



# **Introscope Version 6 Installation Guide For SAP**

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# 1 Installation Overview

This document covers the installation and configuration of Introscope in the following chapters:

- [Installation Overview](#)
- [Installing Introscope Enterprise Manager](#)
- [Introscope-enabling SAP NetWeaver \(Agent Installation\)](#)
- [Installing Introscope WebView](#)
- [Optional Configuration Steps](#)

## Introscope Overview

You are installing Introscope to give SAP support better visibility into technical issues you may experience.

Introscope® is a system management application created to help manage Java Application performance. Unlike development tools, Introscope® is designed to scale with minimal performance impact. This allows you to monitor and manage your application performance in live production environments.

You will be installing several applications. You should already have information on where to install each Introscope component.

Note: Introscope is not licensed for use by SAP customers. If you as customer want to use Introscope, please contact Wily directly:

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## Reviewing Installation and Configuration Process

You will be installing the following Introscope components:

- Introscope Enterprise Manager
- Introscope Agent
- Introscope WebView (which will run in SAP NetWeaver Web Application Server)

### The Installation Process

The Introscope installation process consists of the following steps:

1. Check SAP Note 797147 for latest updates to the installation procedure and to this document. The note also contains a list of frequently asked questions for troubleshooting the installation.
2. Download installation files from SAP Service Marketplace.
3. Install the Introscope Enterprise Manager.
4. Install the Introscope Agent.
5. Deploy WebView for SAP NetWeaver.
6. Start up everything and confirm the Enterprise Manager is running and the Agent is reporting.

## Obtain the Latest File Versions

### Installation CD

Note: The Introscope version 5.3 originally shipped with NW 04 SR 1 is outdated. The current version can only be downloaded from the Service Marketplace. See SAP Note 797147 for download links.

### SAP Note 797147

SAP Note 797147 is the central entry point for up to date information regarding the installation of Wily Introscope. Review the latest version of this note before you start installation. You may also find references to later versions of this document and a list of frequently asked questions for troubleshooting in the Note.

### Download the Latest Updates from the Service Marketplace

Download all files listed in SAP Note 797147 from the SAP Service Marketplace. The note explains the exact locations of the files.

### Installation Tools

Details on the used installation tools (sapcar and SDM) can be found in the "Support Package Stack Guide": <http://service.sap.com/instguidesNW04> -> Operations

# 2 Upgrading from Introscope 5.3 to Introscope 6

This chapter explains the options to upgrade an Introscope 5.3 installation to Introscope 6. If you are performing a fresh installation, please proceed to the next chapter.

## Version Compatibility and Upgrade Sequence

The Introscope Enterprise Manager 6 supports Introscope Agents of older releases. In other words, you can connect with agents of different versions (e.g. version 5.0, 5.3, and 6.0) to Enterprise Manager Version 6 at the same time. Connecting a new version 6 agent to a version 5.3 Enterprise Manager does **not** work.

WebView and Enterprise Manager must always have the same version. Connecting WebView and Enterprise Manager of different versions does not work.

Due to this version dependency we recommend to upgrade the Enterprise Manager and WebView first. Then, as second step, upgrade the Introscope agents in the monitored systems at your convenience.

## Enterprise Manager Upgrade

There is no support for an in-place upgrade of the Enterprise Manager. If you want to keep the performance database (SmartStor) of the previous version or any other configuration settings and if you want to keep the old location, the following procedure is recommended:

- Back up your Enterprise Manager directory, e.g.  
`/usr/sap/ccms/wilyintroscope`
- Shut down the Enterprise Manager via the Windows Services Control Panel or kill on Unix.
- Windows only: Deregister the Windows service with the batch file  
`DeregisterEMService.bat`
- Move the installation to a different location, e.g. from  
`/usr/sap/ccms/wilyintroscope` to `/usr/sap/ccms/wilyintroscope.old`
- Perform the new installation to the same directory again:  
`/usr/sap/ccms/wilyintroscope`
- Shut down the newly installed Enterprise Manager in case it was launched after the installation.
- Remove the subdirectory `/data` from the new installation.
- Copy or move the old subdirectory `/data` to the new location.

- Manually transfer any custom management modules (located in `/config/modules`) from the old to the new location. But do not overwrite newly installed standard SAP modules with older versions.
- Manually transfer any customization (Java VM parameter in `IntroscopeEnterpriseManager.lax`, other properties in `config/IntroscopeEnterpriseManager.properties`).

### Agent Upgrade

To get rid of any obsolete files we recommend performing a fresh installation, e.g. by moving the old agent installation to a different directory. Make sure to copy any project-specific custom instrumentation.

### WebView Upgrade

Deploy the new version in the same way as the old version. No need to undeploy the old version first.

# 3 Installing Introscope Enterprise Manager

To install the Introscope Enterprise Manager, you will run the installer file.

## Enterprise Manager Installer Files

The installer files are located in the file `SAPISEM*.SAR`. There is one `SAPISEM*.SAR` file per supported platform. Choose the platform where you will install the Enterprise Manager.

Extract the SAR file with the following command:

```
sapcar -xvf SAPISEM*.SAR
```

As a result you will find two files: The file `installer.properties` which configures the installation procedure and one of the following files, depending on your platform.

Operating System	Installer Filename
Windows	introscope6.0.1windowsSAPEndUser.exe
Solaris	introscope6.0.1solarisSAPEndUser.bin
HP-UX (PA-RISC)	introscope6.0.1hpuxSAPEndUser.bin
AIX	introscope6.0.1aixSAPEndUser.bin
Linux (IA32)	introscope6.0.1linuxSAPEndUser.bin

## Running the Introscope Installer

The Introscope installer will perform an automated install of Introscope components. The Introscope installer is invoked from the command line and runs "silently," getting its input from a specified response file. The installer runs in the background as it installs Introscope components, and doesn't provide feedback as it runs.

After installation, you can check the results in the installer logs.

When launching the installer, make sure the `installer.properties` file is in the same directory as the `.exe` / `.bin` file!

## Optional: Configuring the Installation Directory

The installation of the Enterprise Manager by default goes to the following directories:

- Windows: C:\usr\sap\ccms\wilyintroscope
- Unix: /usr/sap/ccms/wilyintroscope

If you want to change this directory, e.g., because your SAP installation is located on a different Windows drive, use one of the following alternatives.

Note: Use slash (/) as path separator for all platforms, including Windows!

### Alternative 1: Set the Installation Directory via Command Line Option

1. Open a command prompt and go to the directory where the installer file and the file `installer.properties` are located.
2. Add the option `-DUSER_INSTALL_DIR=<installation directory>` to the invocation of the installer (see below), .e.g.,  
`introscope6.0.1windows.SAPEndUser.exe`  
`-DUSER_INSTALL_DIR=d:/usr/sap/ccms/wilyintroscope.`

### Alternative 2: Edit `installer.properties`

1. Copy the file `installer.properties` to a writable directory and open it in a text editor.
2. Locate the `USER_INSTALL_DIR` property.  
 To change the install directory location, enter the desired location in the `USER_INSTALL_DIR` property.

**Note:** The instructions in this guide will use examples relative to the default installation directory.

## Start the Installer

1. Launch the installer for your platform using the appropriate command:
  - For Windows, double-click on the `introscope6.0.1windows.SAPEndUser.exe`, or launch from command-line with the following command:

```
Introscope6.0.1windows.SAPEndUser.exe
```

- For any other platform, use the command in the following example. You may have to set the right permission before you can launch the installation:

```
./introscope6.0.1solaris.SAPEndUser.bin
```

Note: In any case, the configuration file `installer.properties` must be located in the current directory where you launch the installer. You can avoid copying the installation file itself by using the complete path to the executable.

2. Verify installation using instructions in the following section, Verifying Installation.

## Verifying Installation

The installer does not give confirmation of successful installation. To confirm installation was successful:

1. Verify that the Introscope directory exists at:
  - C:\usr\sap\ccms\wilyintroscope (Windows)
  - /usr/sap/ccms/wilyintroscope/ (Unix)
 OR the location you specified.
2. Open the file,
 

```
\usr\sap\ccms\wilyintroscope\install\Introscope_InstallLog.log.
```
3. Verify that the following lines appear at the top of the file:

```
Installation: Successful.
```

```
166 SUCCESSES
```

```
0 WARNINGS
0 NONFATAL ERRORS
0 FATAL ERRORS
```

**Note:** The number of successes may be different than what is shown in this example.

## Install the SAP Management Modules

Extract the file SAPISMM60\_xx.SAR in the home directory of the Enterprise Manager installation, e.g., /usr/sap/ccms/wilyintroscope/.

Example:

```
cd /usr/sap/ccms/wilyintroscope
sapcar -xvf SAPISMM60_xx.SAR
```

As a result you will find one or more .jar files in the subdirectory config/modules.

## Launch Enterprise Manager as Windows Service

To launch the Enterprise Manager automatically at system restart, you should register it as Windows service or run it as a Unix background process. On Windows, perform the following:

1. In the Windows Explorer double-click the file RegisterEMService.bat.
2. Open the Services Control Panel (Start Menu → Control Panel → Administrative Tools → Services) and check that the service "Introscope Enterprise Manager" has been created.
3. Start the service if it is not yet running.

## Running Enterprise Manager in nohup Mode on UNIX

The Introscope Enterprise Manager should be configured to launch automatically on Unix. For this purpose it can be run in nohup mode on UNIX, but several properties must first be set in the Introscope properties files.

1. In the Introscope Enterprise Manager.lax file, change the value of the `lax.stdin.redirect` to `<blank>`, as in:

```
lax.stdin.redirect=
```

2. In the `IntroscopeEnterpriseManager.properties` file, ensure that the property `introscope.enterprisemanager.disableInteractiveMode` is set to `true`, as in:

```
introscope.enterprisemanager.disableInteractiveMode=true
```

3. Start the Enterprise Manager with the following command:

```
nohup Introscope_Enterprise_Manager&
```

It is critical that both of the Introscope Enterprise Manager properties are set exactly as described above. If you attempt to run the Enterprise Manager in nohup mode without changing these properties as described, or set them incorrectly, the Enterprise Manager may not start, or CPU utilization may become excessive.

Consider launching the Enterprise Manager automatically at system startup. Typically, you will have to hook it into one of the operating system specific init scripts.

## Manually Starting Enterprise Manager

If you have not set up automatic start of the Enterprise Manager, you have to start the Enterprise Manager manually.

**Note:** Make sure the Enterprise Manager has both read access and write access to the complete `/usr/sap/ccms/wilyintroscope/` directory, so that configuration changes will be properly saved.

### On Windows

Start the Enterprise Manager using one of the following methods:

- from the **Start** menu, **Introscope > Administration > Introscope Enterprise Manager**.

OR

- run **Introscope Enterprise Manager.exe** (located in the `<Introscope home>` directory, by default `/usr/sap/ccms/wilyintroscope`).

### On Other Platforms

On other platforms, switch to the `<Introscope home>` directory, then launch the Enterprise Manager with the command:

```
./Introscope_Enterprise_Manager.
```

## Checking That Introscope Is Running Properly

After you have started up the Enterprise Manager and your application, you will need to verify that the Introscope Agent is communicating with the Enterprise Manager.

1. Locate the Enterprise Manager log at `<Introscope home>\logs\EMservice.log` or `<Introscope home>\logs\IntroscopeEnterpriseManager.log`.
2. Check that the Enterprise Manager has started. Look for the following line in the logfile:

```
11/05/04 11:22:19 AM PST [INFO] [Manager] Introscope Enterprise  
Manager started.
```

3. Check the TCP port that Introscope Enterprise Manager is using for agent connections. Look for lines similar to the following in the logfile:

```
[INFO] [Manager.Agent] Listening for Agents using: TCP on port: 6001  
read buffer size: 32768 write buffer size: 1024
```

In this case, the Enterprise Manager agent port is 6001 (default value).

# 4 Introscope-Enabling SAP J2EE Systems

## Installing Introscope Agent with SAP NetWeaver

After you have installed the Enterprise Manager, you are ready to install and configure the Introscope Agent and Introscope-enable your Java Applications. The following instructions are valid for both SAP J2EE versions 6.20 and 6.40.

The instructions in the following section work on both Windows and Unix systems, but the examples show Windows convention (backslashes in the paths).

**Note:** Always use forward slashes (/) as path separators for Introscope config files and for JVM parameters on all platforms including Windows. This avoids the need to escape the Windows path separator backslash (\) by doubling it.

## Configuring Introscope with SAP NetWeaver Application Servers Overview

The following steps are required to install and configure the Introscope Agent to report information to the Enterprise Manager:

- install the Introscope Agent
- configure basic Introscope Agent settings
- Introscope-enable the application code by setting Java VM parameters

## Installing Introscope Agent

To install the Introscope Agent:

1. Identify the Agent installer file for your platform.
  - For Windows, use:  
ISAGWIN60\_0x.SAR
  - For all other platforms, use:  
ISAGUX60\_0x.SAR
2. Extract the installer file into the NetWeaver CCMS directory, usually:  
`<drive>:\usr\sap\ccms.`

3. Confirm the Agent was installed correctly by checking for the existence of the `/wily` directory in the `<drive>:\usr\sap\ccms` directory.

## Configuring Introscope Agent Settings

The following section details how to configure the Introscope Agent. The Agent configuration settings are found by default in the file `/usr/sap/ccms/wily/sap_IntroscopeAgent.profile`. This guide will refer to the `sap_IntroscopeAgent.profile` file as the **Agent profile**. Note that this file contains SAP-specific customization. Furthermore, depending on the monitored solution you need to choose different profiles:

### Choose the Right Agent Profile

SAP provides several agent profiles for different applications running on the SAP J2EE Engine. All profiles adhere to the name pattern `sap_IntroscopeAgent_*.profile`. You will have to choose one of the profiles from the table below. Currently the following profiles are available:

File Name	Applications Covered
<code>sap_IntroscopeAgent.profile</code>	SAP J2EE, Enterprise Portal
<code>sap_IntroscopeAgent_xi.profile</code>	SAP J2EE 6.40, XI 3.0
<code>sap_IntroscopeAgent_ipc.profile</code>	SAP IPC

**Note:** For Introscope-enabling SAP IPC, please also check SAP Note 886600.

**Note:** For Introscope-enabling SAP XI, you have to add an extra entry to the `-Xbootclasspath` option below. The parameter will then look as follows (Windows notation):  
`-Xbootclasspath/p:  
<drive>:/usr/sap/ccms/wily/sap_xi.jar; <drive>:/usr/sap/ccms/wily/connectors/c  
onnector.jar; <drive>:/usr/sap/ccms/wily/Agent.jar`

You will need to configure the host name or IP address and port of the machine where the Enterprise Manager resides.

To configure the Introscope Agent:

1. Open the `<drive>:\usr\sap\ccms\wily\sap_IntroscopeAgent.profile` file.
2. Locate the property,  
`introscope.agent.enterprisemanager.transport.tcp.host.DEFAULT.`

Enter either the host name or IP address of the machine where Enterprise Manager resides.

3. Locate the property,  
`introscope.agent.enterprisemanager.transport.tcp.port.DEFAULT.`

The value should be the port on which the Enterprise Manager listens for Agent connections.

Default setting is 6001.

4. Save changes to the `sap_IntroscopeAgent.profile.`

## Introscope-enabling SAP NetWeaver

A Java application is monitored by adding Probes to the bytecode (called "Introscope-enabling" your application). The Probes then report information to the Introscope Agent, and the Agent reports that information to the Enterprise Manager. The method you will be configuring, JVM AutoProbe, will install probes dynamically into application code as it is loaded.

### Configuring JVM AutoProbe

There are two steps required to configure and use JVM AutoProbe with Sun, HP, or IBM JVM:

- create an AutoProbe connector that will work with your JVM
- run the AutoProbe Connector by modifying the classpath with the location of the AutoProbe connector and Introscope Agent.

**Important Note:** You will have to re-create the AutoProbe connector every time you update the JVM that is used for the SAP J2EE nodes, even if you just change the patch level, e.g., from 1.4.2\_04 to 1.4.2\_05! For this reason it is also important that you specify exactly the same JVM that is actually used by the SAP J2EE nodes.

The following section details how to configure JVM AutoProbe.

### Creating an AutoProbe Connector

Use the `CreateAutoProbeConnector.jar` tool to create a connector specific to the JVM used to run the application server. There are two ways to specify the JVM:

- use the JVM that is running the tool
- pass the JVM directory on the command line to the tool

1. Change the working directory to `wily\connectors.`

2. Run the Create AutoProbe Connector tool using the following command:

- Make sure to specify exactly the JVM that is used for launching the J2EE node by passing the JVM directory `<jvm_path>` on the command line:

```
java -jar CreateAutoProbeConnector.jar -jvm <jvm_path> -output
connector.jar
```

3. The output is the file:

```
<drive>:\usr\sap\ccms\wily\connectors\connector.jar
```

## Activating the Agent: Set Java VM Parameters

After you have created the AutoProbe Connector, you must modify the boot class path by adding JVM options. Typically, you will only want to activate the agent on the SAP J2EE *server* nodes, not on dispatchers and state controllers.

Note that for class path and directory paths, you can use forward slashes (/) on all platforms, even on Windows. For SAP J2EE 6.40, you even cannot use backslash (\) on Windows. Furthermore, note the difference between Unix and Windows in the class path: The entries are separated by ; on Windows, but by : on Unix.

### Agent Name

You should assign a unique name to each SAP J2EE node that is Introscope-enabled. This so-called agent name is assigned by an additional Java VM option (referred to as <agentName> below). SAP suggests the following naming convention for the agent name:

```
<agentName>=SID_Product_Nodename
```

Where the placeholder mean the following:

Placeholder	Explanation	Example
SID	SystemID	EPP, EPQ, EPD
Product	Identifier for product usage	EP, XI, IPC
Nodename	J2EE node name / directory	server0

Note: It is not necessary to integrate the host name into the agent name, since the host name is assigned automatically to the agent.

Using a unique naming convention for all agent installations helps to group agents that belong to the same installation together.

### Set Java VM Parameters for SAP J2EE 6.20

The procedure to add JVM options depends on the startup method for the J2EE nodes. Check SAP Note 697062 for instructions to set JVM options for your specific startup method. The following procedure is an example in case you use SAP J2EE startup framework for J2EE 6.20:

1. Open the file:

```
\usr\sap\\j2ee\j2ee_<INSTANCE>\configtool\service.ini
```

2. Append the following commands to **JavaParameters** (Windows example):

```
-Xbootclasspath/p:<drive>:/usr/sap/ccms/wily/connectors/connector.jar;<drive>:/usr/sap/ccms/wily/Agent.jar
-Dcom.wily.introscope.agentProfile=<drive>:/usr/sap/ccms/wily/sap_IntroscopeAgent.profile
-Dcom.wily.introscope.agent.agentName=<AgentName>
```

Unix example:

```
-Xbootclasspath/p:/usr/sap/ccms/wily/connectors/connector.jar:/usr/sap/ccms/wily/Agent.jar
-Dcom.wily.introscope.agentProfile=/usr/sap/ccms/wily/sap_IntroscopeAgent.profile
-Dcom.wily.introscope.agent.agentName=<AgentName>
```

3. Restart SAP server.

### **Set Java VM Parameters for NetWeaver 04 / SAP J2EE 6.40 (not for SAP XI)**

1. Run the SAP J2EE Configtool.
2. Select the server to modify.
3. In the **Java Parameters** field, add the following new java parameters (Windows example):

```
-Xbootclasspath/p:<drive>:/usr/sap/ccms/wily/connectors/connector.jar;<drive>:/usr/sap/ccms/wily/Agent.jar
-Dcom.wily.introscope.agentProfile=<drive>:/usr/sap/ccms/wily/sap_IntroscopeAgent.profile
-Dcom.wily.introscope.agent.agentName=<AgentName>
```

**Note:** Note that for NetWeaver 6.40 on Windows, the slashes for these java parameters must go forwards.

Unix example:

```
-Xbootclasspath/p:/usr/sap/ccms/wily/connectors/connector.jar:/usr/sap/ccms/wily/Agent.jar
-Dcom.wily.introscope.agentProfile=/usr/sap/ccms/wily/sap_IntroscopeAgent
```

```
nt.profile
-Dcom.wily.introscope.agent.agentName=<AgentName>
```

4. Click the disk button to save.
5. Repeat steps 2 - 4 for each server.
6. Restart SAP server.
7. To verify that Config tool changes were made, open the file:

```
<drive>:\usr\sap\<SID>\<instance>\j2ee\cluster\instance.properties
```

8. Check for a line beginning with ID<server\_id>.JavaParameters, and see if it contains the lines you entered in the step above.

### ***Set Java VM Parameters for NetWeaver 04 / SAP J2EE 6.40 (SAP XI only)***

If you are setting up monitoring for XI use the following Java VM options instead of the options mentioned above:

3. In the **Java Parameters** field, add the following new java parameters (Windows example):

```
-Xbootclasspath/p:<drive>:/usr/sap/ccms/wily/sap_xi.jar;
<drive>:/usr/sap/ccms/wily/connectors/connector.jar;<drive>:/usr/sap/ccms/wily/Agent.jar
-Dcom.wily.introscope.agentProfile=<drive>:/usr/sap/ccms/wily/sap_IntroscopeAgent_xi.profile
-Dcom.wily.introscope.agent.agentName=<AgentName>
```

Unix example:

```
-Xbootclasspath/p:/usr/sap/ccms/wily/sap_xi.jar:/usr/sap/ccms/wily/connectors/connector.jar:/usr/sap/ccms/wily/Agent.jar
-Dcom.wily.introscope.agentProfile=/usr/sap/ccms/wily/sap_IntroscopeAgent_xi.profile
-Dcom.wily.introscope.agent.agentName=<AgentName>
```

### **Checking that the Agent is Running**

1. Check that the SAP J2EE nodes start up correctly after the restart and that the J2EE applications are available as before.
2. Search for an Agent log file in the J2EE node working directory, e.g., in the directory C:\usr\sap\SID\j2ee\j2ee\_00\cluster\server or C:\usr\sap\SID\JC00\j2ee\cluster\server0. The file will be named

`IntroscopeAgent.<agentName>.log`, where `<agentName>` is the name that you assigned via the JVM parameter above. Open the text file with a text editor and check the last lines. You will probably find warnings that the connection to the Enterprise Manager failed – since you have not yet started the Enterprise Manager.

### EXAMPLE

The last few lines of the agent log file should similar to the following:

```
12/05/04 07:27:17 PM CET [INFO] [IntroscopeAgent] The Agent will connect to the
Introscope Enterprise Manager using: TCP read buffer size: 1024 write buffer size: 32768

12/05/04 07:27:17 PM CET [INFO] [IntroscopeAgent] The Agent will attempt to connect to
Introscope Enterprise Manager DEFAULT target: localhost:6001 [1]

12/05/04 07:27:17 PM CET [INFO] [IntroscopeAgent] Using Agent protocol revision 19.0
```

## Activate JMX Reporting to Introscope

To activate transfer of JMX data from the SAP J2EE Engine to Introscope you have to deploy a small J2EE application to the monitored system which runs the Introscope agent. JMX monitoring is only supported for SAP J2EE server versions from 6.40 onwards.

### Deploy the WilyJmxApplication

- Start the SAP Software Deployment Manager GUI (SDM) by running `RemoteGui.bat` in the `SDM\program` directory of your NetWeaver installation.
- Connect to the SDM Server.
- Select the 'Deployment' tab.
- Start a new deployment and choose the `JmxService6.0.1NetWeaver.ear` file in the Local File Browser. The file is located in the subdirectory `/jmx` of your agent installation.

### Next Steps

Continue to the next chapter, [Chapter 4, Installing WebView](#).

# 5 Installing and Configuring WebView with SAP NetWeaver 6.40

This chapter describes installing and deploying WebView with SAP NetWeaver version 6.40. Information is provided in the following sections:

- [System and Version Requirements](#)
- [Reviewing Installation and Configuration Process](#)
- [Installing and Configuring WebView with SAP NetWeaver 6.40](#)

## System and Version Requirements

### Introscope Version

Introscope Enterprise Manager and Introscope WebView must have the same version!

## Reviewing Installation and Configuration Process

After you've checked the system requirements and collected the appropriate access and configuration information for your deployment, you're ready to start installing and configuring WebView. This process consists of the following steps:

1. Modify JVM options of J2EE server nodes for WebView.
2. Deploy the WebView .EAR file in the SAP NetWeaver application server through which you will be running WebView.

## Installing and Configuring WebView with SAP NetWeaver 6.40

### Installation Prerequisites

Before you begin WebView installation, ensure that you have:

- installed and configured the Introscope Enterprise Manager and Agent
- Introscope-enabled your managed application (using JVM AutoProbe)
- installed SAP NetWeaver 6.40. Consult your SAP NetWeaver documentation for instructions on installing SAP NetWeaver
- installed a supported JVM.

## Configuring SAP NetWeaver for WebView Deployment

Depending on the platform you have to add special JVM options for running WebView. Use the table below to choose the right options and revisit SAP Note 797147 to check for latest updates.

Platform and JVM	Required Options
Windows	-Dsun.java2d.noddraw=true Make sure that -Djava.awt.headless=true is not set!
Solaris	-Djava.awt.headless=true -Dswing.volatileImageBufferEnabled=false
Linux	-Djava.awt.headless=true -Dswing.volatileImageBufferEnabled=false
HP UX	-Djava.awt.headless=true -Dswing.volatileImageBufferEnabled=false
AIX	-Djava.awt.headless=true -Dswing.volatileImageBufferEnabled=false

To configure SAP NetWeaver for WebView deployment:

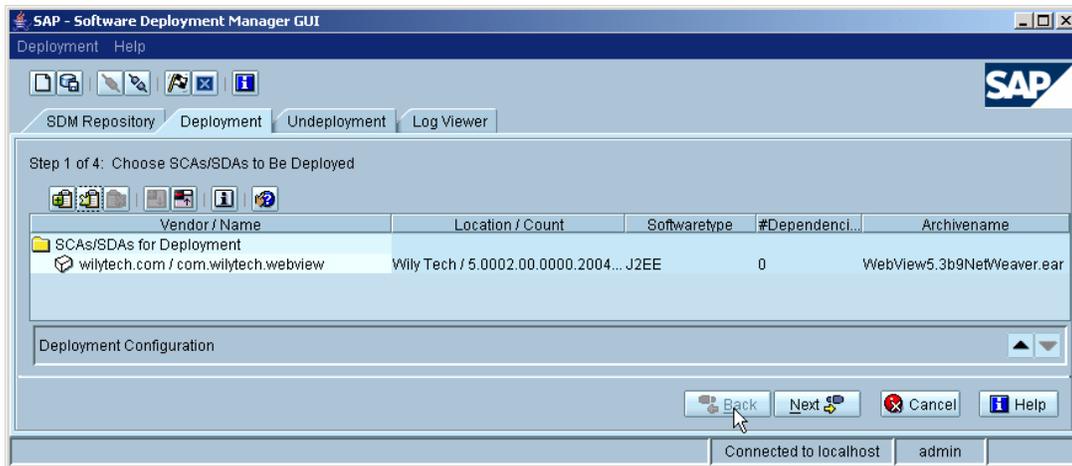
1. Open the SAP J2EE config tool.
2. Select the server to modify.
3. In the **Java Parameters** field, add the parameters from the table above for your operating system.
4. Click the disk icon to save.

## Deploying the WebView Package

1. Start SDM via the command `/usr/sap/<SID>/JC00/SDM/program/RemoteGui.`
2. Connect to the running SDM server.

Select the deployment tab.

3. From the Introscope CD, add the file `WebView6.0.1netweaver.ear` for deployment. The file is located in the folder `webview`. The SDM screen should look similar to the screenshot below.



4. Start deployment.

**Note:** These instructions assume you are installing WebView on the same machine as the IntroScope Enterprise Manager.

## Verifying Successful WebView Deployment

After deploying WebView, verify that WebView has connected to the Enterprise Manager.

1. Make sure that the Enterprise Manager is running (see the section, [Checking That IntroScope Is Running Properly](#)).
2. Locate the Enterprise Manager log at `/usr/sap/ccms/wilyintroscope/IntroScopeEnterpriseManager.log`.
3. Check that WebView has connected to the Enterprise Manager. Look for the following message in the logfile:

```
11/22/04 05:21:52 PM PST [INFO] [Manager.Authentication] IntroScope
WebView connections are enabled.
12/05/04 07:53:45 PM CET [INFO] [Manager.Authentication] User
"WilyWebView" logged in successfully from host "127.0.0.1"
```

## WebView Installation Is Complete!

# 6 Additional Installation Options

This chapter covers additional customizing steps of the Introscope Installation:

- [Running WebView and Enterprise Manager on Different Hosts](#)
- [Changing the Agent port from 6001 to other values](#)
- [Uninstalling Introscope](#)
- [Setting up domains](#)

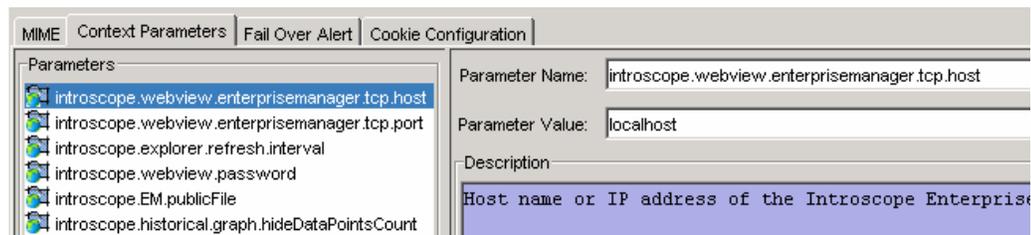
## Running WebView and EM on Different Hosts

When running WebView on a different host than the Enterprise Manager, you must configure WebView to connect to the Enterprise Manager on the remote host. Use the Visual Administrator of SAP J2EE 6.40:

7. Launch the Visual Administrator and connect to the SAP J2EE installation running WebView
8. Navigate to Server → Services → Web Container
9. Search for the application wilytech.com/com.wilytech.webview, open the tree by clicking on the + and select the first subentry.



10. Click View on the right hand side to get a popup.
11. Select the tab "Context Parameters".
12. You will find the parameter introscope.webview.enterprisemanager.tcp.host. Change the value of this property from localhost to the IP address or host name of the remote host running the Enterprise Manager:



13. click the x to close the Window

## Change the Agent Port

The Enterprise Manager by default listens on TCP port 6001 for agent connections. You can change this value to any desired port:

1. Open the file, `config/IntroscopeEnterpriseManager.properties`.
2. Change the value of property `introscope.enterprisemanager.port.agentlistener` to the desired port.
3. Save changes and close the file.
4. Remember to change the property in the `sap_IntroscopeAgent.profile` to the same port.

## Uninstalling Introscope

### Uninstalling Introscope Agents

1. Remove the Java VM options `-Xbootclasspath...` and `-Dcom.wily...` from the J2EE nodes that you instrumented before.
2. Restart the affected J2EE instances for the changes to become effective.
3. Delete the directory `/usr/sap/ccms/wily` (or wherever you put the agent files).

### Uninstalling the Enterprise Manager

1. Windows only: Call the batch file `DeRegisterEMservice.bat` to remove the Windows Service
2. Windows only: Call the wizard to uninstall Introscope: Start → Control Panel → Add or Remove Programs; Select Introscope and click change/remove to launch the Wizard. Click Next to continue the uninstall.
3. Remove any remaining files from `/usr/sap/ccms/wilyintroscope`.

### Uninstalling WebView

1. Use SDM to undeploy WebView.

## Setting up Introscope Domains

Introscope agents can be organized into so-called domains. You can use this feature to group agents which are correlated, e.g. belonging to the same domain.

Domains are defined in the Enterprise Manager by the configuration file `config/domains.xml`. By default, there is only one domain, the `SuperDomain`, which

contains all agents. SAP recommends defining one domain for each system or for each main instance (in Solution Manager Diagnostics terms). You can pick agents for a domain based on the host name and on the agent name.

Example: Assume you want to create two domains EPP and EPQ for the productive and the QA Enterprise Portal. Your agent names contain the System id (also EPQ, EPP).

Step 1: Adapt the domains.xml file on the Enterprise Manager:

```
<?xml version="1.0" encoding="UTF-8"?>
<domains xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="domains0.2.xsd" version="0.2">
  <domain name="EPP" description="productive Enterprise Portal">
    <agent mapping="(.*).EPP(.*)" />
    <grant user="Admin" permission="full" />
  </domain>
  <domain name="EPQ" description="Enterprise Portal QA System">
    <agent mapping="(.*).EPQ(.*)" />
    <grant user="Admin" permission="full" />
  </domain>
  <SuperDomain>
    <agent mapping="(.*)" />
    <grant user="Admin" permission="full" />
    <grant user="Guest" permission="read" />
  </SuperDomain>
</domains>
```

Step 2: Replicate the management modules:

Step 2a: In the directory `config/modules`, create one subdirectory for each domain.

Step 2b: copy all management modules from `config/modules` to each subdirectory.

Step 3: Restart the Enterprise Manager to activate the changes.

Step 4: Check the Explorer in Workstation or WebView to see if the domains appear and if the agents are assigned to the right domain.

Note that the SuperDomain must always be the last entry in the domains file.