



Simple Object Access Protocol (SOAP) Toolkit for OpenVMS Installation Guide and Release Notes

January 2005

Version 2.0

Based on Apache Axis Version 1.1

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Before Installing the SOAP Toolkit Hardware Prerequisites

The SOAP Toolkit for OpenVMS is available on OpenVMS Alpha and OpenVMS Industry Standard 64.

Disk Space Requirements

Downloading the SOAP Toolkit Version 2.0 Java archive (JAR) file requires approximately 30,000 blocks (14.6 MB) of disk space. Expanding the JAR file requires an additional 32,000 blocks (15.7 MB).

The installation procedure allows you to choose to install some or all of the SOAP Toolkit components. The total disk space required is approximately 26,000 blocks (12.7 MB) to 92,000 blocks (45 MB), depending on the installation options you choose.

Software Prerequisites - Client

The following software is required to call web services with the SOAP Toolkit for OpenVMS:

For OpenVMS Alpha:

- HP OpenVMS Alpha Version 7.2-2 (or higher)
- HP Software Development Kit (SDK) *for the Java™ Platform* Version 1.3.1 (or higher)

For OpenVMS Industry Standard 64:

- HP OpenVMS I64 Version 8.2 (or higher)
- HP Software Development Kit (SDK) *for the Java™ Platform* Version 1.4.2 (or higher) for HP OpenVMS I64

For both Alpha and I64:

- All patches required for SDK *for the Java™ Platform*. Check the SDK documentation for the version of Java you are installing to be sure that you have all prerequisite OpenVMS Alpha patches.
- JAXP-1.1 compliant XML parser such as Xerces or Crimson must be configured before the SOAP toolkit will operate. (However, you may *install* the SOAP toolkit without an XML parser being configured.)

Note: The **Crimson parser** is included with the Java SDK Version 1.4 (or higher). A **Xerces parser** is included in the SOAP Toolkit. To use this parser, add it to your classpath after installation. For example:

```
$ define java$classpath disk$:[axis-1_1.openvms.libjars]xercesImpl.jar
```

Software Prerequisites - Server

The following software is required to deploy web services with the SOAP Toolkit for OpenVMS:

- All Axis client prerequisites
- A Java Servlet container

When deploying web services with the OpenVMS SOAP Toolkit, a servlet container is required to host the Axis Servlet. There are three configuration options for establishing a Servlet container, as follows:

- Use the built-in Java Servlet container named SimpleAxisServer. (See Axis documentation.) Note: SimpleAxisServer is NOT a production weight web server, but is appropriate for evaluation or prototyping and testing in a development environment.
- Use Tomcat (CSWS_JAVA) as the servlet container while using the built-in web server in Tomcat.
- Use Tomcat (CSWS_JAVA) as the servlet container and the Apache-based Secure Web Server (CSWS) as your web server.

The SOAP Toolkit for OpenVMS has been tested on Alpha with the following versions of CSWS and CSWS_JAVA:

- HP Secure Web Server (CSWS) Version 1.2 (or higher) for OpenVMS
- CSWS_JAVA Version 2.0 (or higher) for Secure Web Server for OpenVMS

The SOAP Toolkit for OpenVMS has been tested on IA64 only with the included SimpleAxisServer.

Note: Installing on an **ODS-5 enabled disk** is required.

Removing the Previous Version

Before you install SOAP Toolkit Version 2.0 for OpenVMS, you must remove the SOAP Toolkit Version 1.1 (or 1.0) for OpenVMS if it was previously installed.

To remove the Version 1.1 kit, invoke the uninstall procedure by entering the following command:

```
$ @SOAP$ROOT: [000000]UNINSTALL_SOAP-1_1
```

To remove the Version 1.0 kit, invoke the uninstall procedure by entering the following command:

```
$ @SOAP$ROOT: [SOAP_Tools-1_0]UNINSTALL_SOAP-1_0
```

Downloading the SOAP Toolkit

The SOAP Toolkit for OpenVMS kit is included with the OpenVMS I64 and OpenVMS Alpha layered product distributions. A compressed, self-extracting file is also available for download from the SOAP Toolkit web site at <http://www.hp.com/products/openvms/soap/>.

Expanding the Kit

To expand the SOAP Toolkit for OpenVMS JAR file, perform the following steps:

Invoke the appropriate Java setup procedure for the installed version of Java, if you have not already done so. See SYS\$MANAGER:JAVA\$*SETUP.COM (for example, SYS\$MANAGER:JAVA\$142_SETUP.COM).

Create a temporary directory on an ODS-5 disk to hold the installation files that will be extracted from the SOAP-TOOLS-2_0.JAR file. For example:

```
$ CREATE/DIRECTORY DISK$: [TEMP]
```

Copy SOAP-TOOLS-2_0.JAR to the temporary directory created in Step 2.

Enter the following command:

```
$ DEFINE/NOLOG DECC$EFS_CASE_PRESERVE ENABLE
```

Set default to the temporary directory created in Step 2. For example:

```
$ SET DEFAULT DISK$: [TEMP]
```

Enter the following command to extract relevant files from the SOAP kit.

```
$ jar -xvf SOAP-TOOLS-2_0.JAR
```

This command extracts INSTALL_SOAP_TOOLKIT-2_0.COM, UNINSTALL_SOAP_TOOLKIT-2_0.COM, and a number of other files needed to complete the installation.

Following is an example of expanding the SOAP-TOOLS-2_0.JAR file.

```
$ @SYS$MANAGER:java$131_setup
Setting up symbols for foreign command line usage...
JAVA$FILENAME_CONTROLS now set to: -1

$ CREATE/DIRECTORY DISK$: [TEMP]
$ COPY SOAP-TOOLS-2_0.JAR DISK$: [TEMP]
$ SET DEFAULT DISK$: [TEMP]

$ jar xvf SOAP-TOOLS-2_0.JAR
  created: axis-1_1/
  created: axis-1_1/documentation/
extracted: axis-1_1/documentation/AXIS-docs-1_1.jar
  created: axis-1_1/examples/
extracted: axis-1_1/examples/AXIS-samples-1_1.jar
  created: axis-1_1/kit/
extracted: axis-1_1/kit/AXIS-bin-1_1.jar
extracted: axis-1_1/kit/AXIS-webapps-1_1.jar
extracted: axis-1_1/kit/doc_descrips-1_1.txt
extracted: axis-1_1/kit/install_soap_toolkit-2_0.com
extracted: axis-1_1/kit/src_descrips-1_1.txt
extracted: axis-1_1/kit/uninstall_soap_toolkit-2_0.com
  created: axis-1_1/sources/
extracted: axis-1_1/sources/AXIS-src-1_1.jar
```

Installing the Kit

Before you begin installing the SOAP Toolkit Version 2.0, be sure you have removed the V1.1 or V1.0 versions of the SOAP Toolkit, if they were previously installed.

The installation command procedure is located in the sub directory [.AXIS-1_1.KIT].

To install the SOAP Toolkit for OpenVMS kit, enter a command similar to the following:

```
$ @DISK$: [TEMP.AXIS-1_1.KIT] INSTALL_SOAP_TOOLKIT-2_0.COM
```

Following is an example of an installation log.

```
SOAP Toolkit 2.0 (based on Apache Axis 1.1) Installation Procedure
-----
```

Before installing this kit, please make sure that the following prerequisites have been met. If they have not been met, the installation procedure may be unable to complete and may terminate:

For the Alpha Architecture:

- 1) The installed operating system is OpenVMS Alpha V7.2-2 or later.
- 2) Software Development Kit (SDK) for the Java Platform Version 1.3.1 (or higher) is installed, including any required OpenVMS patches.

For the IA64 Architecture:

- 1) The installed operating system is OpenVMS I64 Evaluation Release 8.1 or later.
- 2) Software Development Kit (SDK) for the Java Platform Version 1.4.2 (or higher) is installed, including any required OpenVMS patches.

For either Architecture:

3) An ODS-5 enabled disk is available and mounted.

Note
Questions, where indicated, accept a response of
"H" to request additional Help and information.

Please enter the ODS-5 target destination device and directory or logical name indicating the location where you would like to install SOAP Toolkit 2.0. This location will become the base directory for SOAP Toolkit 2.0: (H) [SYS\$SYSDEVICE:[AXIS]] : SYS\$SYSDEVICE:[AXIS]

SYS\$SYSDEVICE:[AXIS] does not exist.
Would you to create this directory? (Y, N) [Y] : Y

Documentation

The documentation included with SOAP Toolkit 2.0 consists of documentation for AXIS itself (User's Guide and API reference) as well as documentation for other components required to install the product.

Most documentation is in the form of HTML files. Using a web browser, the documentation can be accessed locally or remotely if served by a locally installed web server, or accessed locally without a web server by accessing the files directly.

Installing documentation is optional. Even if you decide to install none of the documentation, it will still be available to you online.

You can choose to install all of the documentation, or none of it.

1. [] Axis V1.1 Documentation ~ 51646 blocks

[x] = Selected, [] = Not Selected

Enter: 1 through 1 - To toggle a selection
A - To select All documentation
N - To select No documentation
Y - To proceed with the installation

A, N, 1-1, or Y : A

1. [x] Axis V1.1 Documentation ~ 51646 blocks

[x] = Selected, [] = Not Selected

Enter: 1 through 1 - To toggle a selection
A - To select All documentation
N - To select No documentation
Y - To proceed with the installation

A, N, 1-1, or Y : Y

Sources

The sources included with SOAP Toolkit 2.0 (based on Apache Axis) consist of source files that will allow you to build AXIS itself, as well as sources for

some of the associated components required to install the product.

AXIS and the associated components are implemented entirely in Java. It is not necessary to install the sources or to build them. The sources are provided for those that may wish to build them in order to do development work in this area.

You can choose to install all of the sources, or none of them.

```
-----  
1.   [ ]           Axis V1.1 Sources           ~ 11360 blocks  
-----  
      [x] = Selected,  [ ] = Not Selected
```

Enter: 1 through 1 - To toggle a selection
A - To select All sources
N - To select No sources
Y - To proceed with the installation

A, N, 1-1, or Y : A

```
-----  
1.   [x]           Axis V1.1 Sources           ~ 11360 blocks  
-----  
      [x] = Selected,  [ ] = Not Selected
```

Enter: 1 through 1 - To toggle a selection
A - To select All sources
N - To select No sources
Y - To proceed with the installation

A, N, 1-1, or Y : Y

Here is a summary of your current selections:

```
-----  
Documentation Selection(s):  
1.   [x]           Axis V1.1 Documentation     ~ 51646 blocks  
  
Source Selection(s):  
1.   [x]           Axis V1.1 Sources           ~ 11360 blocks  
-----  
      [x] = Selected,  [ ] = Not Selected
```

Are you satisfied with your installation selections?

Enter: N - No, restart selection process
Y - Yes, proceed with the installation

Y or N : Y

Proceeding with installation...

Installing binaries...
This will take a minute or so...

Installing samples...

Installing sources...

Installing documentation...

SOAP Toolkit 2.0 Installation complete.

```
-----  
The following logical must be added to SYS$MANAGER:SYLOGICALS.COM so that  
it will be defined each time the system is rebooted.
```

```
$ define/sys/nolog/trans=concealed AXIS$ROOT SYS$SYSDEVICE:[AXIS.]  
-----
```

Press the <Enter> key to continue:

```
Post Installation Checkout  
-----
```

After finishing the SOAP Toolkit 2.0 installation, we recommend that you execute the installation validation tests by running `soap_toolkit-2_0_util.com`.

```
@AXIS$ROOT:[AXIS-1_1.openvms.coms]soap_toolkit-2_0_util.com
```

For documentation on AXIS and for further instructions please access the Apache AXIS website at the following url.

<http://ws.apache.org/axis/>

To access documentation installed with this kit please use the following url from a browser.

`file:///AXIS$ROOT/AXIS-1_1/docs/index.html`

After Installing the SOAP toolkit

After the installation is complete, perform the following tasks.

1. Run the validation tests:
 - a. In one OpenVMS terminal session enter the following command to startup the SimpleAxisServer:

```
$ @AXIS$ROOT:[AXIS-1_1.openvms.coms]start_simple_axis_server
```

Following is a log of a validation test run as viewed from this terminal session:

```
$ @AXIS$ROOT:[AXIS-1_1.openvms.coms]start_simple_axis_server  
Enter Port Number[8080]  
%DCL-S-SPAWNED, process axis_server spawned  
%DCL-S-ATTACHED, terminal now attached to process axis_server  
Feb 25, 2004 8:06:20 PM org.apache.axis.transport.http.SimpleAxisServer run  
INFO: SimpleAxisServer starting up on port 8080.  
Feb 25, 2004 8:11:31 PM org.apache.axis.utils.Admin processWSDD  
SEVERE: Administration service requested to quit, quitting.  
Feb 25, 2004 8:11:31 PM org.apache.axis.transport.http.SimpleAxisServer stop  
INFO: SimpleAxisServer quitting.  
%DCL-S-RETURNED, control returned to process _FTA153:  
$
```

- b. In another OpenVMS terminal session enter the following command to run the validation tests:

```
$ @AXIS$ROOT:[AXIS-1_1.openvms.coms]soap_toolkit-2_0_util.com
```

Following is a log of a validation test run as viewed from this terminal session:

```
$ @AXIS$ROOT:[AXIS-1_1.openvms.coms] soap_toolkit-2_0_util.com
```

```
      SOAP Toolkit 2.0 (based on Apache AXIS) Utility
      -----
      1 - Show current configuration
      2 - Run SOAP Toolkit 2.0 Validation Procedure
      3 - Copy supplemental jar files to AXIS$ROOT:[AXIS-1_1.LIB]
      E. Exit SOAP Toolkit 2.0 Utility
      -----
```

Please choose a task: 2

The SOAP Toolkit 2.0 validation tests will now be run.

Note: The OpenVMS SOAP Toolkit V2.0 kit provides optional jar files in AXIS\$ROOT:[AXIS-1_1.OPENVMS.LIBJARS]. These files are often needed to use AXIS but are not included in the AXIS distribution from the Apache Group. They are included in the OpenVMS SOAP Toolkit as a convenience for the user.

This validation procedure will use the optional jar files to run the installation verification tests. You have the option of using these jar files in your SOAP Toolkit deployment. To use these jar files, choose option 3 from this utility to copy the files to AXIS\$ROOT:[AXIS-1_1.LIB]

The SOAP Toolkit 2.0 Validation Tests require that the Simple Axis Server be started in another process. The Simple Axis Server is a web server provided in the Axis distribution to be used for prototyping. Please execute the command below from a different terminal window.

```
@axis$root:[axis-1_1.openvms.coms]start_simple_axis_server
```

By default the Simple Axis Server will listen on port 8080. If this port is already in use you may specify a different port number as an argument to the command procedure. For Example:

```
@axis$root:[axis-1_1.openvms.coms]start_simple_axis_server 999
```

If a different port was specified when calling start_simple_axis_server.com then provide that port number below.

Enter the port number on which Simple Axis Server is listening [8080]:

... Running validation tests...This may take a few moments...

```
%DCL-S-SPAWNED, process soap_val_tsts spawned
%DCL-S-ATTACHED, terminal now attached to process soap_val_tsts
%DCL-S-RETURNED, control returned to process _FTA149:
```

The results of the validation tests are saved to a log file. Please compare the tests results log file against the benchmark log file provided in the same directory. The benchmark log file shows the expected results when the validation tests complete successfully.

The log file produced is:
AXIS\$ROOT:[AXIS-1_1.OPENVMS.VALIDATION-TESTS]validate_soap_toolkit_install.log

The benchmark log file is:

```
AXIS$ROOT: [AXIS-1_1.OPENVMS.VALIDATION-TESTS] validate_benchmark.log
```

To compare the two log files use the command:

```
$diff /ignore=(spacing,blank,trailing) -
  AXIS$ROOT: [AXIS-1_1.OPENVMS.VALIDATION-
TESTS] validate_soap_toolkit_install.log -
  AXIS$ROOT: [AXIS-1_1.OPENVMS.VALIDATION-TESTS] validate_benchmark.log
```

Choice (R- Return to Menu) (E- Exit): E

2. Check the results of the validation test log `validate_soap_toolkit_install.log` by performing a DIF against the `validate_benchmark.log` file supplied in the validation-tests directory as instructed when running the validation procedure selection

2 - Run SOAP Toolkit 2.0 Validation Procedure

as documented above in step 1. above.

Note: If a port number other than the default 8080 was used, then this will show up in the DIFF of the log and benchmark files.

Following is a log of a DIFF:

```
$ diff /ignore=(spacing,blank,trailing) -
_$  AXIS$ROOT: [AXIS-1_1.OPENVMS.VALIDATION-
TESTS] validate_soap_toolkit_install.log -
_$  AXIS$ROOT: [AXIS-1_1.OPENVMS.VALIDATION-TESTS] validate_benchmark.log
Number of difference sections found: 0
Number of difference records found: 0

DIFFERENCES /IGNORE=(SPACING,TRAILING_SPACES,BLANK_LINES)/MERGED=1-
  AXIS$ROOT: [AXIS-1_1.openvms.validation-
tests] VALIDATE_SOAP_TOOLKIT_INSTALL.LOG;1-
  AXIS$ROOT: [AXIS-1_1.openvms.validation-tests] validate_benchmark.log;1
$
```

Note: If a port number other than the default 8080 was used, then this will show up in the DIFF of the validation run log and benchmark files.

The following shows the contents of a successful validation test log:

```
+++++
BEGIN - Run Validation Test: Stock

Processing file /axis$root/axis-1_1/samples/stock/deploy.wsdd
<Admin>Done processing</Admin>
Test Command: java "samples.stock.GetInfo" -p 8080 "CSCO" "name"
CSCO: Cisco Systems
Processing file /axis$root/axis-1_1/samples/stock/undeploy.wsdd
<Admin>Done processing</Admin>
END - Run Validation Test: Stock
-----

+++++
BEGIN - Run Validation Test: Userguide example3

Processing file /axis$root/axis-1_1/samples/userguide/example3/deploy.wsdd
<Admin>Done processing</Admin>
```

```
Test Command: java "samples.userguide.example3.Client" -p 8080 "Look what I
typed!"
You typed : Look what I typed!
Processing file /axis$root/axis-1_1/samples/userguide/example3/undeploy.wsdd
<Admin>Done processing</Admin>
END - Run Validation Test: Userguide example3
-----
```

```
+++++
BEGIN - Run Validation Test: Userguide example4

Processing file /axis$root/axis-1_1/samples/userguide/example4/deploy.wsdd
<Admin>Done processing</Admin>
Test Command: java "samples.userguide.example4.Client" -p 8080
Hi, you've reached the testMethod.
END - Run Validation Test: Userguide example4
-----
```

```
+++++
BEGIN - Run Validation Test: Userguide example5

Processing file /axis$root/axis-1_1/samples/userguide/example5/deploy.wsdd
<Admin>Done processing</Admin>
Test Command: java "samples.userguide.example5.Client" -p 8080
Hi, Glen Daniels!
```

You seem to have ordered the following:

```
1 of item : mp3jukebox
4 of item : 1600mahBattery
```

If this had been a real order processing system, we'd probably have charged you about now.

```
END - Run Validation Test: Userguide example5
-----
```

```
Shutting down SimpleAxisServer...
<Admin> quitting.</Admin>
$
```

3. Add the following line to SYS\$MANAGER:SYLOGICALS.COM so that this logical is defined to make AXIS automatically available each time the system is rebooted.

```
$ define/sys/nolog/trans=concealed AXIS$ROOT DISK$: [AXIS.]
```

where *DISK\$: [AXIS.]* is the location where you installed the SOAP Toolkit Version 2.0.

Removing the Kit

To remove the SOAP Toolkit Version 2.0 kit, enter the following command:

```
$ @AXIS$ROOT: [000000] UNINSTALL_SOAP_TOOLKIT-2_0.COM
```

The following information is displayed:

SOAP Toolkit 2.0 (based on Apache Axis 1.1) Uninstall Procedure

Please enter the device:[directory] where SOAP Toolkit 2.0 is installed,
or "Q" to quit uninstall [SYS\$SYSDEVICE:[AXIS]] :

***** Warning *****

This procedure will delete all files in the following directories
and all subdirectories of the following directories. You may wish
to preserve any changes and additions you have made before continuing
with this procedure.

SYS\$SYSDEVICE:[AXIS.AXIS-1_1...]

Files modified by the installation procedure will be restored,
provided there have been no additional modifications since
SOAP Toolkit 2.0 (based on Apache Axis 1.1) was installed.

Would you like to continue this procedure? (Y, N [N]) Y

Removing AXIS-1_1...

SOAP Toolkit 2.0 (based on Apache Axis 1.1) uninstall has completed.

Note

You may wish to delete the top level directory that the
AXIS\$ROOT logical equates to (SYS\$SYSDEVICE:[AXIS]),
after deleting any files (including this uninstall utility)
that it may contain.

You may then wish to remove the AXIS\$ROOT logical name
definition from SYS\$MANAGER:SYLOGICALS.COM.

Release Notes

This section contains notes on the current release of the SOAP Toolkit for OpenVMS.

There are currently no release notes for the Version 2.0 kit.

Support

Customer Release Versions

Support for the SOAP Toolkit Version 2.0 and 1.1 for OpenVMS is provided by the Hewlett-Packard Company under existing OpenVMS service agreements through standard support channels.

See HP support for worldwide support center telephone numbers.

If you do not have a support contract and are not interested in acquiring one, you can informally exchange information with other users in the OpenVMS newsgroup `comp.os.vms`.

For technical feedback to the SOAP Toolkit for OpenVMS engineering team, please send mail to `OpenVMSSoapToolkit@hp.com`.