IFIX-112818
Production level OSGi Agent Extension
Ability to reboot a device using the OSGi Agent

Abstract

This IFix adds a production level OSGi agent extension to the WSDD 5.7.x product. The original product contained only a sample agent extension not suitable for production environments. This new agent extension also adds support for rebooting your device via a DMS command.

Content Overview of this IFix:

osgiagent.jar - The core agent that provides support for processing DMS jobs. This is an update to the existing bundle.

OSGiAgentExt.jar – The production level agent extension. This is used for supplying information about the device such as the device ID, model, manufacturer and resources. Either this bundle or the SampleAgentExt bundle can be used at a time, but not both.

OSGiAgentExtConfig.jar – A sample configuration. This must be implemented by each customer who wants to change the device id, manufacturer, and model. This new bundle is provided as an example for those customers accepting its functionality.

dependency.xml – This updates the ESWE system bundle information in the platform builder.

osgiagentservlet.jar - A servlet that can be used to control the OSGi agent via a web browser. The URL is http://localhost/osgiagentservlet. This is an update to the existing bundle.

OSGiAgent.properties – Template file used to supply the agent with device account information.

Prerequisite products and versions:

You must have at least WSDD 5.7.1 installed before installing this fixpak. You may also install this IFix if IFix-109852 has been installed. This IFix is cumulative – it includes the fixes that were contained in IFix-109852. Do not install IFix-109852 after installing this IFix as you will replace newer files with older ones.

The OSGi Agent provided with this IFix is designed to communicate with WEDM version 5.0.x. You should have WEDM 5.0.1 with Fixpak 2 installed. Please note that the OSGi Agent that is provided in this IFix supersedes the one that comes with WEDM Fixpak 2.

Instructions for installing this IFix into WSDD 5.7.x for use by the Platform Builder:

This IFix will require you to replace four files in WSDD. Please backup any files before overwriting them. After following the instructions in this section, you will be able to use the Platform Builder to produce platforms using this updated OSGi agent. References to <WSDDHOME> indicate the location to which WSDD 5.7.x was installed.

Unzip the zip file into a temporary directory on your WSDD workstation

1. Close WSDD 5.7.x if it is running.
2. Backup the old osgiagent.jar file located in *<WSDDHOME>\wsdd5.0\technologies\eswe\bundlefiles* and replace it with the new osgiagent.jar found in the IFix's temporary directory.
3. Backup the old osgiagentservlet.jar file located in *<WSDDHOME>\wsdd5.0\technologies\eswe\bundlefiles* and replace it with the new osgiagentservlet.jar found in the IFix's temporary directory.
4. Backup the old dependency.xml file located in *<WSDDHOME>\wsdd5.0\eclipse\plugins\com.ibm.eswe.builder_5.7.*\resources* and replace it with the new dependency.xml found in the IFix's temporary directory.
5. Backup the old file OSGiAgent.properties located in *<WSDDHOME>\wsdd5.0\technologies\eswe\files\deviceagent* and replace with the new OSGiAgent.properties found in the IFix's temporary directory.
6. Launch WSDD 5.7.x and then create a new Platform Builder Project

7. Since some of the file names have changed since WSDD 5.7.x we cannot simply place these files in the default eswe/bundlefiles directory for Platform Builder. We will have Platform Builder treat them as custom bundles On the custom bundles page select **Add…** and add OSGiAgentExt.jar and OSGiAgentExtConfig.jar from IFix's temporary directory. Select the bundles as shown in the image below.

New Platform Builder Project

Custom Bundles

Specify custom bundles to add to the target platform

Name	Version	Size (KB)
☑ OSGiAgentExt	1.5.1.6	15
☑ OSGiAgentExtConfig	1.5.1.6	4

Add...

Remove

Select All

Deselect All

Compute

< Back   Next >   Finish   Cancel
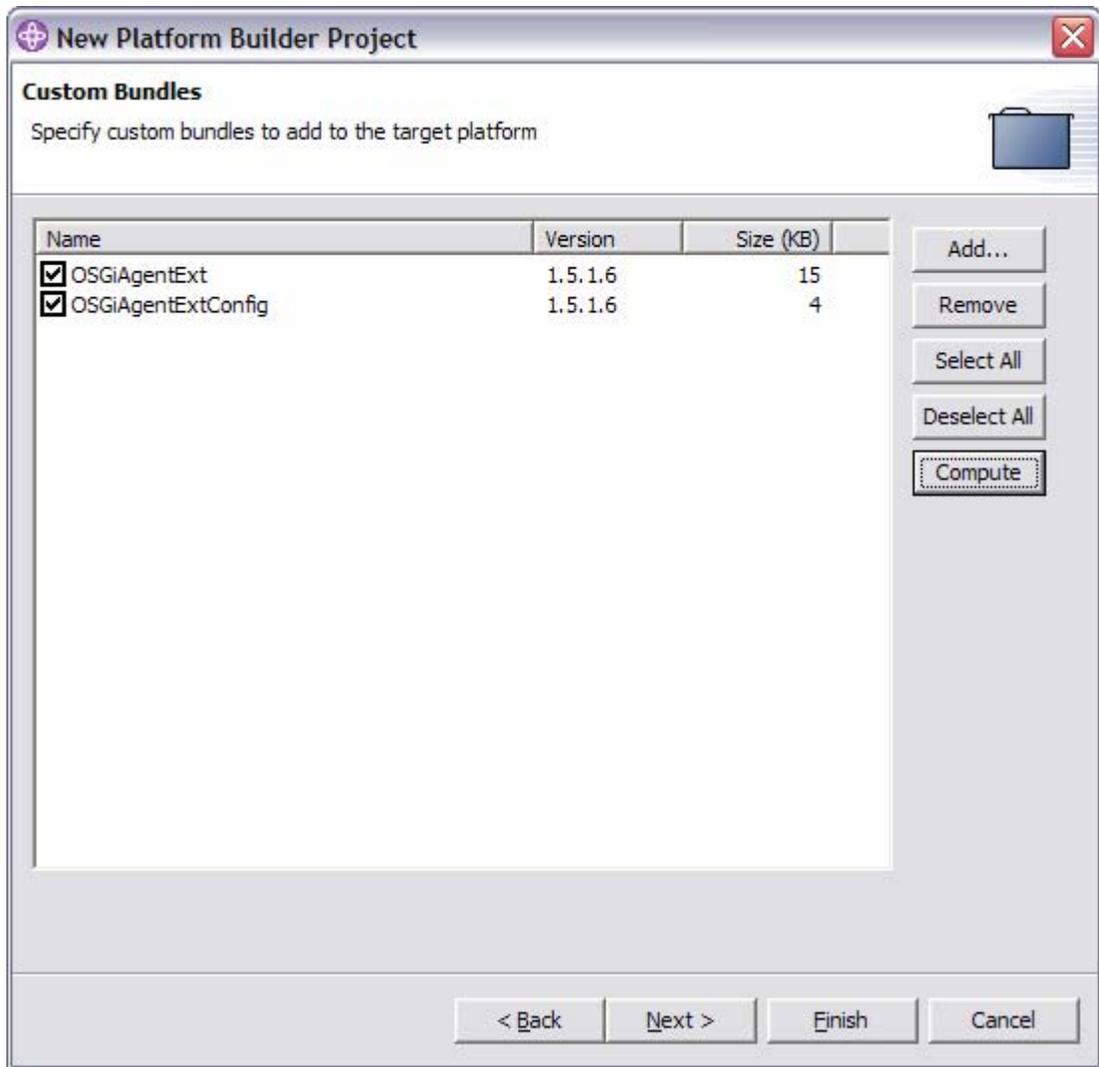
8. Click **Compute** to compute the dependencies, and then select the bundles as shown below. Please be aware that these instructions apply to building a simple platform containing only this new updated agent. If you are adding your own custom bundles to the platform, you may need to resolve dependencies differently.
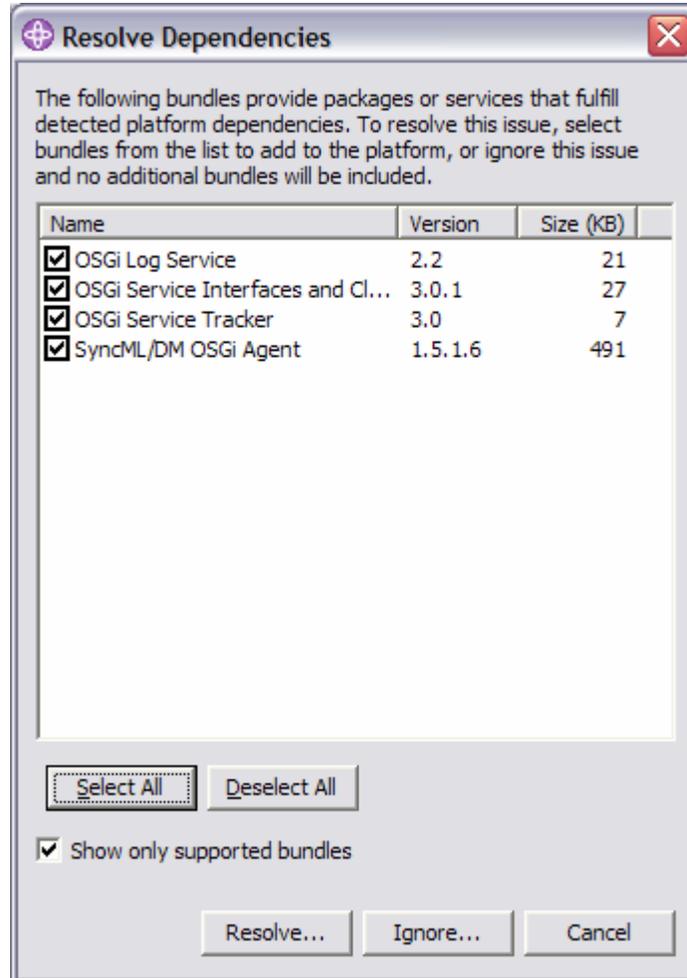
9. Click **Resolve…** and it should tell you that all dependencies have been resolved.
10. Click **Next** to go to the System Bundles page.
11. Click **Next** again to go to the Summary
12. Click **Finish** to build the platform.

Once this is completed your platform.zip file will be in the output folder. Unzip platform.zip onto your device and begin using it.

NOTE: The zip file contains an OSGiAgent.properties file that configures the device account information. You may hand edit this file if you wish to change the default values. Also, prior to building, this file may be edited in your WSDD project under the path *"file/smf/OSGiAgent.properties"*.

Instructions for importing this IFix into a WSDD 5.7.x SMF Bundle Server

These steps must be followed for all SMF Bundle Servers that you have created.
1. Start an SMF Bundle Server in WSDD/AD.
- From the SMF perspective, select **Run -> Run ..**
- If you have already created an SMF bundle Server, then select it and click Run.
- If you have no bundle servers defined, click on the SMF Bundle Server, then click the **New** button, then click Run
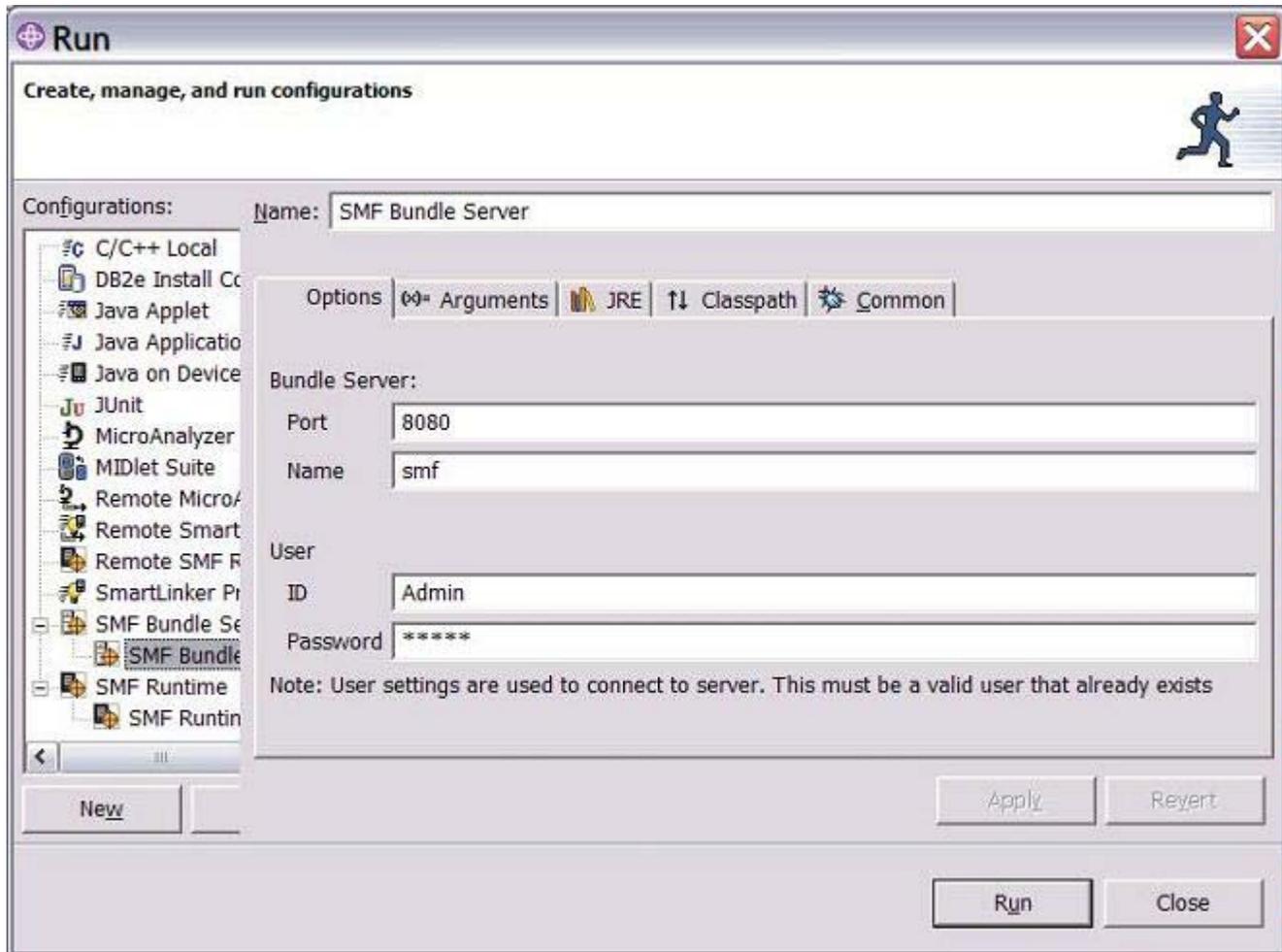
2. In the SMF perspective, open up the Bundle Server view (click the **SMF Bundle Servers** tab):
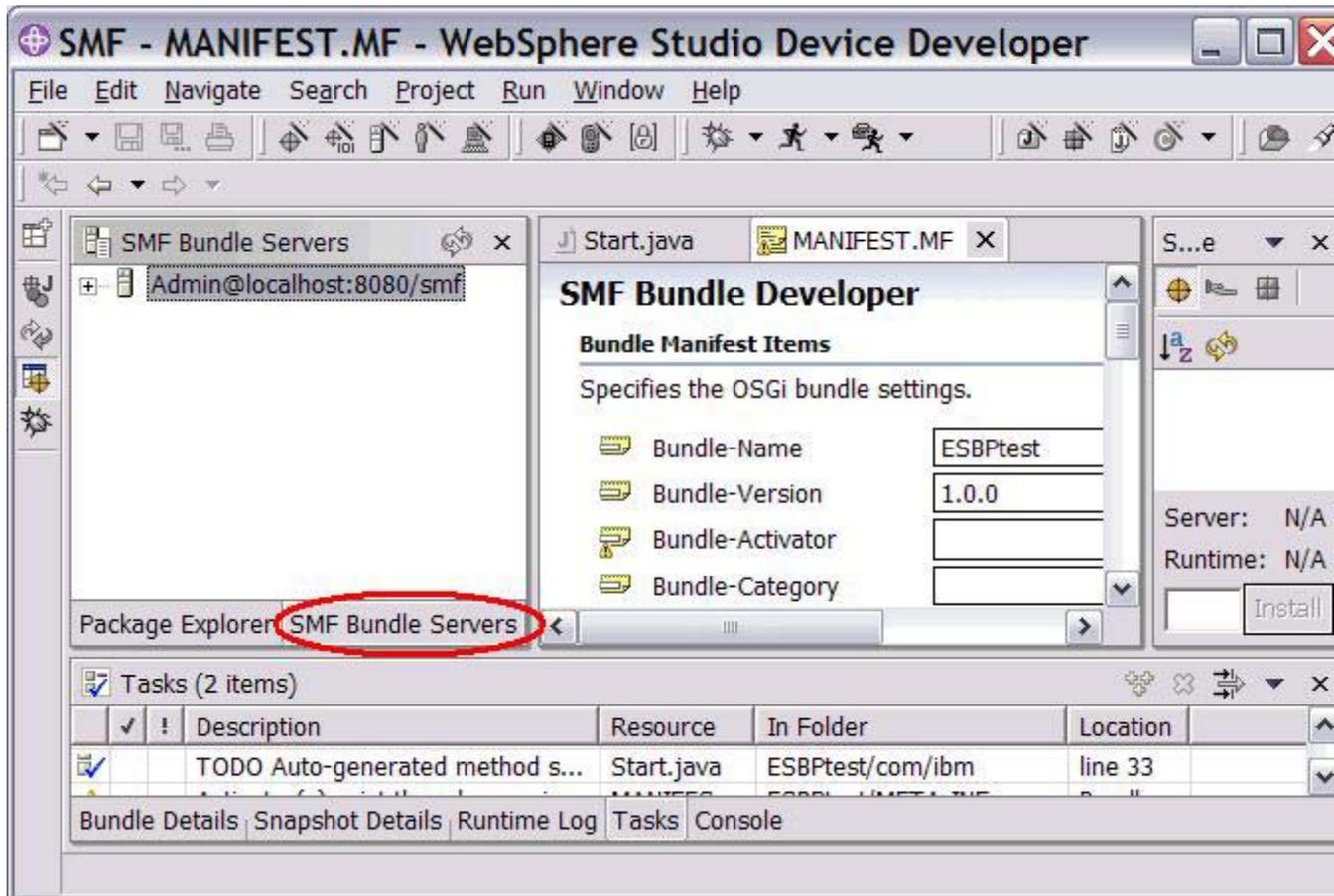
3. Expand the tree for the bundle server and locate the **SampleAgentExt** bundle. Right Click on this bundle and select **Show Versions**. In the **Bundle Details** tab at the bottom, right click **SampleAgentExt** and click **Disable**. SampleAgentExt is an agent extension designed for demonstration and evaluation purposes only. The OSGiAgentExt bundle is a production level agent extension. You should not have both enabled in the SMF Bundle Server at the same time.
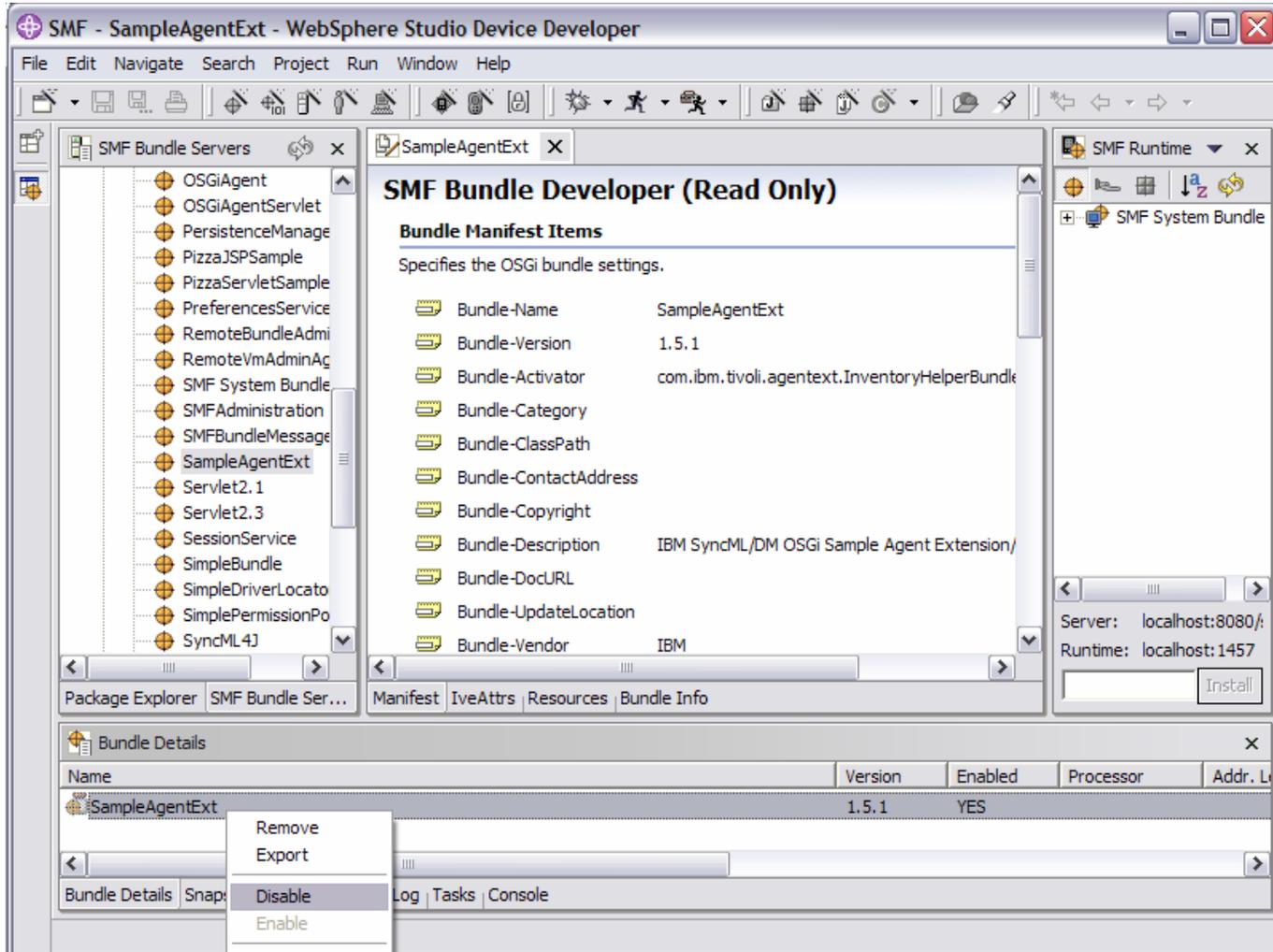
4. Locate the **OSGiAgent** bundle. Right Click this bundle and select **Remove All Versions**. We will install the replacement bundle in the next step. Repeat this step for the following bundles if they exist: **SyncML4J, OSGiAgentExt, OSGiAgentExtConfig,** and **OSGiAgentServlet**
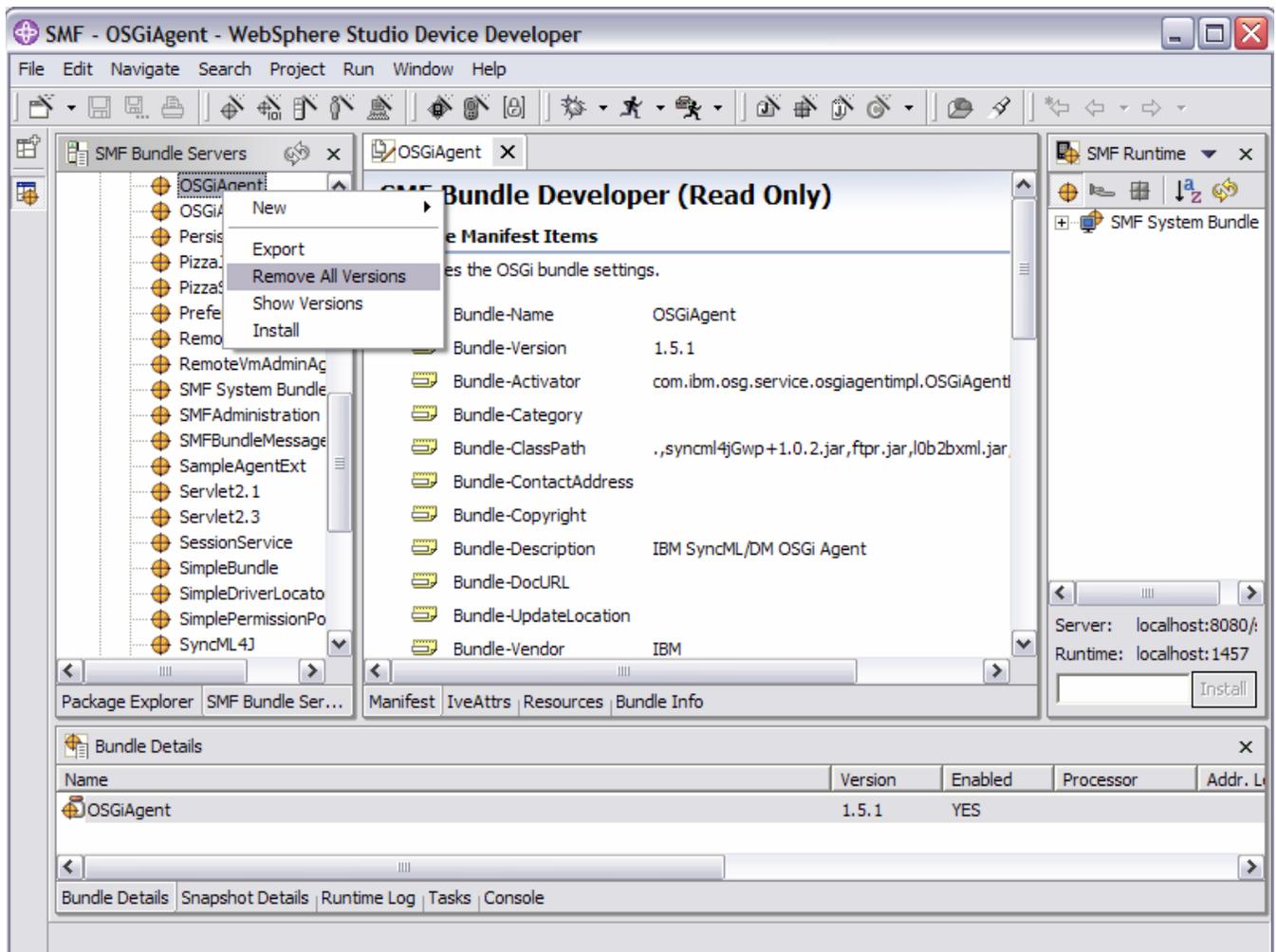
5. Right click on the SMF Bundle Server, and select **Import Bundles**
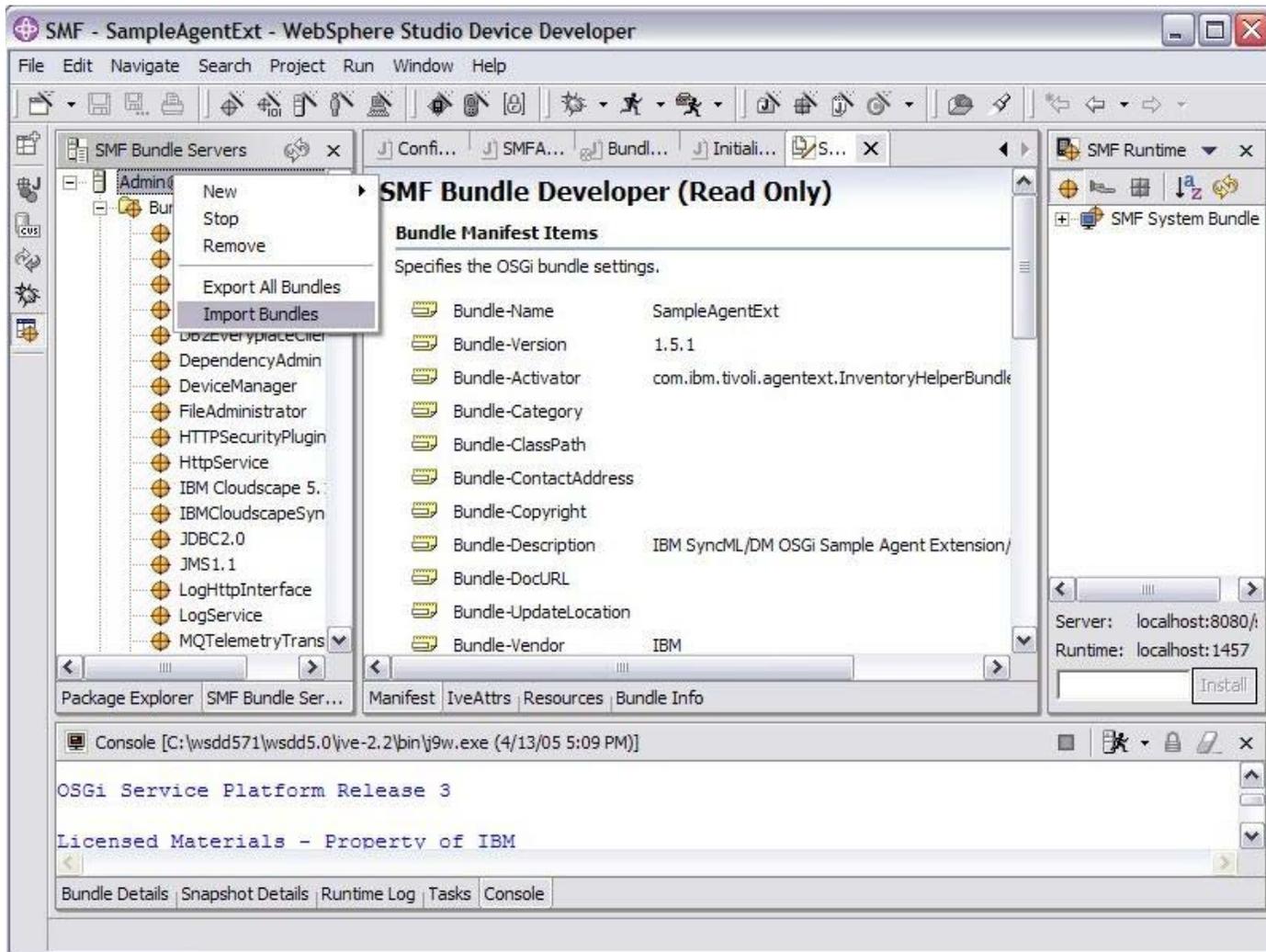
6. Select the **Add Directory** button. Browse to the folder where you unzipped the IFix.

7. You can expand the folder view to see the bundles that will be imported to the server.

8. Be sure to select **Replace Bundles**. If you do not, the two new jars will be imported into the bundle server, but the three that are being updated will not overwrite the original bundles and you will see an error message warning you of this.
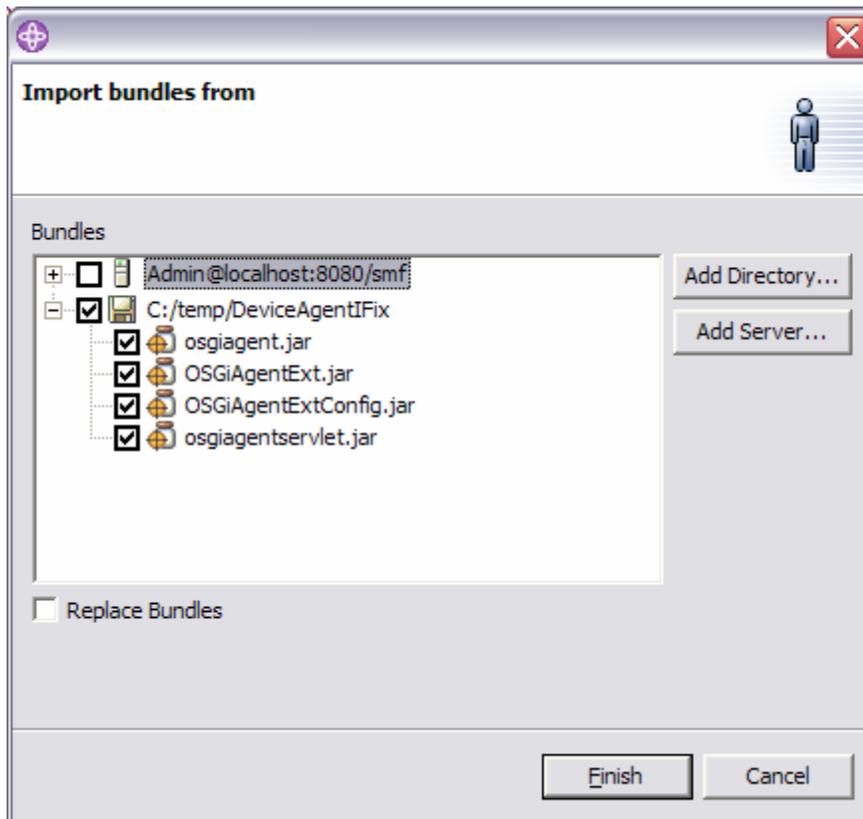
9. Select **Finish**.

Now when a user deploys one of their projects to a runtime, and the project depends on the device agent, the bundle server will automatically provide the updated bundles.

How to initiate a device reboot

DMS Node Discovery and Custom Command Jobs

Initiating a device reboot is done via the use of DMS Node Discovery and Custom Command jobs. This outlines how to initiate a reboot on the device.

Guided method
The following steps describe how to change properties for the agent, making use of multiple jobs to perform this task. Because there are multiple jobs, these steps may take longer, but more information is pre-populated in the dialogs. These steps also make changes only to a single device. To apply changes to multiple devices simultaneously, use the **Advanced Method** listed below.

These steps illustrate changing the ./SystemCommand/Reboot value.
1. On the WEDM console, select Devices.
2. Select Use New Query and Return anything as your search criteria.
3. Select OK.
4. The DM console will show a list of enrolled devices.
5. Select your device, right click and select Submit Job.
6. Select Next.
7. Select the Job Type as Node Discovery (Use default settings for all the other job attributes).
8. Select Next.
9. Select Add Group.
10. Enter ./SystemCommand as the Target URI.

11. Enter a Search depth of 2.


12. Select Next.
13. Select OK.
14. The job has been submitted. Select Close.
15. You will need to wait for the job to complete (this will depend upon the configured polling interval).

Once the job has completed, select the device, then click View Inventory...

16. Then select Management Tree.
17. Select the entry with the URI: ./SystemCommand/Reboot.
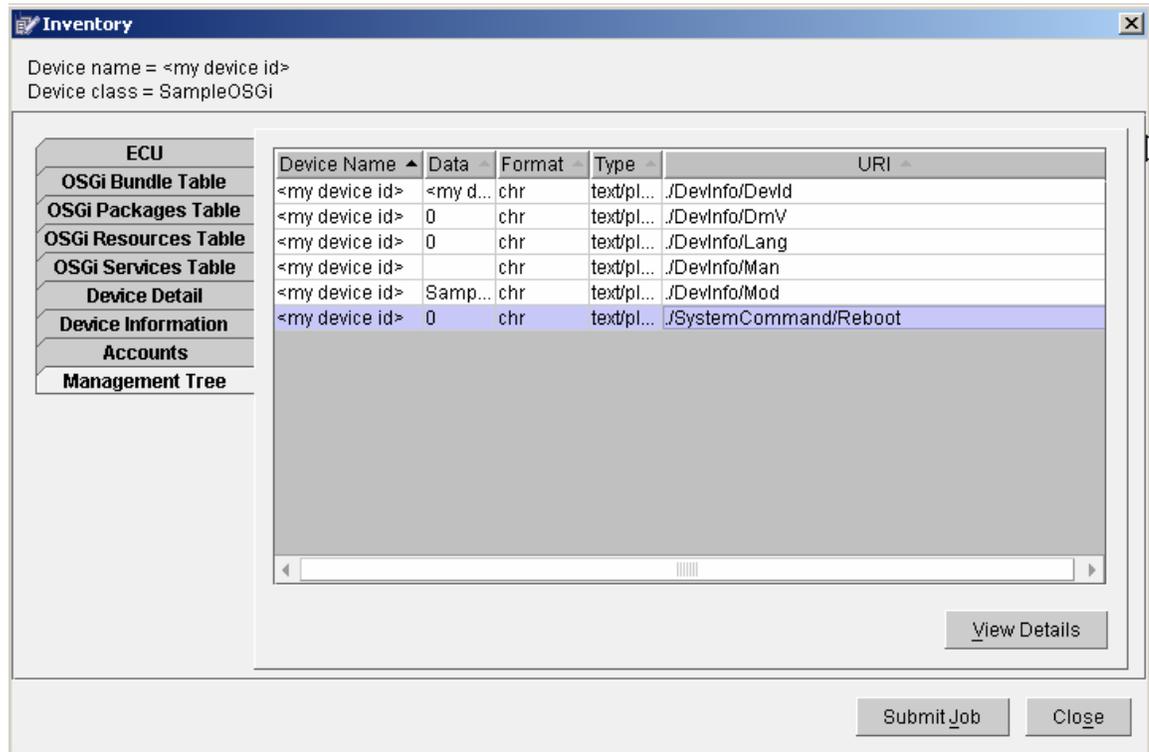
18. Select Submit Job.
19. Select Next.
20. Leave the defaults as supplied in the panel, then select Next.
21. Enter 1 for the Command Number Field.

22. Set the Data value to reboot

23. Select Next.
24. Select OK.
25. Select Close.
26. Select Close.
27. Wait for the job to complete.

Advanced method
The following steps describe how to change properties for the agent, but allow you to change the
properties for multiple devices. Less information is pre-populated in the dialogs.

These steps illustrate changing the ./SystemCommand/Reboot value.
1. Select File > Submit Job... > All New...
2. Select OSGi as the device class.
3. Select Currently Enrolled for the status of the target devices, since you are configuring agent
specific properties.
4. Select Next.
5. Select the Job Type as Custom Command (use default settings for all other job attributes).
6. Select Next.
7. Select Replace Command, then click Add Group.
8. Enter 1 as the Command Number.
9. Enter ./SystemCommand/Reboot as the Target URI.
10. Enter reboot as the Data.
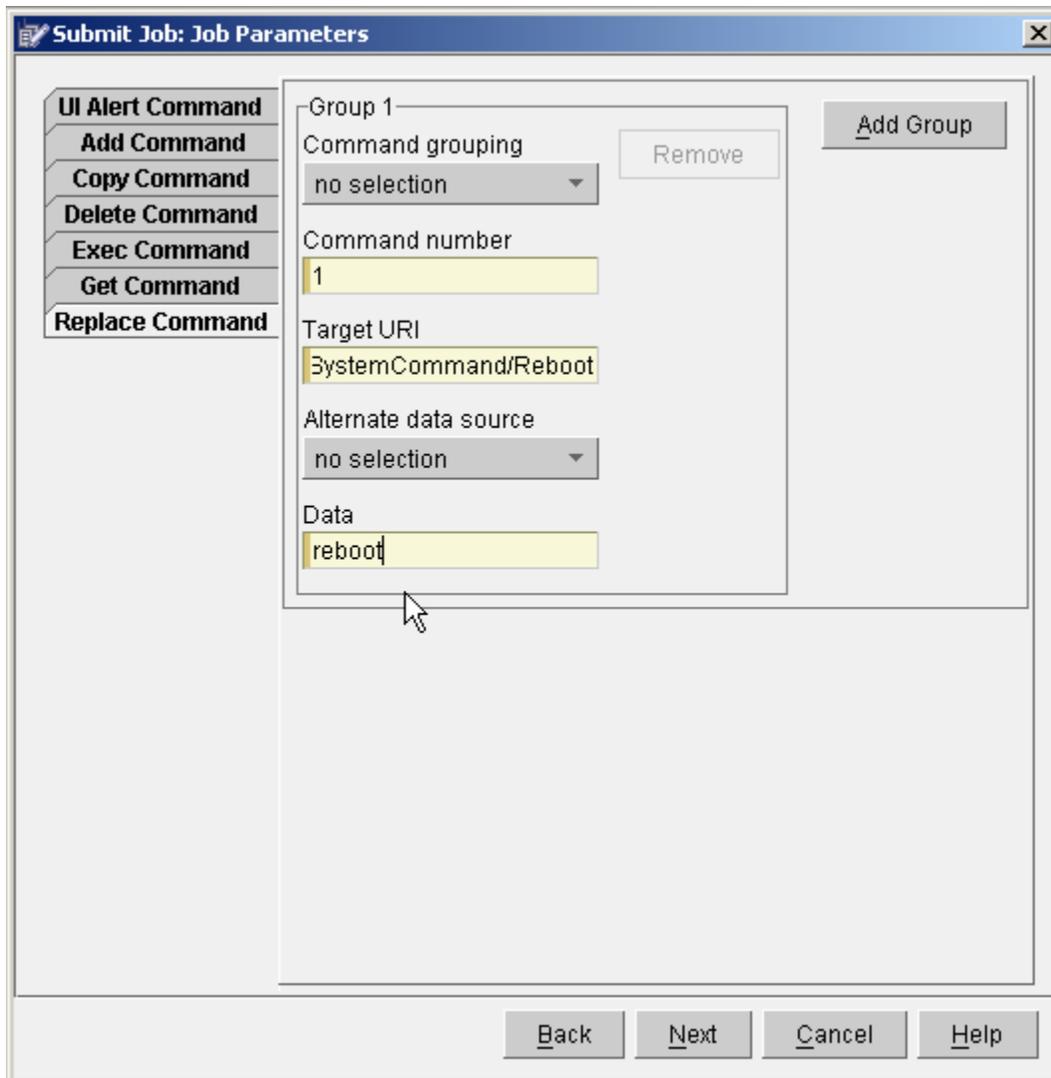
11. Select Next.
12. Select OK.
13. Select Close.
14. Wait for the job to complete.

After this job is complete, a file by the name of reboot.txt is placed on the file system specified by the system property **java.io.tmpdir** with the contents of "reboot now". A script monitoring this directory for the presence of the file can now perform actions on the system.