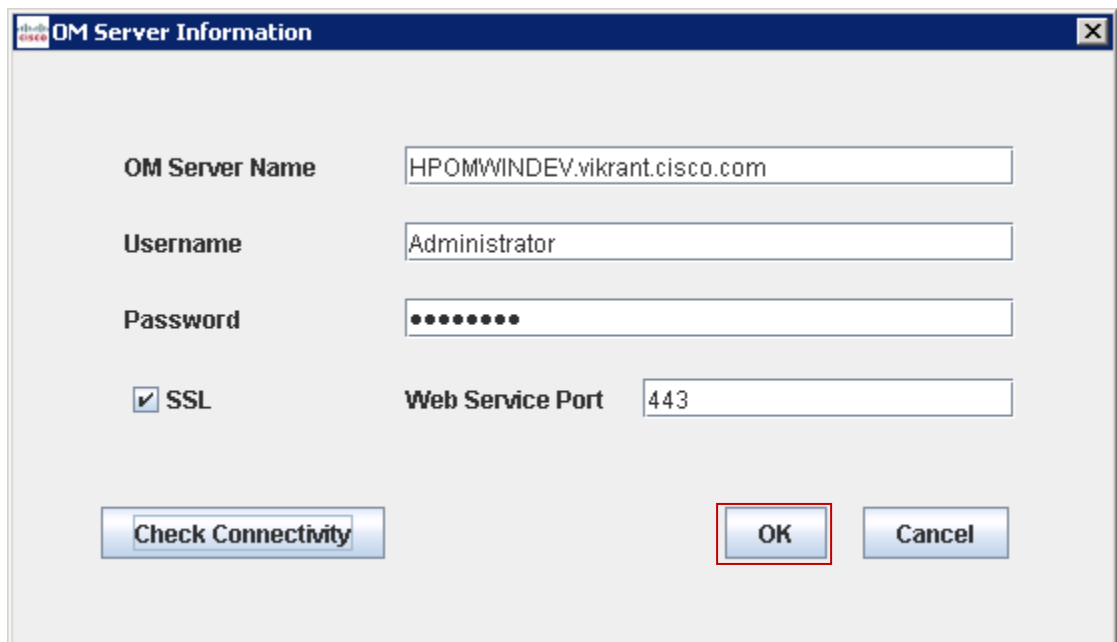

2. The **OM Server Information** window appears.
   Specify **OM Server Name, Web Service Port, Username** and **Password**.

3. Click the **Check Connectivity** button to verify the connection to the HPOM server.

4. If the connection was successful a **Connect Successful** popup appears. Click **OK** button.
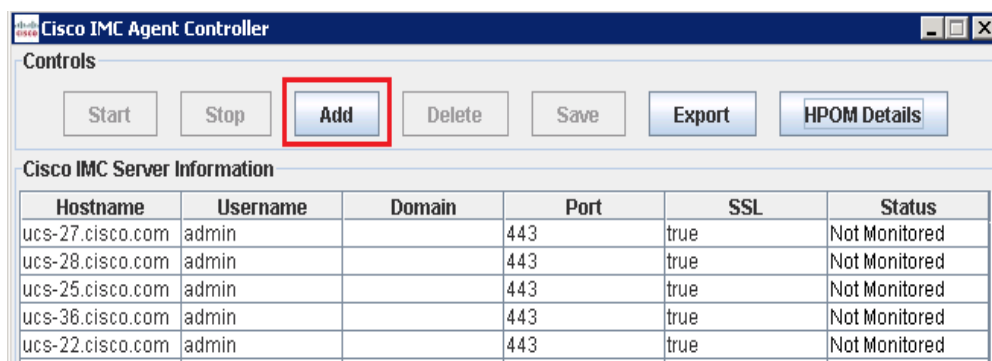

5. On successful connection, click the **OK** button in the **OM Server Information** window.
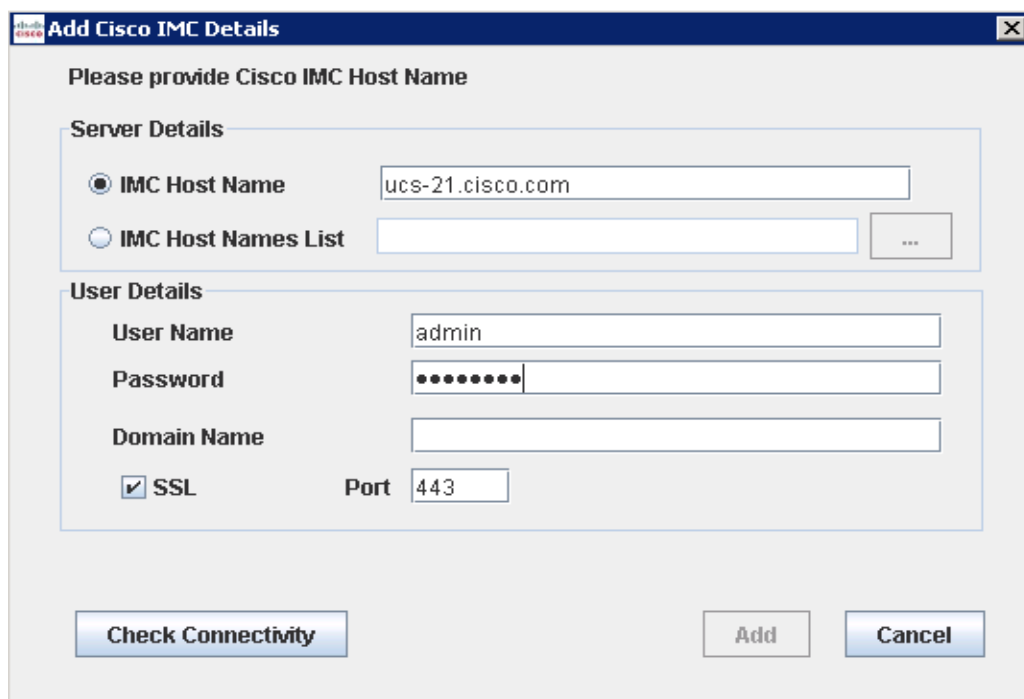

2.2.3 Adding IMC Node Details

1. On the Cisco IMC Agent Controller window, click the **Add** button.

2. The **Add Cisco IMC Details** window appears.
    Specify **Host Name, Username, Password** and **Port.**

There are two modes to add an IMC node.

- Add each node individually (IMC Host Name).
- Add a list of nodes with common user names and password (IMC Host Names List).

Note: The SSL connection is checked by default. However, you can uncheck the SSL checkbox to change the connectivity to non-secure mode.

3. To add each node individually click on the first radio button and provide all the details. Click the **Check Connectivity** button to verify the connection to the IMC and to enable Add button.
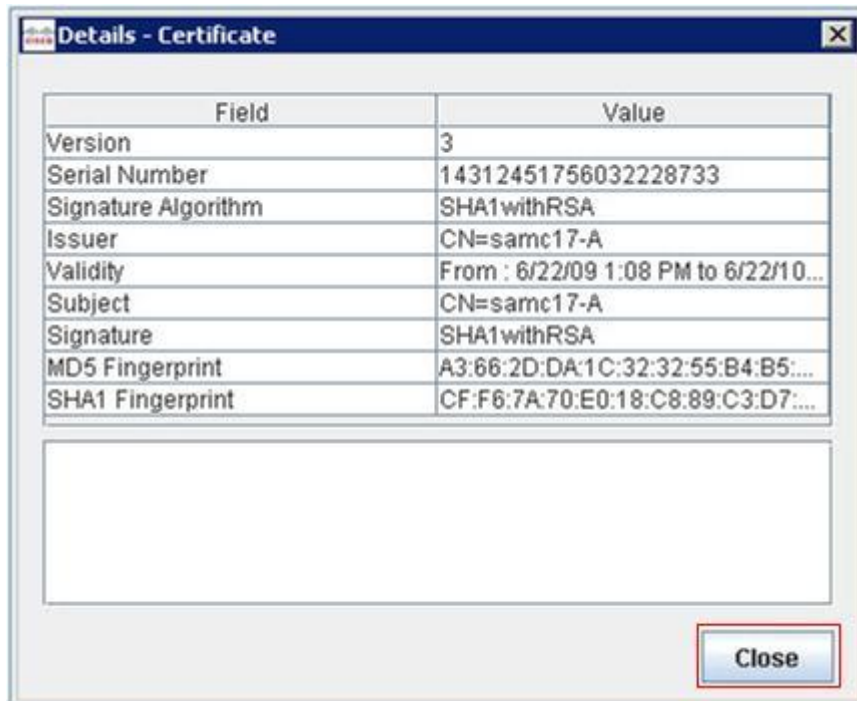The **Security Alert** window appears.

Note: In case of a secure connection (SSL checked), the server certificate check results appear.
Also in case of bulk upload, all the certificates are imported by default.

4. To view the details of the certificate, click the **View Certificate** button.
   The **Details – Certificate** window appears.

5. Click the **Close** button.
   The **Security Alert** window appears.

6. Click the **Yes** button to accept the certificate.
On successful connection, click the **Add** button in the **Add Cisco IMC Details** window.

7. Click the **Save** button to save the node details in the application.
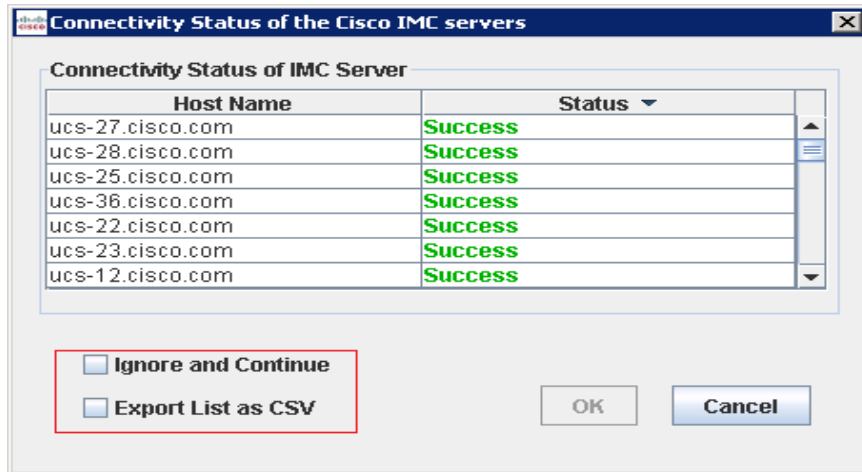The details are saved successfully.

8. Bulk addition of node is possible only through a .csv file.

The .csv file should contain list of servers in the format as shown:-

Host Name
FQDN1, FQDN2, FQDN3
FQDN4
FQDN5, FQDN6

9. When we perform a check connectivity in this case, we get the result for each host in a tabular form:-

10. User has the option to either ignore the result and continue or export the result to excel and then continue.

11. Once that is done, the add button gets enabled.
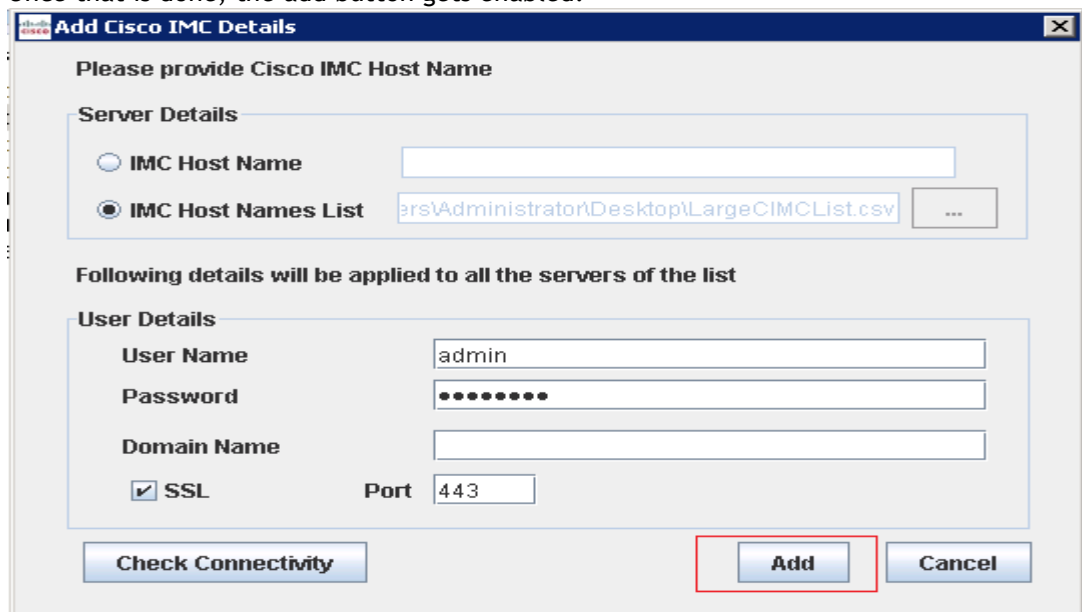
12. Click the **Save** button to save the node details in the application. (As shown in above mentioned pointer 7)
   The details are saved successfully.

2.3 Configuring HPOM

This section describes the steps to add Cisco IMC nodes in the HPOM and to deploy the policies on the HPOM management server.

2.3.1 Adding Cisco IMC Nodes in HPOM

**To add Cisco IMC nodes to HPOM:**

1. Launch the HPOM Management Console.
    The **HP Operations Manager** screen appears.

2. Right click on **Nodes** on the left side of the Console window. Select **Configure** from
    this right click menu. Now select **Nodes** from the **Configure** menu.
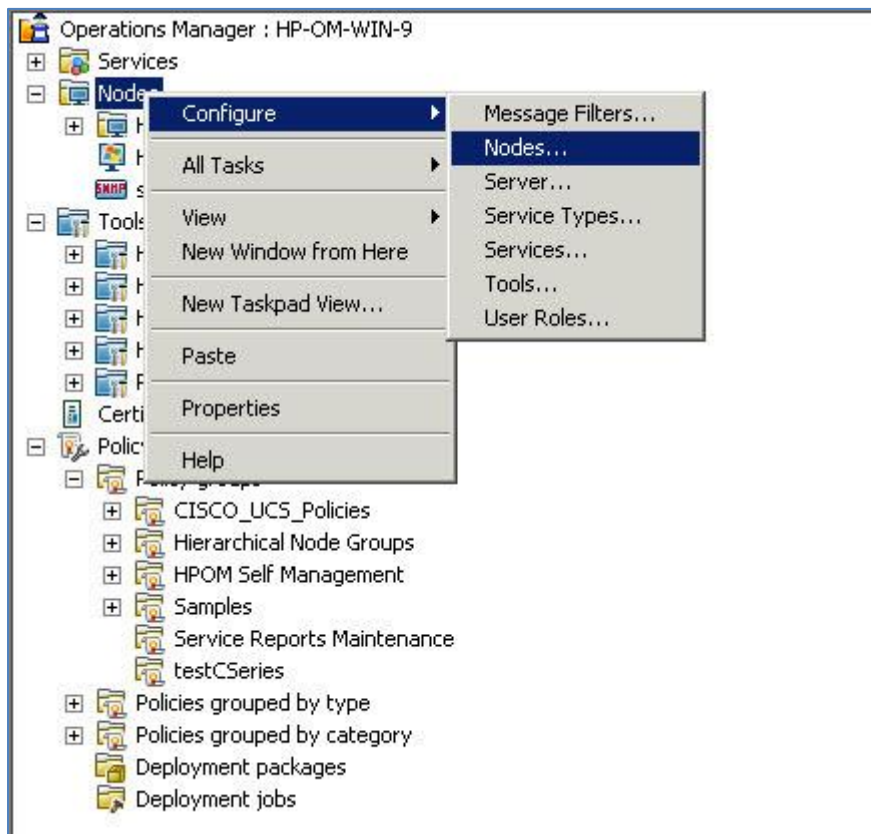

3. The **Configure Managed Nodes** wizard appears.
    Select **Nodes** and choose **New Node** from the right click menu.
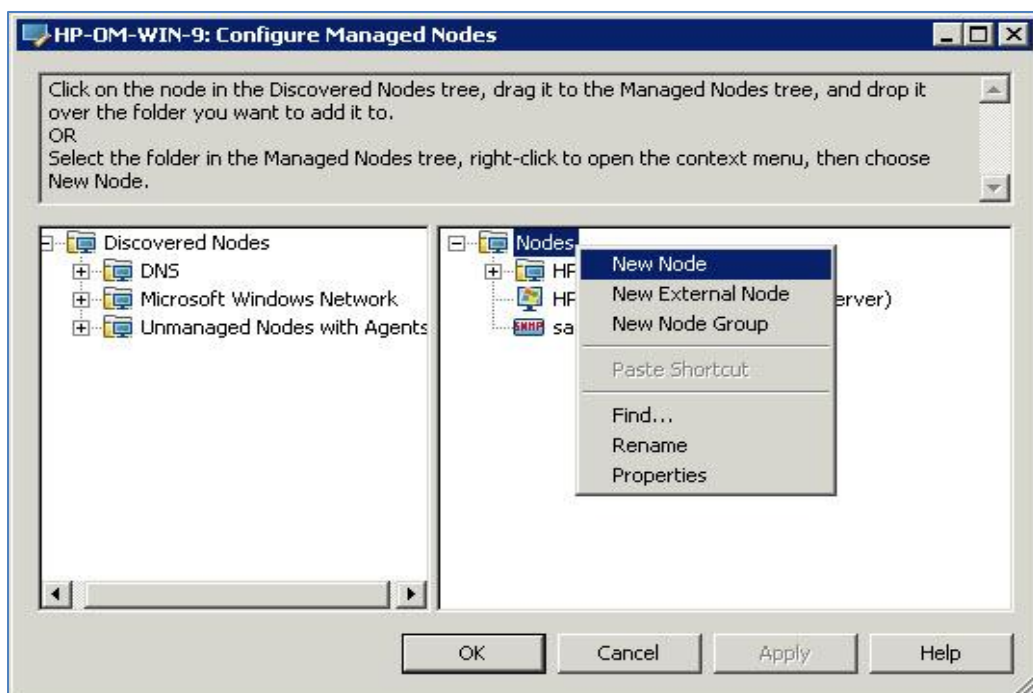
4. The **Base Settings** window appears.
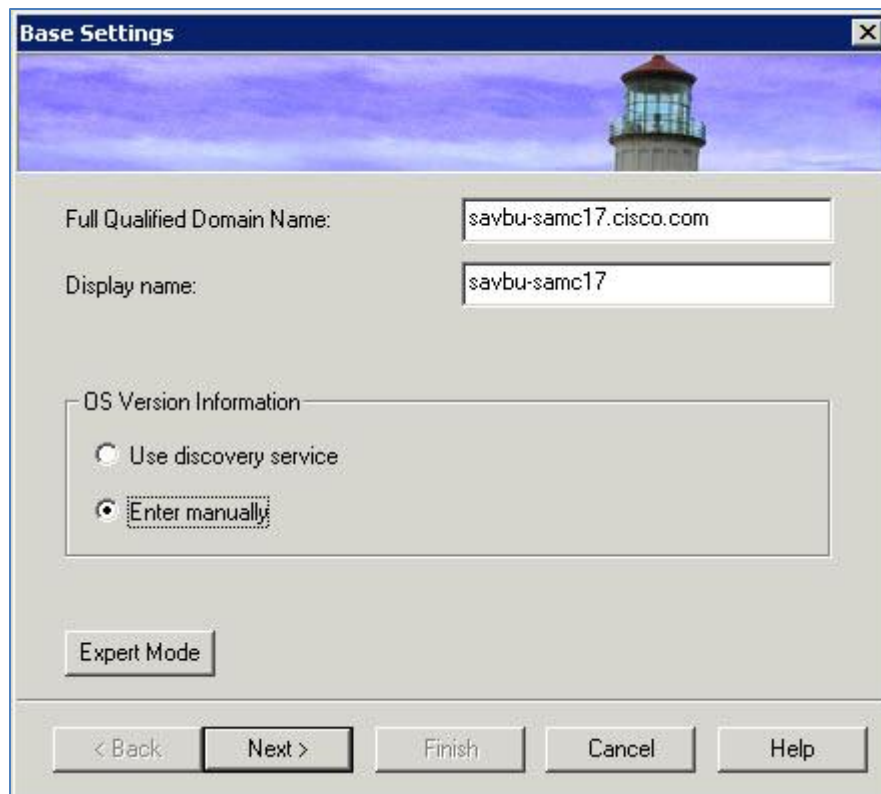
5. Specify **Fully Qualified Domain Name. Click** the **Expert Mode** button.
    The **Node Properties** window appears.
    On the Node Properties window, select the **System** tab. Select the **System type** as
    Other from the drop down menu. The **Operating System, Bit Length** and **Version** get
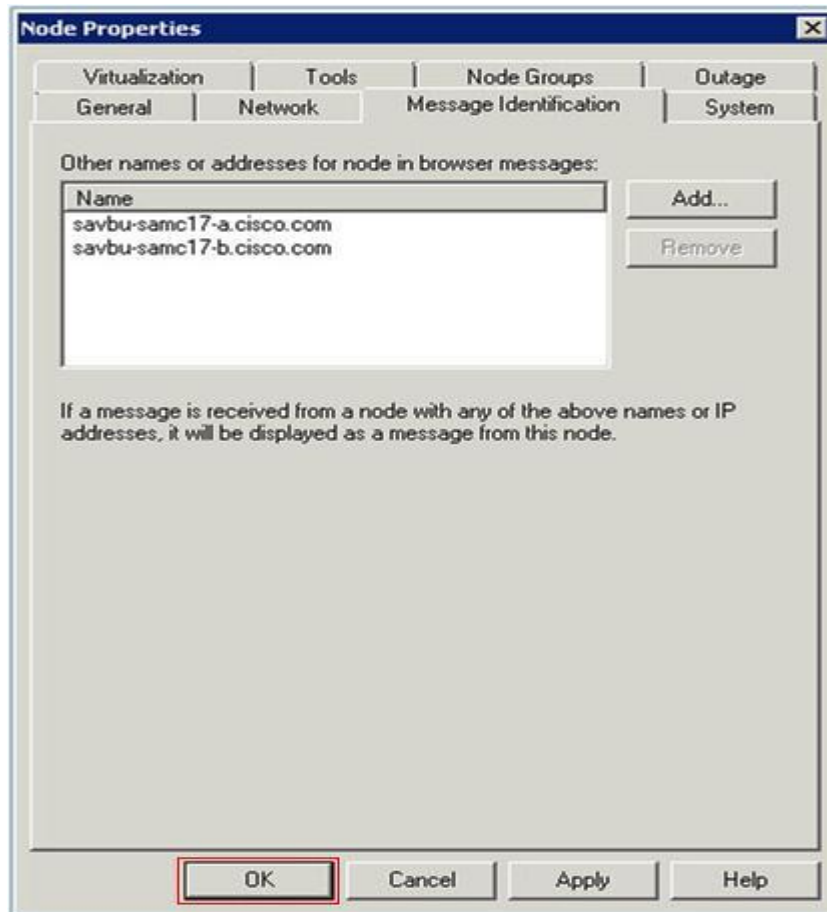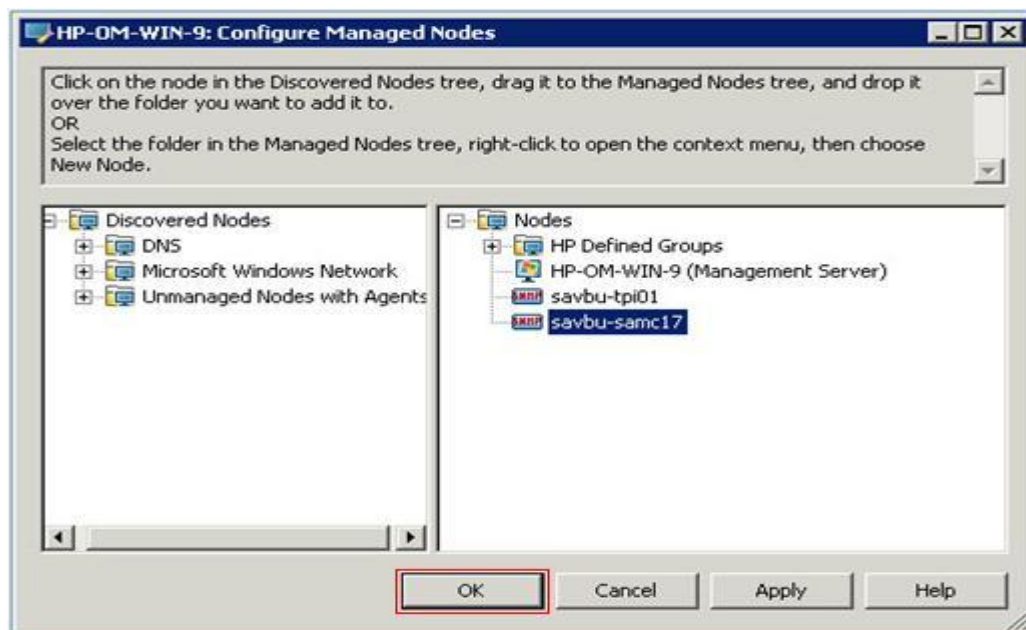   populated.
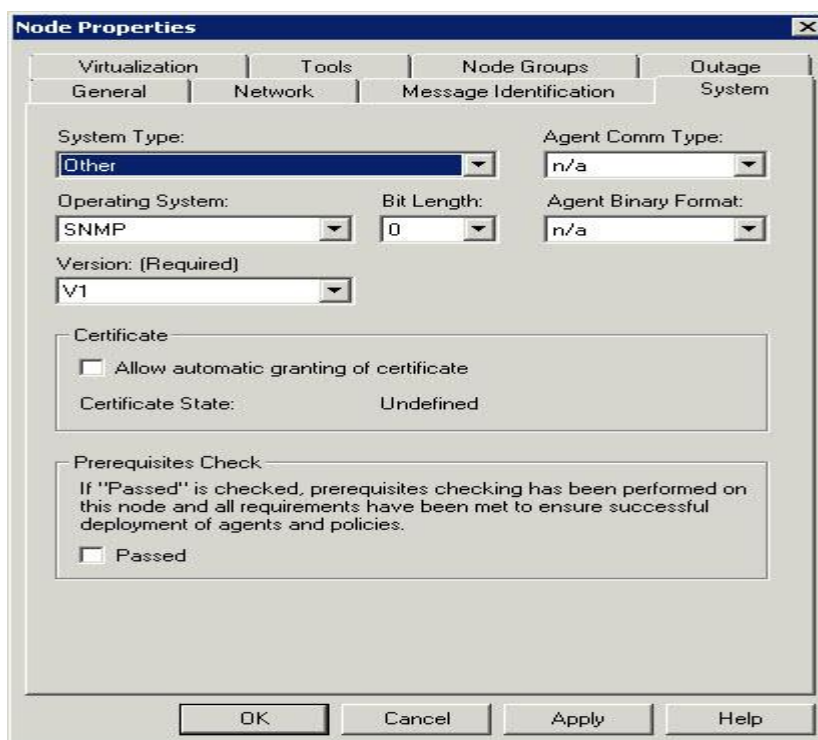
6. On the Node Properties **window, se**lect the **Message Identification** tab.
    Click the **Add** button.
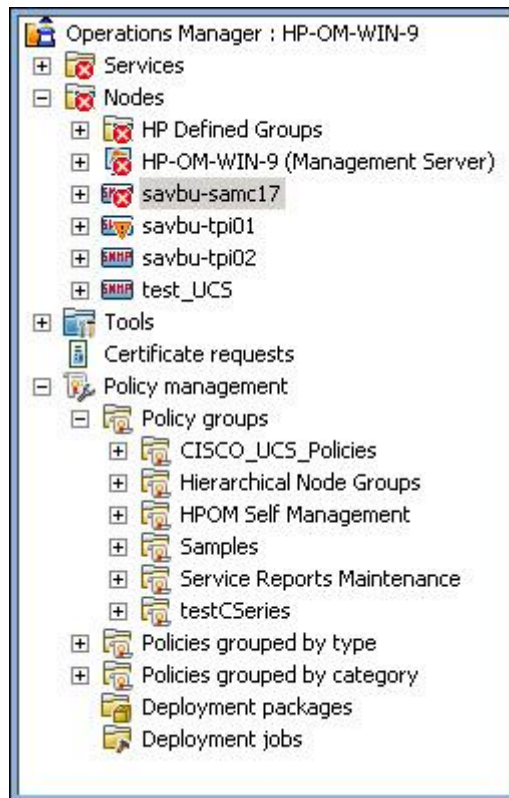   The **Add Name or IP Address** window appears.
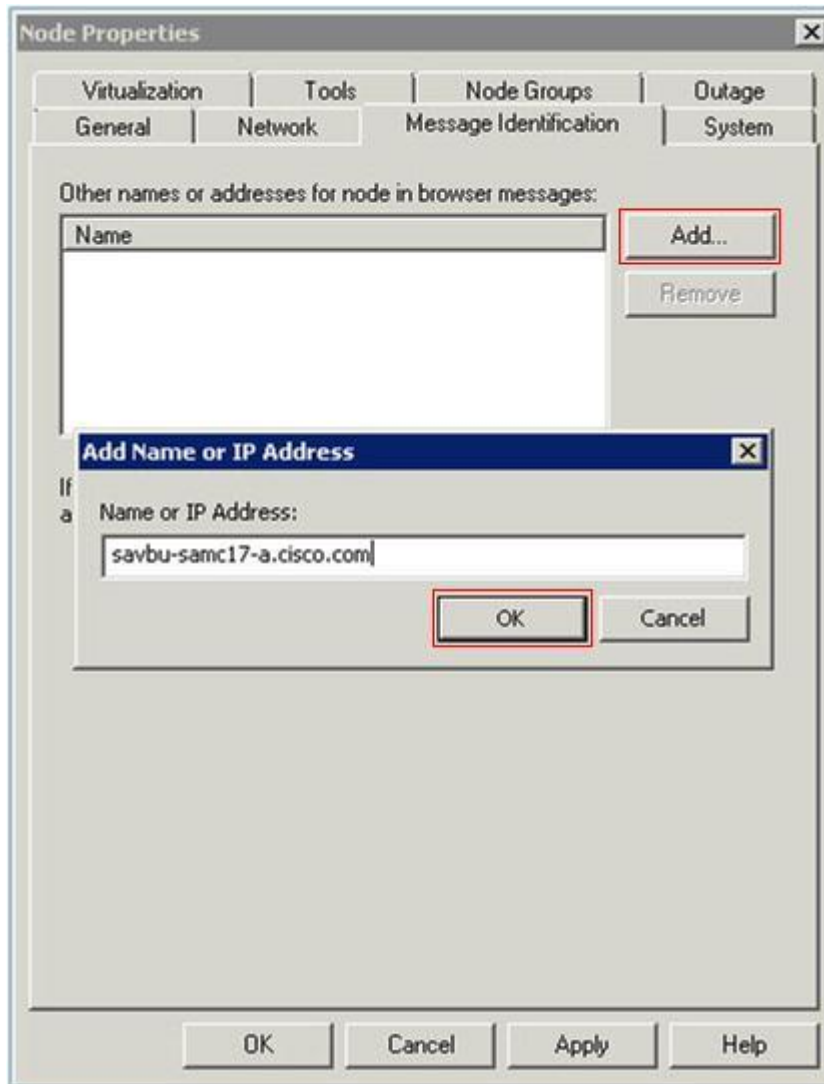
7. Specify the **Name or IP Address.**
    Click the **Ok** button.

8. Click the **OK** button on the Node Properties window.
    The node appears on the HPOM Configure Managed Nodes window.

9. Click the **OK** button. The added node appears in the Nodes section.

2.3.2 Deploying the Policies

The following two policies need to be deployed:

- IMC-AutoDiscovery policy which creates the hierarchy under the IMC node in HPOM
- IMC-opcmsg policy which receives the faults from the IMC node

**To deploy IMC-Autodiscovery policy as an example:**

1. Choose **Policy Management > Policy Groups >Cisco_IMC_Policies.**
2. Choose **IMC-AutoDiscovery** and select **All Tasks** from the right click menu. Select **Display on...** from the **All Tasks** menu.
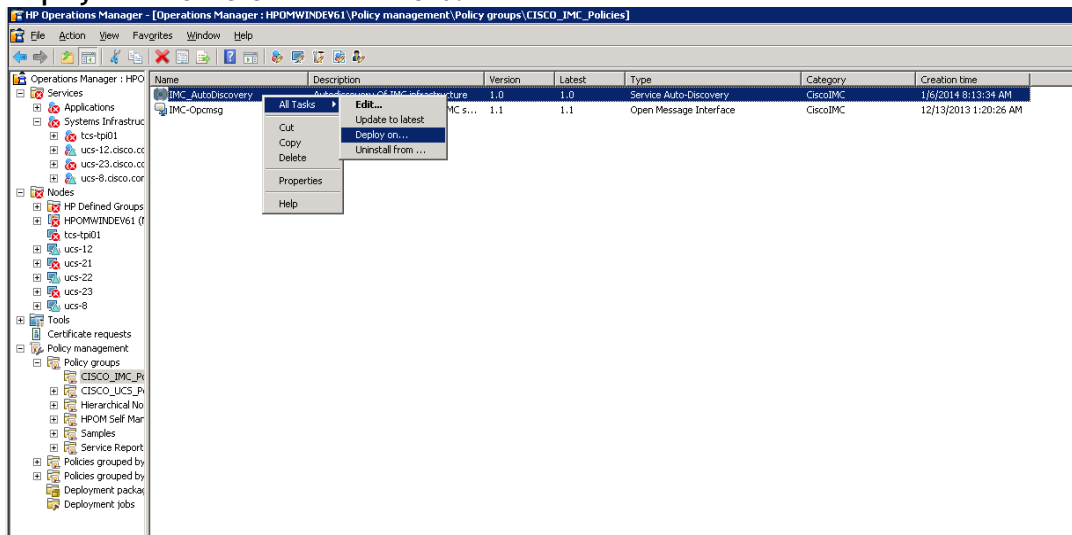
3. The **Deploy Policies on…** window appears.
   Select **HPOM Management Server** and click the **OK** button.
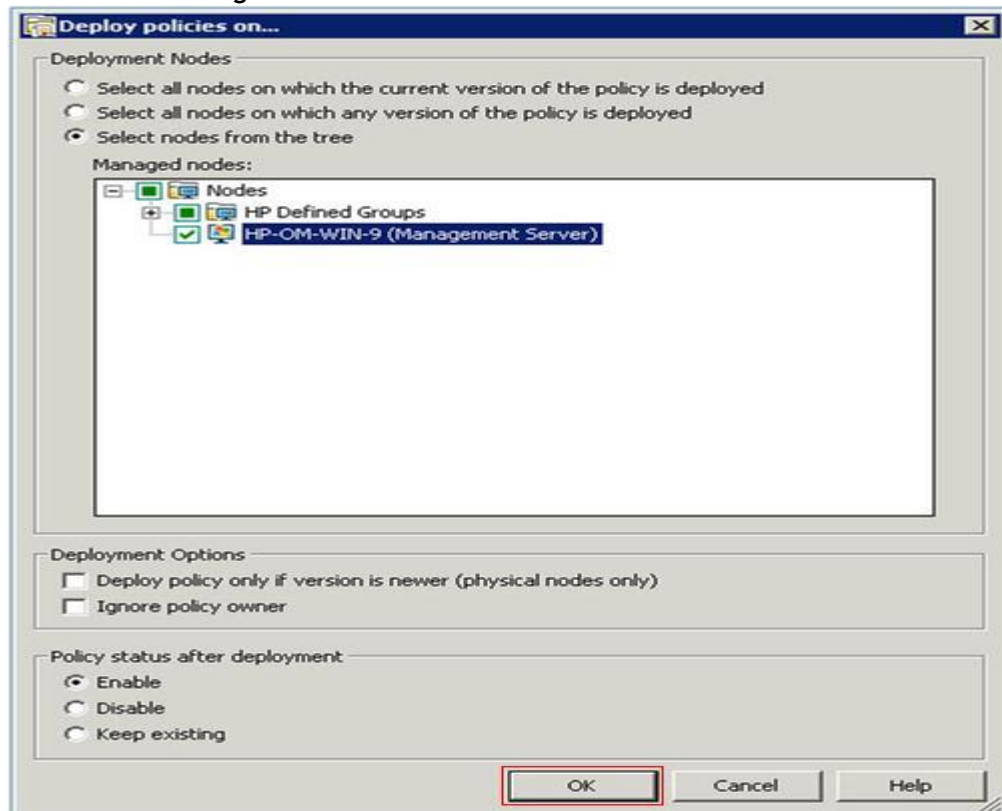
4. Deploying the policy populates the IMC Element hierarchy in the Service Hierarchy of HPOM Management Console.

   Note: Cisco IMC node should be added in both the Smart Plugin and HPOM, for the hierarchy to populate. It may take some time for the hierarchy to be populated and displayed in HPOM.
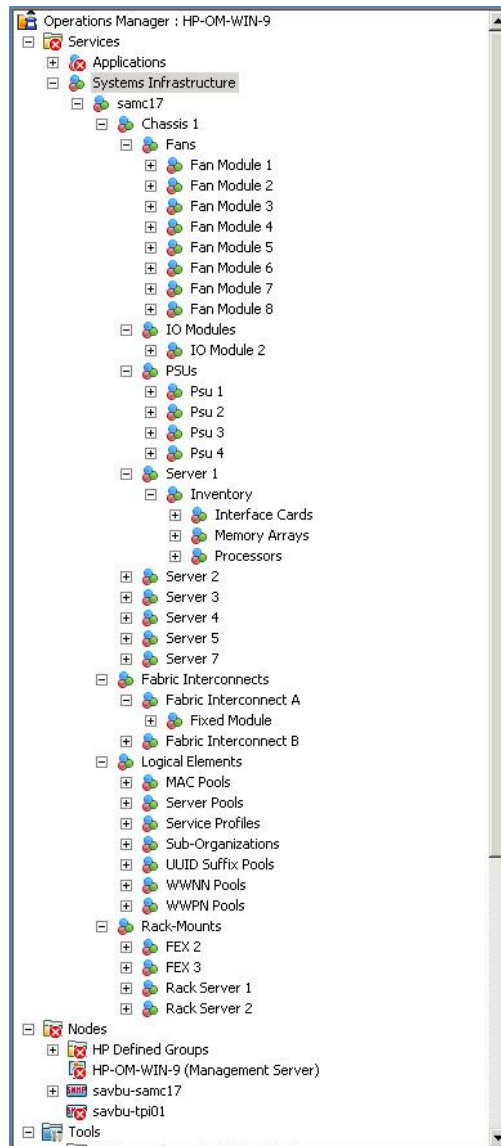
2.3.3   Configuring the HPOM properties for Discovery of many IMC nodes

Auto discovery for multiple IMC servers takes more time than the default time provided by HP. Timeout of three minutes is configured for the entire discovery process to run completely and display the components on HPOM GUI. Therefore, "ACTION_TIMEOUT" which is an HPOM property has to be modified depending on the number of servers added for discovery. For instance, ACTION_TIMEOUT can be 30 minutes for 100servers.
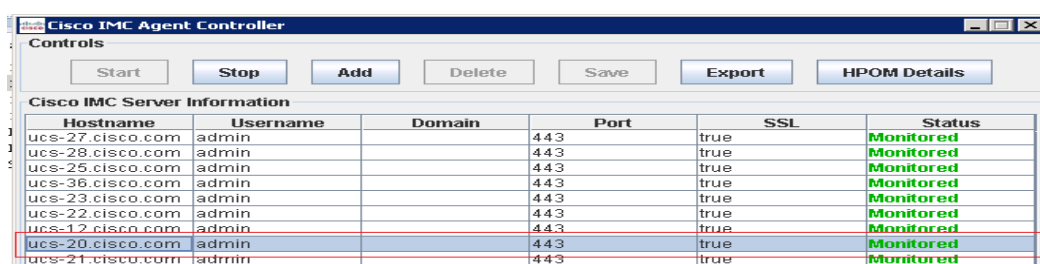
2.4 Start Monitoring

To start monitoring for multiple Cisco IMC nodes in IMC Node Information table:

1. Select multiple rows in the Cisco IMC Node Information table, with status as **Not Monitored** or **Faulted**. The **Start** button is enabled.
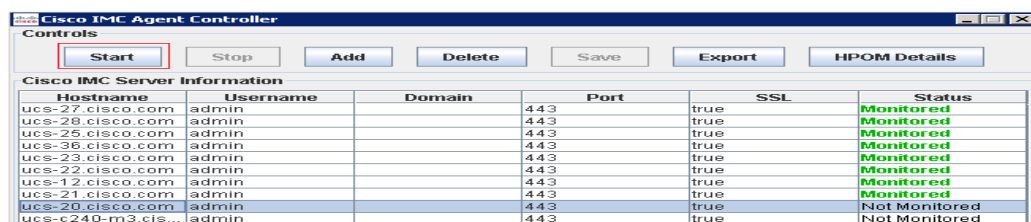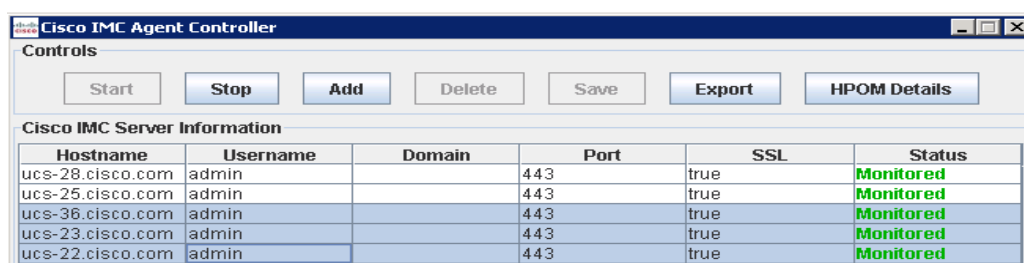

2. Click the **Start** button. The status of the selected nodes changes to **Monitored**.

2.5 Stop Monitoring

To stop monitoring for multiple Cisco IMC nodes in IMC Node Information table:

1. Select multiple rows in the IMC Node Information table, with status as **Monitored**. The **Stop** button is enabled.

2. Click the **Stop** button. The status of the selected nodes changes to **Not Monitored**.
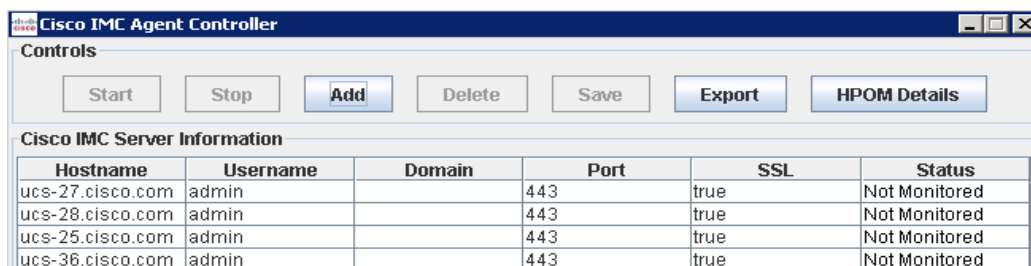
3 Uninstalling the Cisco IMC Smart Plugin

This section describes how to uninstall the Cisco IMC Smart Plugin.
Before uninstalling, you have to stop the monitoring as described in **Section 2.5**

Un-installation is performed in 2 stages:

- Uninstall the two policies and delete the IMC nodes which were added on the HP-Operations Manager. This has to be done manually as described in **Section 3.1.**
- Uninstall the Smart Plugin application. This is done automatically by using the Smart Plugin uninstaller as described in **Section 3.3.**
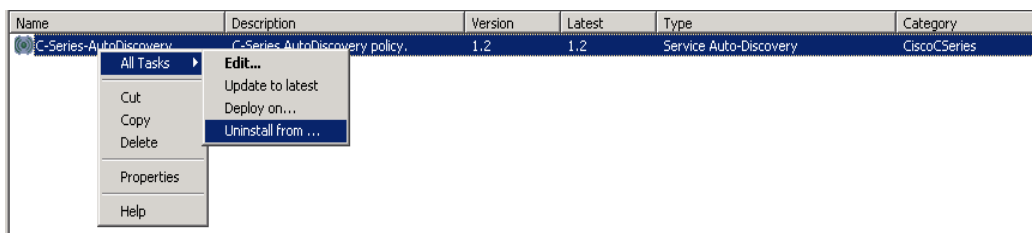
3.1 Uninstalling the Policies

**To uninstall the policies, perform the following steps:**

1. In the HPOM Management Console, Choose **Policy management > Policy groups > Cisco IMC Policies** on the left side of the window pane.
   The policies deployed during the Cisco Smart Plugin install process appear.
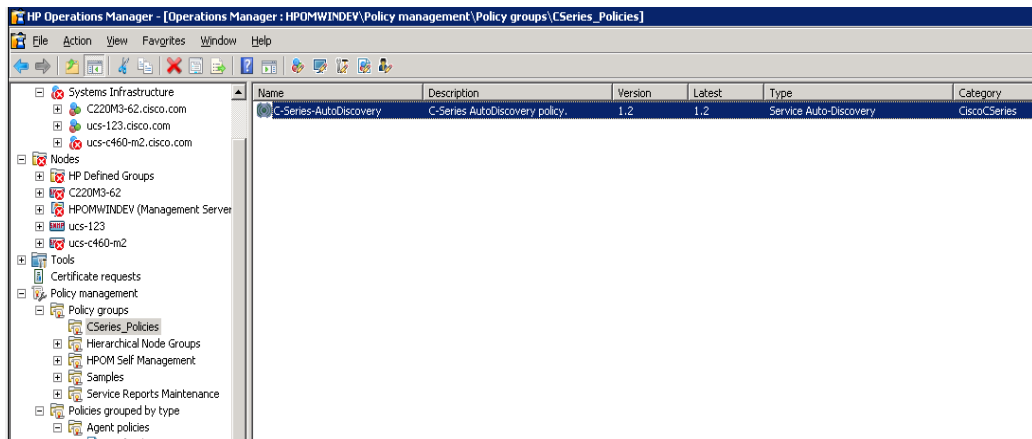
2. Select **IMC-AutoDiscovery** policy and choose **All Tasks** from the right click menu. Select **Uninstall from..** from the **All Tasks** menu.

3. The **Uninstall policies from…** window appears. Click the OK button to uninstall the policy from the management server.
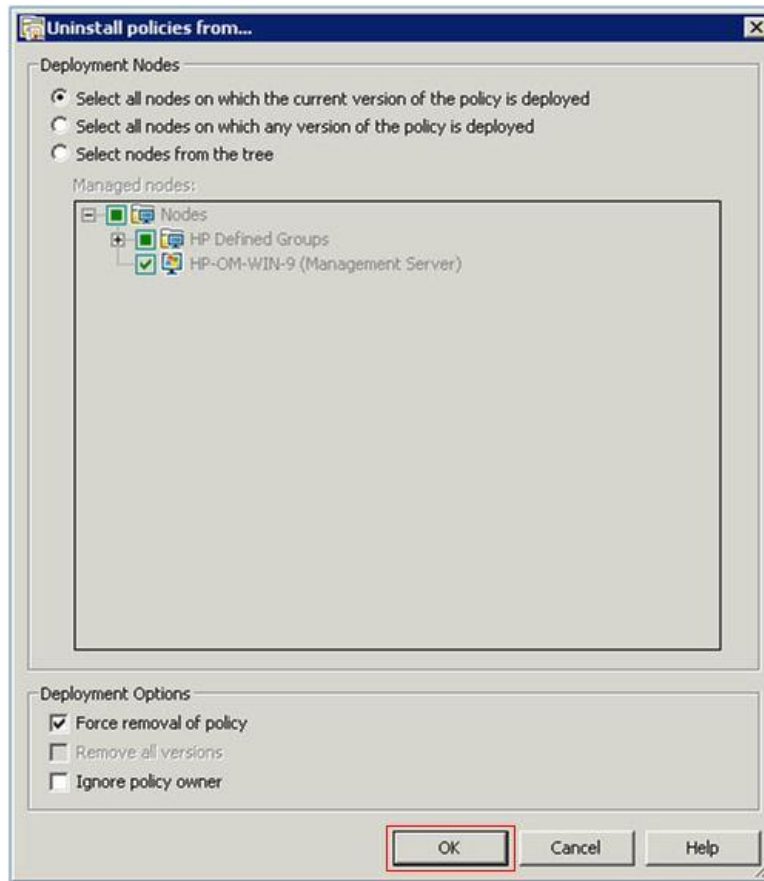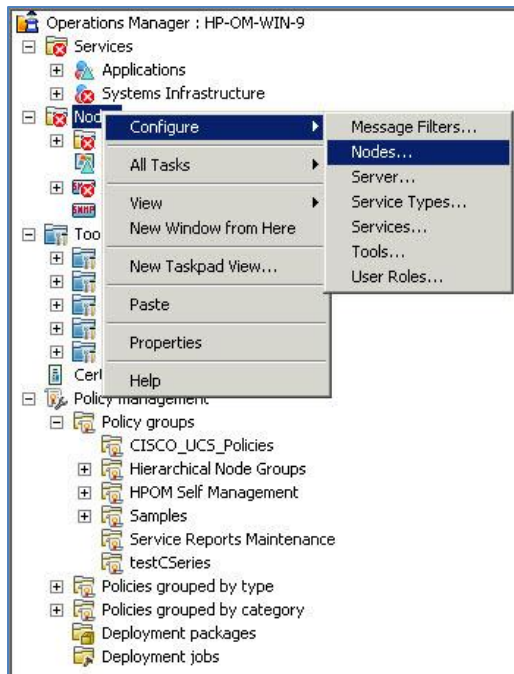
The system returns to the HP Operations Manager screen.
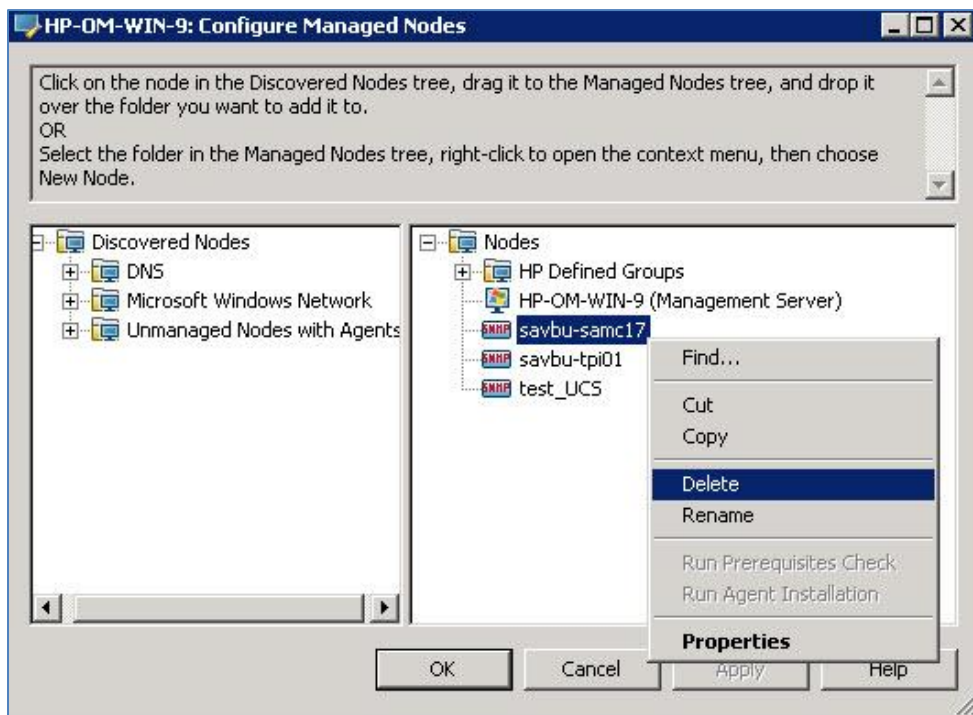
3.2 Deleting the Cisco IMC Nodes from HPOM

To delete the Cisco IMC node from HPOM:

1. In the HPOM Management Console, Choose **Nodes** on the left side of the window pane. Select **Configure** from the right click menu. Select **Nodes** from the **Configure** menu.
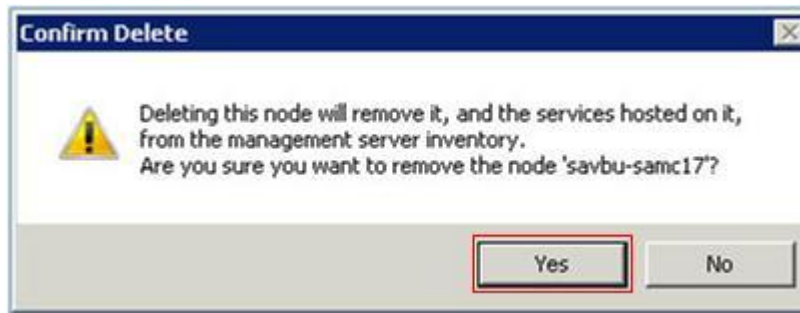
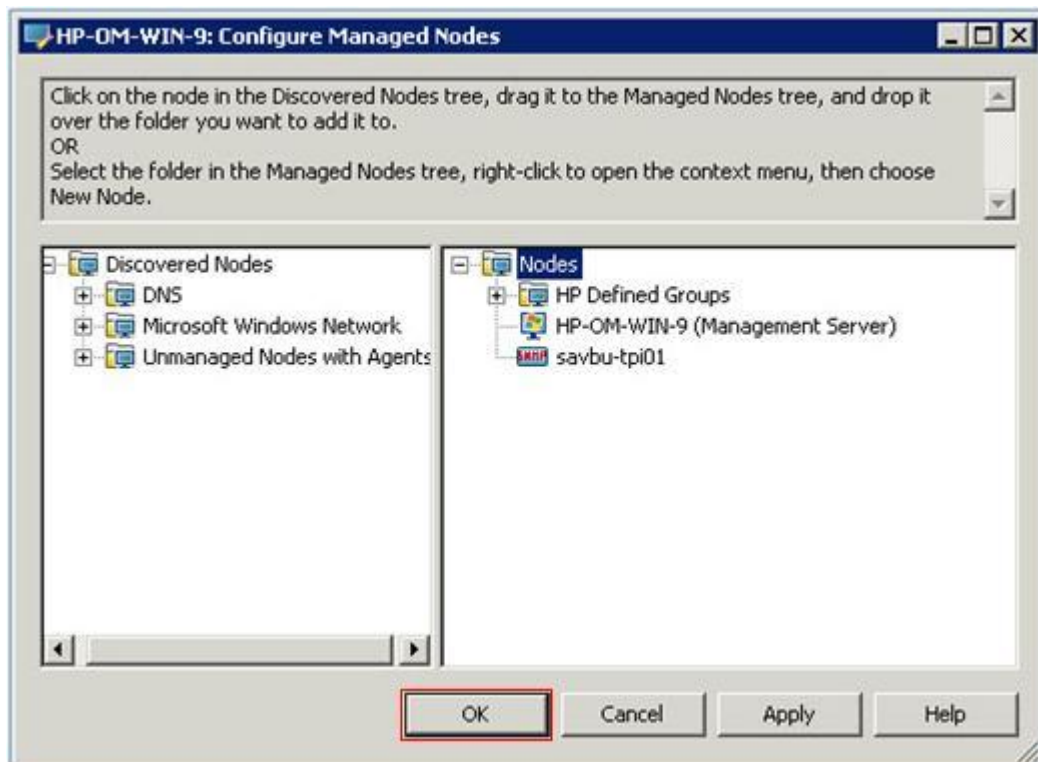2. The **HPOM Configure Managed Nodes** window appears.

Note: Configuration Editor Wizard displays all the Nodes managed by the HPOM.

3. Select the node to be deleted and choose **Delete** from the right click menu.
    The **Confirm Delete** dialog box appears.

4. Click the **Yes** button. The Node is deleted and the system returns to the HPOM-Configure Managed Nodes window.
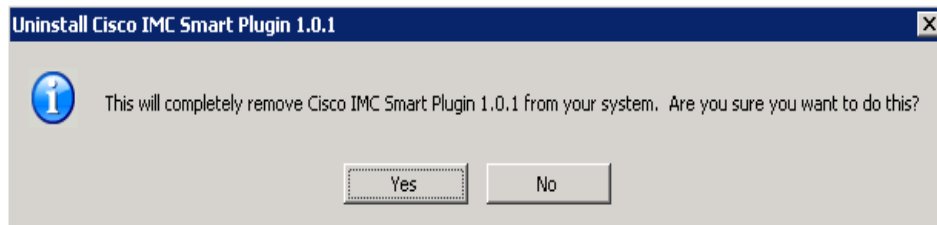

5. Click the **OK** button to save the changes.


3.3 Uninstalling the Smart Plugin Application

To uninstall the Cisco-IMC Smart Plugin Application:

1. Launch the Uninstall Cisco IMC Smart Plugin icon from the Start menu.
   A confirmation message appears.

Uninstall Cisco IMC Smart Plugin 1.0.1

This will completely remove Cisco IMC Smart Plugin 1.0.1 from your system. Are you sure you want to do this?

Yes   No

2. Click the **Yes** button to continue with un-installation.

    Note 1: If the application is not completely terminated before launching un-installation, an error message appears. Please terminate the application and start the un-installation process again.

    Error

    Terminate the application completely before uninstalling.

    OK
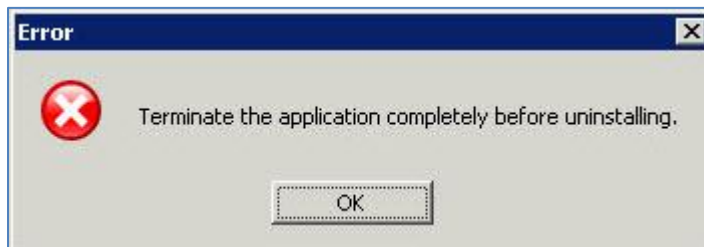
    Note 2: If any instance of any of the folders created by the plugin is open , an error message appears. Please close all the related folders and start the un-installation process again.

    Error

   Close all the folders created by the Plugin before uninstalling.

    OK
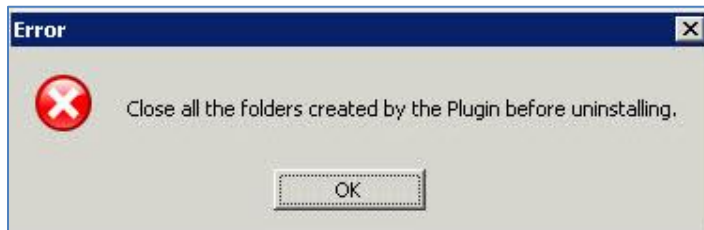
3. After resolving the errors, launch the Uninstall Cisco IMC Smart Plugin icon to start the uninstaller.
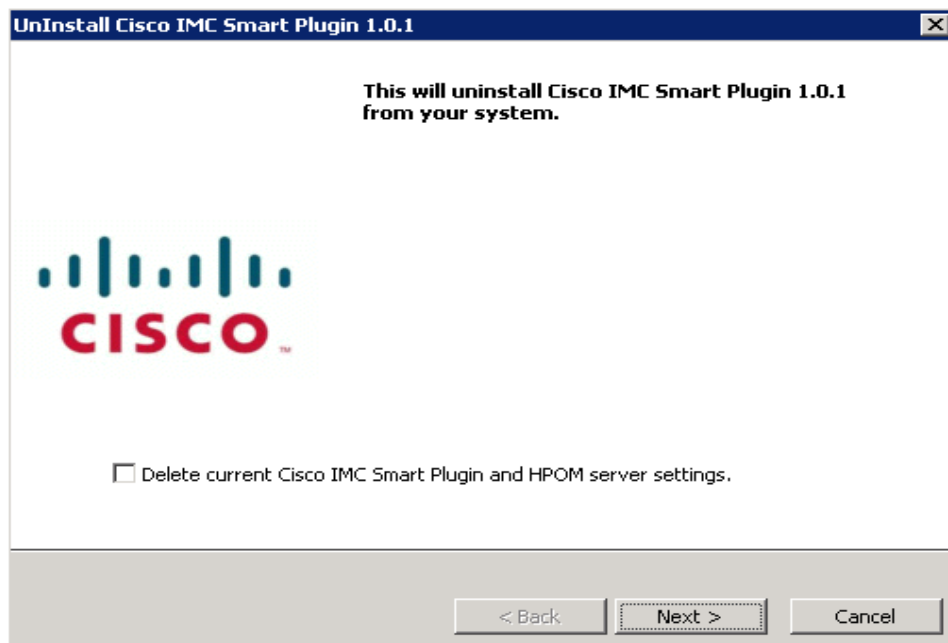
4. To remove the IMC and HPOM settings from the system, select the checkbox **Delete current Cisco IMC and HPOM server settings from Cisco IMC Smart Plugin.** Click the **Next** button.

5. Once the next button is clicked, the service is stopped and deleted "CiscoIMCMonitorService" :-
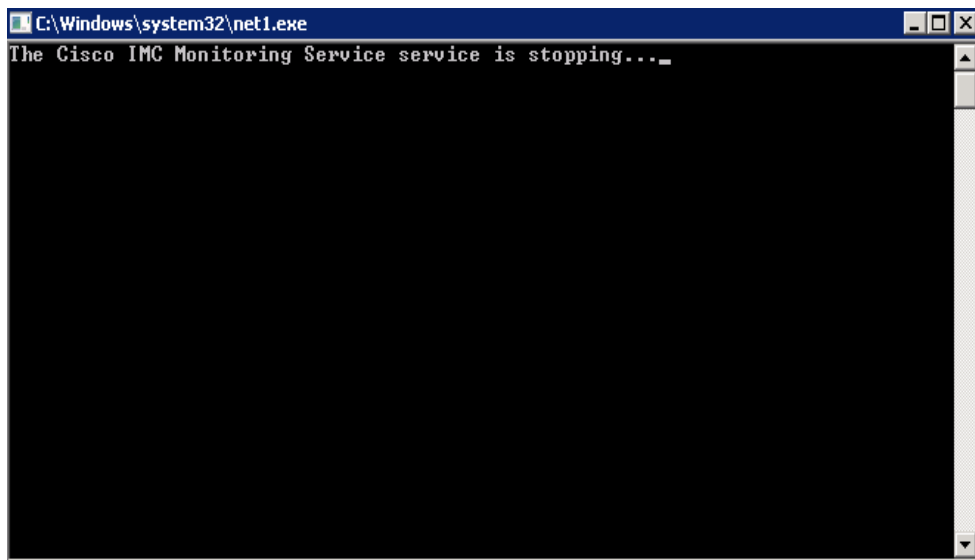
6. The **Uninstall Complete** window appears.
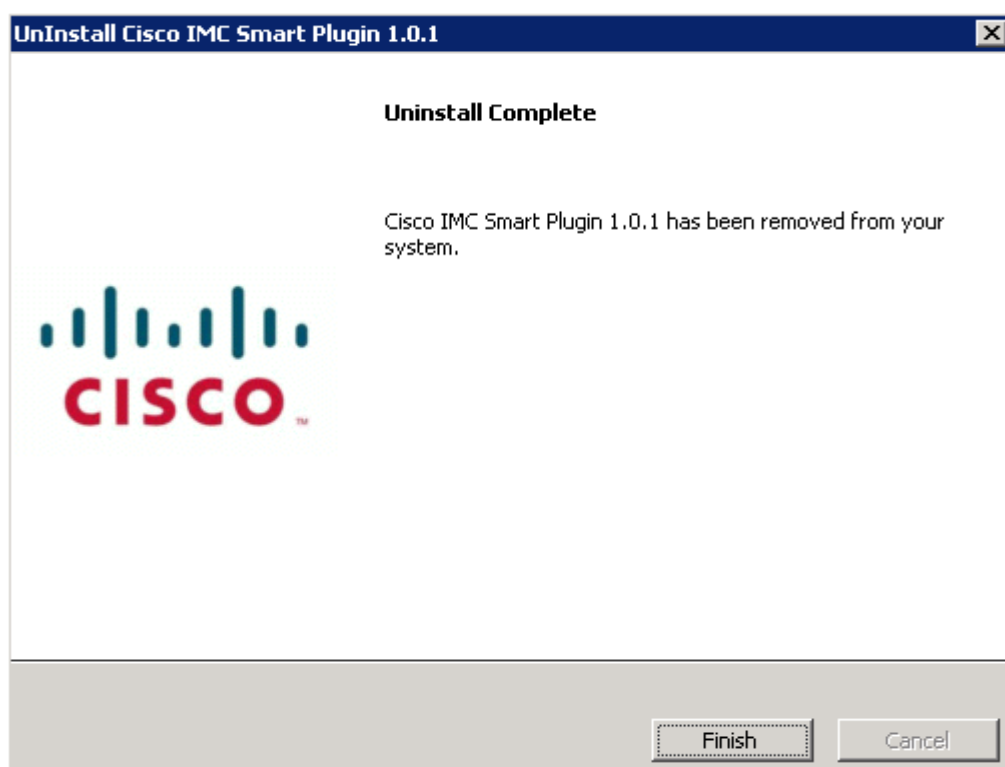
Click the **Finish** button to exit.

4 Related Documentation

In addition to this guide, you can also refer to the **Operations Guide - Cisco IMC Smart Plugin_Windows.pdf** to know more about the operations which can be performed on the Cisco IMC Smart Plugin and the HPOM.

5 Appendix

5.1 Release Matrix

Cisco IMC Smart Plugin	CIMC Version	HPOM Version	Operations Agent Version
1.0.1	1.5(4)	HP Operations Manager Server - HPOM Windows (OMW) 9.0	Operations Agent Version 11.0.44