

# Web Services Stack Guide

## Administration

Version 8.0 SP4

March 2010

This document applies to WSS Guide Version 8.0 SP4.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

Copyright © 2007-2010 Software AG, Darmstadt, Germany and/or Software AG USA, Inc., Reston, VA, United States of America, and/or their licensors.

The name Software AG, webMethods and all Software AG product names are either trademarks or registered trademarks of Software AG and/or Software AG USA, Inc. and/or their licensors. Other company and product names mentioned herein may be trademarks of their respective owners.

Use of this software is subject to adherence to Software AG's licensing conditions and terms. These terms are part of the product documentation, located at <http://documentation.softwareag.com/legal/> and/or in the root installation directory of the licensed product(s).

This software may include portions of third-party products. For third-party copyright notices and license terms, please refer to "License Texts, Copyright Notices and Disclaimers of Third-Party Products". This document is part of the product documentation, located at <http://documentation.softwareag.com/legal/> and/or in the root installation directory of the licensed product(s).

## Table of Contents

1 Administration .....	1
2 Deployment of the Runtime .....	3
Introduction .....	4
Bouncy Castle JCE Provider .....	4
Deployment Steps .....	5
3 Admin Servlet .....	9
Accessing the Administration Module .....	10
Functionality .....	10
Deployed Libraries .....	11
Changing Logon Credentials .....	12
Reset Password Utility .....	13
4 Administration Tool .....	15
Getting Started .....	16
Configuration Files .....	17
Using the Administration Tool .....	17



# 1 Administration




---

The information in this document will assist users of webMethods suite of products in deploying and managing web services through the product's facilities.

*Administration* includes:

- Deploying/Undeploying of services
- Activating/Deactivating of services
- Engaging/Disengaging of module (at operation, service or global level)

The information is organized under the following headings:

 <b>Deployment of the Runtime</b>	Describes the deployment of WSS web application in custom web containers
 <b>Admin Servlet</b>	WSS administrator module for managing web services
 <b>Administration Tool</b>	System Management Hub web interface for managing WSS runtime



# 2 Deployment of the Runtime

---

- Introduction ..... 4
- Bouncy Castle JCE Provider ..... 4
- Deployment Steps ..... 5

WSS contains a web application that can be deployed into any servlet container or application server that conforms to the Java Servlet Specification. The deployable web archive is called *wsstack.war* and comes with the installation.

The information is organized under the following headings:

## Introduction

---

The admin servlet is accessible at the following URL:

```
http://localhost:<port>/wsstack/
```



**Note:** The default CTP port is 49981. In case of deployment in custom application servers, the port is configured by the corresponding server administration tools.

After the deployment of the deployable web archive, you can follow one of the links:

- **Services**  
See a list of the available deployed services. After installation, you have deployed only the *Version* service (that gives information for the version of Axis 2) and WSS.
- **Validate**  
Check whether the required libraries for the system are in place and view system information.
- **Administration**  
Access the Axis 2 installation.

## Bouncy Castle JCE Provider

---

Web Service Stack distributes the bouncy castle JCE provider. It is required by the security module (Rampart) for retrieving cryptographic algorithms implementation used in encryption and/or signing of messages.

The bouncy castle provider is added to the run-time list of Java security providers (when required for the first time).

The bouncy castle provider might not be available to other web application if Web Service stack is deployed in a servlet container and the bouncy castle classes are loaded from the Web Services Stack web application classloader. Once added to the global list of security providers no other application running in the same virtual machine will be able to add it again. In this case, if the bouncy castle is required by other web application in the servlet container, place the bouncy castle JAR in a *common/shared lib* folder of the servlet container and ensure it is loaded from there and not by a web application classloader.





**Note:** If Web Services Stack is undeployed, it will take care of unregistering bouncy castle from the Java security providers list (only in case it was loaded by the Web Services Stack webapp classloader). In this case, you do not need to clean up the security providers or restart JRE.

## Deployment Steps

---

This section describes the deployment steps for the different web containers.

The information is organized in the following topics:

- [Deploying WSS Runtime to Your Own Tomcat Installation](#)
- [Deploying WSS Runtime to JBoss](#)
- [Deploying Web Services Stack Runtime to BEA WebLogic](#)
- [Deploying Web Services Stack Runtime to WebSphere 6](#)
- [Deploying Web Services Stack Runtime to WebSphere 7](#)
- [Deploying Web Services Stack Runtime to WebSphere Community Edition \(Version 1\)](#)

### Deploying WSS Runtime to Your Own Tomcat Installation

If you want to deploy the WSS web application to your own Tomcat installation, perform the following steps:

#### ▶ To deploy to your own Tomcat installation

- 1 Stop Tomcat.
- 2 Make sure that the attribute `unpackWars` is set to "true" in the `server.xml` of your Tomcat installation.
- 3 Copy `wsstack.war` to the `webapps` folder of your Tomcat installation.
- 4 Start Tomcat. The content of `wsstack.war` is expanded into the `wsstack` folder under the `webapps` folder of the Tomcat installation.

### Deploying WSS Runtime to JBoss

If you want to deploy the WSS web application to JBoss, perform the following steps:

#### ▶ To deploy to JBoss

- 1 Stop JBoss.
- 2 Create a folder `wsstack.war` in the `JBOSS-Installation\server\default\deploy` folder.
- 3 Unzip the content of `wsstack.war` file into this `wsstack.war` folder.

- 4 Start JBoss.

### Deploying Web Services Stack Runtime to BEA WebLogic

If you want to deploy the Web Services Stack web application to BEA WebLogic, perform the following steps:

#### ▶ To deploy to BEA WebLogic

- 1 Stop the BEA WebLogic server.
- 2 Create a folder *wsstack.war* in the *autodeploy* folder of your domain (under Windows, for example, *C:\bea10\wlserver\_10.0\samples\domains\wl\_server\autodeploy*).
- 3 Unzip the content of *wsstack.war* file into this *wsstack.war* folder.
- 4 Start BEA WebLogic Server.

### Deploying Web Services Stack Runtime to WebSphere 6

If you want to deploy the Web Services Stack web application to WebSphere 6, perform the following steps:


#### ▶ To deploy to WebSphere 6

- 1 Log on to the Administrative Console and navigate to the **Applications > Install New Application** node.
- 2 Enter the location of file *wsstack.war* or browse to it using the **File chooser** dialog.
- 3 Enter "wsstack" as Context root.
- 4 After installation, navigate to **Applications > Enterprise Applications**.
- 5 Click on **wsstack\_war** to open the configuration dialog.
- 6 Click **Class loading and update detection**.
- 7 For **Class loader order**, choose "Classes loaded with application class loader first".
- 8 For **WAR class loader policy**, choose "Single class loader for application".
- 9 Navigate to **Applications > Enterprise Applications**.
- 10 Start the Web Services Stack web application.

## Deploying Web Services Stack Runtime to WebSphere 7

If you want to deploy the Web Services Stack web application to WebSphere 7, perform the following steps:

### ▶ To deploy to WebSphere 7

- 1 Copy <Web Services Stack\_Install\_Folder>/webapp/wsstack.war to a temporary location.
- 2 Unpack the WAR file
- 3 Copy all MAR files from WEB-INF/modules to WEB-INF/lib and change their extensions to JAR.  
  
 **Important:** MS Office might constitute an issue with the mapping of MAR files. When you have MS Office installed, you cannot rename those files using Windows Explorer. In this case, use the command prompt *ren* command. For example, <TEMP\_Folder>\WEB-INF\modules>copy addressing-1.41.mar ad dressing-1.41.jar copies the MAR file and changes its extension from MAR to JAR.
- 4 Recreate the WAR file. You can use WinZIP or any other application with support for ZIP files.
- 5 Log on to the Administrative Console and navigate to the **Applications ->Install New Application** node.
- 6 Enter the location of file *wsstack.war* or browse to it using the **File Chooser** dialog.
- 7 Enter "wsstack" as Context root.
- 8 After installation, navigate to **Applications > Enterprise Applications**.
- 9 Click on *wsstack\_war* to open the configuration dialog.
- 10 Click **Class loading and update detection**.
- 11 For **Class loader order**, choose "Classes loaded with application class loader first".
- 12 For **WAR class loader policy**, choose "Single class loader for application".
- 13 Navigate to **Applications> Enterprise Applications**.
- 14 Start the Web Services Stack web application.

## Deploying Web Services Stack Runtime to WebSphere Community Edition (Version 1)

If you want to deploy the Web Services Stack runtime to WebSphere Community Edition (Version 1), perform the following steps:

### ▶ To deploy to WebSphere

- 1 Log on to the Administrative Console and navigate to the **Applications/Deploy New** node.
- 2 Enter the location of the *wsstack.war* or browse to it using the **File chooser** dialog.
- 3 Make sure the **Redeploy application** and **Start app after install** options are selected. Click **Install**.

# 3 Admin Servlet

---

- Accessing the Administration Module ..... 10
- Functionality ..... 10
- Deployed Libraries ..... 11
- Changing Logon Credentials ..... 12
- Reset Password Utility ..... 13

The admin servlet is the administrator module for managing web services. The features are available when you log on to the administration module.



**Note:** The administration functionality is also available through System Management Hub (SMH). For details, see [Administration Tool](#).

The information on the admin servlet is organized under the following headings:

## Accessing the Administration Module

---

Use the following URL to access Web Services Stack administration module:

*http://host:port/wsstack* (for example, *http://localhost:49981/wsstack/axis2-admin/*).

The admin servlet is secured by default with administrator's logon credentials configured in the *WEB-INF/conf/axis2.xml* configuration file in the WAR archive.

### ▶ To log on to the administration module

- Provide the logon credentials that are specified in the *axis2.xml* configuration file. The default user name is "admin" and the default password is "axis2".



**Note:** See [Changing Logon Credentials](#) for details on changing the default user name and password at first logon.

## Functionality

---

Following are the features of the administration module for managing web services:

- Upload service
- List available services
- List available service groups
- List available modules
- List globally engaged modules
- List available phases
- View global chains
- View operation specific chains
- Engage module for all services

- Engage module for a Service Group
- Engage module for a Service
- Engage module for an Operation
- Deactivate service
- Activate service
- Edit parameters of a service

For details on the functionalities of Axis 2 administration module, see [http://ws.apache.org/axis2/1\\_4\\_1/webadmininguide.html](http://ws.apache.org/axis2/1_4_1/webadmininguide.html).

## Deployed Libraries

---

This section shows you how to display a list of the deployed Web Services Stack libraries.

The administration module provides you with an easy access to the list of the deployed libraries with information about them such as library name, JAR file details, and version number. The deployed libraries are JAR files that are installed with the Web Services Stack installation or at the deploy time of its web archive. You might use the list of these libraries for troubleshooting.

### ▶ To display a list of the deployed Web Services Stack libraries

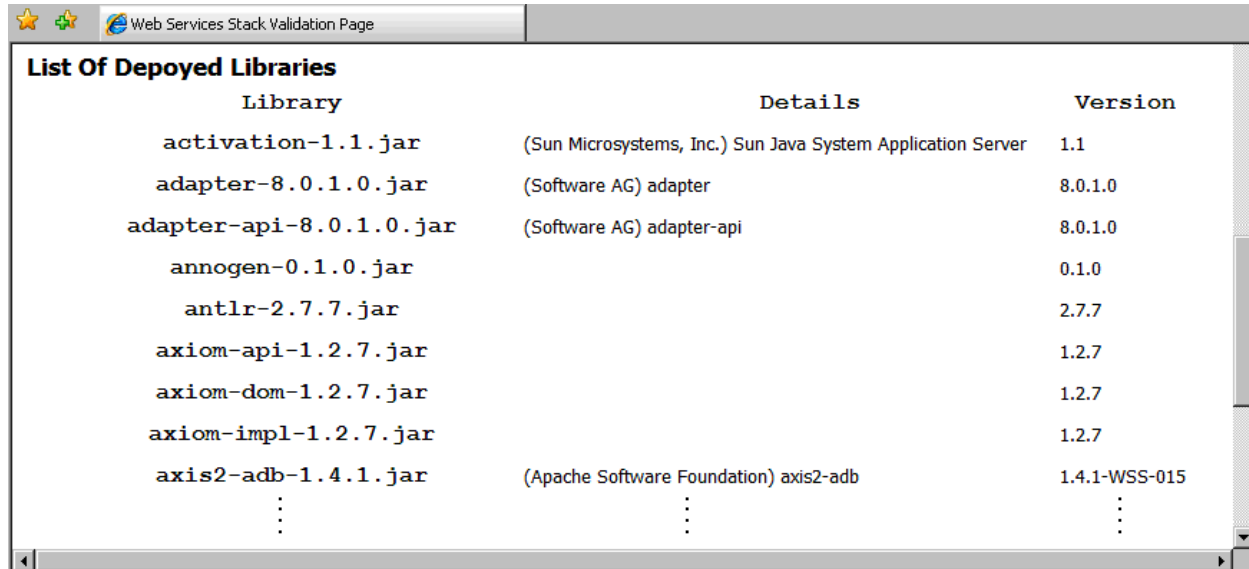
- 1 Type `http://localhost:<application server port>/wsstack/` in your browser.



**Note:** The default port for the deployment of Web Services Stack in Software AG Tomcat kit is "49981".

- 2 Follow the **Validate** link on the welcome page.
- 3 Scroll down the Web Services Stack validation page.

Following is a sample screen capture of the deployed libraries list on the validation page:




Library	Details	Version
activation-1.1.jar	(Sun Microsystems, Inc.) Sun Java System Application Server	1.1
adapter-8.0.1.0.jar	(Software AG) adapter	8.0.1.0
adapter-api-8.0.1.0.jar	(Software AG) adapter-api	8.0.1.0
annogen-0.1.0.jar		0.1.0
antlr-2.7.7.jar		2.7.7
axiom-api-1.2.7.jar		1.2.7
axiom-dom-1.2.7.jar		1.2.7
axiom-impl-1.2.7.jar		1.2.7
axis2-adb-1.4.1.jar	(Apache Software Foundation) axis2-adb	1.4.1-WSS-015
⋮	⋮	⋮

## Changing Logon Credentials

With the *Administration Tool*, the *wsstack argus* agents that perform all the administration tasks use the security settings provided by the product. In this case, your web services are secured.

With the admin servlet, there are default user credentials for logging on to the administration module. If you do not change them after Web Services Stack is installed, you may be exposed to a security threat through the administration module.

 **Note:** In case you want to connect to Web Services Stack runtime from System Management Hub, provide the logon credentials for the administration module.

Web Services Stack provides you with the option to change the user credentials for the administration module. The user name can be changed in the configuration file using a text editor. The password, however, must not be modified by editing the *axis2.xml* file. Use the graphical user interface of Web Services Stack for changing the password.

### ▶ To change the user name

- You can change the default user name with the `userName` parameter in the *axis2.xml* configuration file.

### ▶ To change the password

- 1 Log on to the administration module
- 2 Click on the **Change Password** button in the administration page header:



If the Web Services Stack configuration file cannot be modified by the web application, you are notified that the password change is disabled with the "Password change is disabled" error:

---

## Change Admin Password

[Back](#) | [Change password](#) | [Log out](#)

Password change is disabled. Please use the Reset password utility. See user documents for more details.

In this case, you must use the *Reset Password Utility* of Web Services Stack.

## Reset Password Utility

---

The Reset Password Utility is the `resetPassword` script available in the `/bin` directory of the Web Services Stack installation. The script requires write permission over the configuration file. After resetting the password, restart Web Services Stack for the changes to take effect.

This utility is used in the following scenarios:

- Restoring a password that you have forgotten

Since the password is transformed into a hash, using an algorithm that cannot be reversed, it is not possible to restore a forgotten password. In that case, you can reset it using the Reset Password Utility.

- Changing the default password when you have received the "Password change is disabled" error.

Following is a list of the cases in which you can receive this error:

- Web Services Stack web application WAR is archived upon deployment
- Web Services Stack web application WAR is not archived upon deployment, but the web application is not granted write permissions for the `WEB-INF/conf/axis2.xml` file.
- Web Services Stack web application has not been deployed with the standard configuration file (`WEB-INF/conf/axis2.xml`). Instead, a URL configuration file or a JAR resource configuration file has been used.

### ▶ To reset a forgotten password

- 1 Run the `resetPassword` script in the `/bin` folder.
- 2 Restart Web Services Stack for the changes to take effect.

▶ **To change the password when the Web Services Stack web application WAR is archived upon deployment**

- 1 Retrieve the configuration file.
- 2 Run the *resetPassword* script in the */bin* folder.
- 3 Replace the original configuration file.
- 4 Restart Web Services Stack for the changes to take effect.

▶ **To change the password when the Web Services Stack web application WAR is not archived upon deployment, but the web application is not granted write permissions for the *WEB-INF/conf/axis2.xml* file**

Run the utility from an account that has write permission over the configuration file.

- 1 Retrieve the configuration file.
- 2 Run the *resetPassword* script in the */bin* folder.
- 3 Replace the original configuration file.
- 4 Restart Web Services Stack for the changes to take effect.

▶ **To change the password when the Web Services Stack web application has not been deployed with the standard configuration file (*WEB-INF/conf/axis2.xml*)**

- 1 Retrieve the configuration file.
- 2 Run the *resetPassword* script in the */bin* folder.
- 3 Replace the original configuration file.
- 4 Restart Web Services Stack for the changes to take effect.

# 4 Administration Tool

---

- Getting Started ..... 16
- Configuration Files ..... 17
- Using the Administration Tool ..... 17

System Management Hub (SMH) provides a web interface for managing Web Services Stack runtime. Web Services Stack installation creates a new node in System Management Hub control panel and adds an administrator's node under **Administrators**.

The information on the administration tool is organized under the following topics:

## Getting Started

---

Web Services Stack provides agent programs that are called Web Services Stack "argus agents". System Management Hub invokes those agents that manipulate Web Services Stack environment to deploy (or undeploy) services, to engage (or disengage) modules, etc. To be able to use the administration tool, provide the user credentials required by the System Management Hub logon page.



**Note:** If Web Services Stack web application is deployed manually in a different servlet engine or application server, then the agents are not available. In this case, use administration module located at *http://host:port/wsstack*.

### ▶ To start using the administration functionality of System Management Hub

- Type *http://localhost:49981/smh/login.htm* in the browser.

The interface of System Management Hub displays all installed products associated with administration tools. If properly installed, Web Services Stack appears on the list as a direct child of the root tree.

The management functionality of the administration tool (engaging/disengaging a module, service activation/deactivation and deployment/undeployment) requires valid credentials for the Web Services Stack runtime. For details on those features, see [Using the Administration Tool](#).

The administration tool uses the default credentials (user name="admin" and password="axis2"). However, these must be changed after the installation of Web Services Stack for security reasons. See [Changing Logon Credentials](#) for details.

Because of that, when the Web Services Stack administrator changes those credentials, a logon dialog prompts you to enter user name and password to verify you are authorized to manage the product's web services.

### ▶ To log on to Web Services Stack runtime from the administration tool

- 1 Enter your user credentials for the Web Services Stack admin servlet (the administrator module)
- 2 Click on **Log on**.

If you experience problems when using the administration tool, you must enable the logging for the "argus agents" to see a detailed message log. For instructions on that, see "Argus Agents" Logging.

## Configuration Files

---

There are two files under `<WS_STACK_HOME>\conf\` that impact Web Services Stack "argus agents":

- *argusagents.properties*

This file specifies the location of the *wsstack-admin-service* that is used by the agents. It contains information about the host name and the server port of the deployed Web Services Stack.

- *deployclient.properties*

This file has settings for the *wsstack-admin-service* that are used by System Management Hub for deployment.



**Note:** Changes in the *deployclient.properties* file impact only Web Services Stack "argus agents".

## Using the Administration Tool

---

You can use the administration tool for any of the following:

1. **Browsing Services**

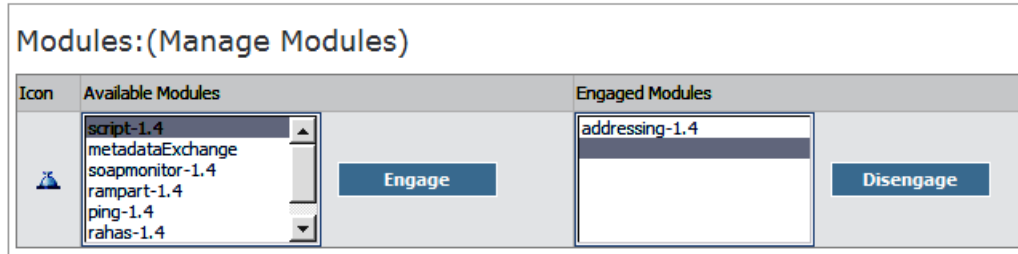
Choose **Service Group** to see a list of all service groups available in the system. It is a direct child of **Web Services Stack**.

To see all the services in that service group, choose a service group name. To get all the operations of a service, choose the service.




**Note:** Browsing current service group and services, as well as their engaged modules does not require administrative rights for the target Web Services Stack runtime.

2. **Managing Modules**

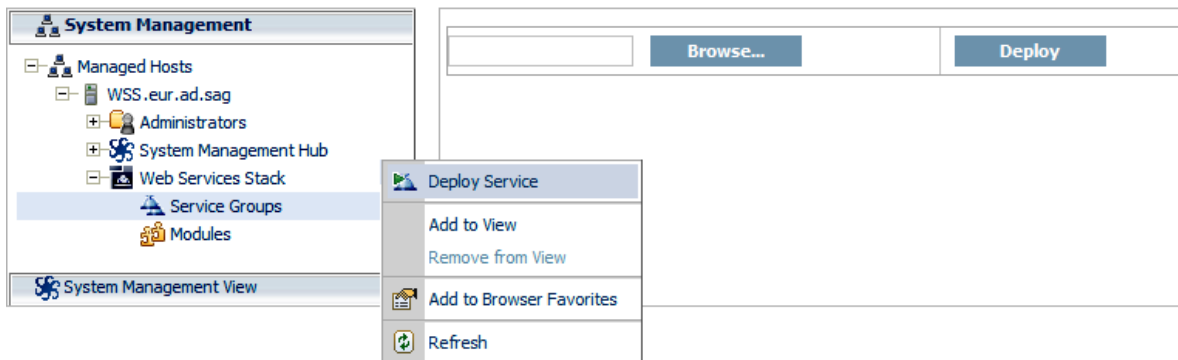


You can engage or disengage modules on four levels – globally, by service group, by service, and by operation. On every level on the GUI you have a **Manage Modules** button. Click on that button to receive a list of all available modules that are eligible for engagement, as well as a list of all engaged modules that are eligible for disengagement to engage or disengage a module on the appropriate level. In order to engage or disengage a module, choose the respective button next to the listbox.

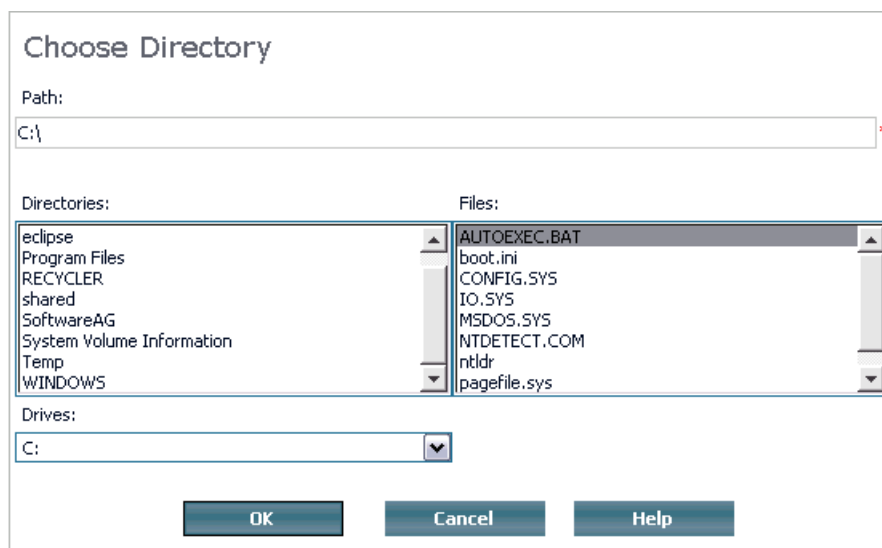
If you want to engage or disengage a module on a global level, choose **Modules** under the **Web Services Stack**.

 **Note:** Module management functionality requires you to provide valid Web Services Stack credentials. For additional information, see instruction for logging on to Web Services Stack runtime in [Getting Started](#).


### 3. Deploying a Service



With the right button of the mouse, click **Service Group** to see a command list with commands that can be executed. Choose the **Deploy** command from the list to see a browse button on the right part of the screen. With this button, you can browse the file system to select a web service archive to be deployed.

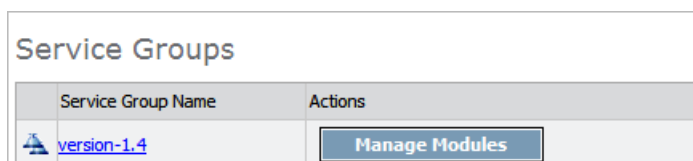


Choose the **OK** button after you have selected the web service archive. The previous screen is displayed where you must choose the **Deploy** button. Shortly after that, you get a response with feedback of how the operation went.

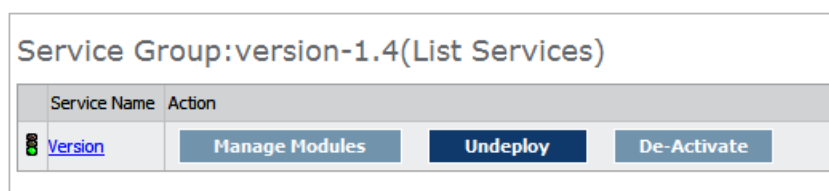
 **Note:** Deployment functionality requires you to provide valid Web Services Stack credentials. For additional information, see instruction for logging on to Web Services Stack runtime in [Getting Started](#).

#### 4. Undeploying a Service

Choose **Service Group** under the **Web Services Stack**



Then, click on the service under the **Service Name** column. The **Undeploy** button with which you can undeploy a service is next to the service.




The feedback of executing the operation is displayed soon after that.



**Note:** Undeploying a web service requires you to provide valid Web Services Stack credentials. For additional information, see instruction for logging on to Web Services Stack runtime in *Getting Started*.

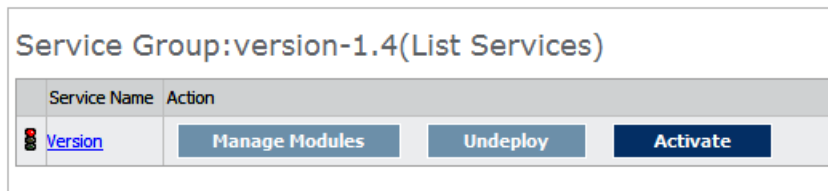
### 5. Checking a Service Status

When you receive a list with services, you must be able to see the status of each one of them by looking at the icon placed right before the service name.

If the color of the traffic light icon is green (  ), then the service is active.

If the color is red (  ), then the service is inactive.

You can activate (or deactivate) a service by using the **Activate** (or **Deactivate**) button listed on the **Action** column next to the **Service Name** column.



Service Group:version-1.4(List Services)

Service Name	Action
 <a href="#">Version</a>	<a href="#">Manage Modules</a> <a href="#">Undeploy</a> <a href="#">Activate</a>

Check service status does not require administrative rights for the target Web Services Stack runtime.