



IBM Software Group

WebSphere Application Server V6.1

SIP development tools



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This presentation focuses on the SIP development tools in the WebSphere® Application Server Toolkit Version 6.1.

Agenda

- SIP projects
- JSR 116 SIP servlets
- SIP deployment descriptor editor



Version 6.1 is the first release of WebSphere Application Server to support the session initiation protocol, or SIP. SIP is a protocol that helps negotiate a communication session, or a call, between two endpoints. The Application Server Toolkit V6.1 provides several tools for developing SIP applications including tools for working with SIP projects, creating JSR 116 compliant SIP servlets, and working with SIP deployment descriptors. You can also export SIP applications from the AST as SAR files.

Section

SIP application development tools

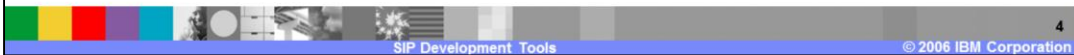
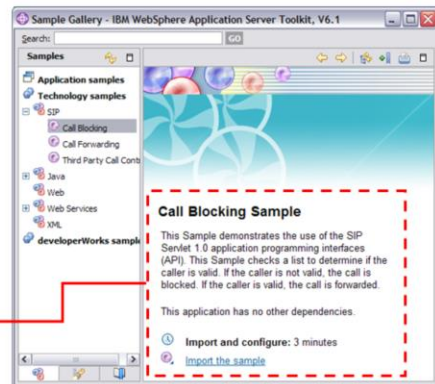


This section of the presentation covers the SIP application development tools provided with the Application Server Toolkit V6.1.

SIP application development tools

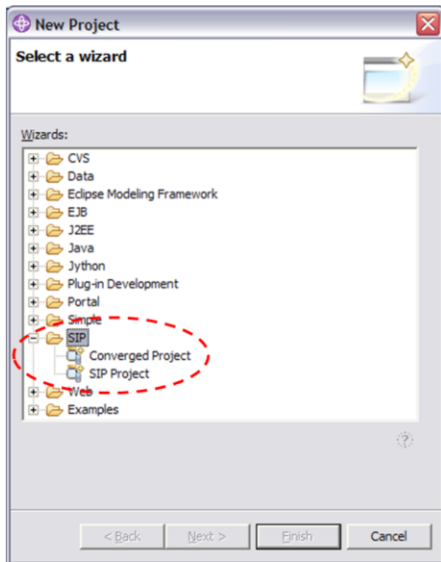
- The WebSphere Application Server Toolkit V6.1 provides several tools for developing SIP applications
 - ▶ SIP and converged HTTP/SIP projects
 - ▶ SIP servlet development (JSR 116)
 - ▶ SIP deployment descriptor editor
 - ▶ Import/export of SAR packages
 - ▶ SIP samples

From the **Sample Gallery**, quickly and easily import SIP sample applications



The Application Server Toolkit V6.1 offers a variety of tools to help develop SIP applications that can be deployed to WebSphere Application Server's new SIP container. Two new types of projects have been introduced – a SIP project and a converged HTTP/SIP project. The tools also support SIP servlet development based on the JSR 116 specification, along with tools for configuring and packaging SIP applications. It is important to note that, unlike other types of applications, such as Web applications or EJB™ applications, SIP applications cannot be directly deployed to a server from within the AST workbench. In order to deploy your SIP applications, you'll first need to export them – as either a stand-alone SAR package or as part of an EAR package – and then you can install that package to your server using the administrative console. The Application Server Toolkit also provides some fully functional SIP servlet application samples in the Sample Gallery.

Creating SIP projects



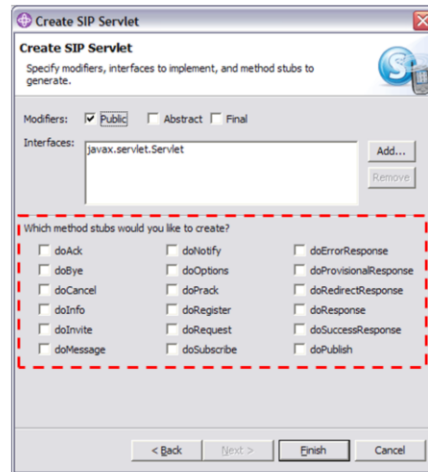
- SIP project creation wizards are available in the **File > New > Project** menu
- The AST supports two types of SIP projects
 - SIP Project
 - Creates a SIP project similar in layout to a Dynamic Web Project
 - A sip.xml file is included *instead of* a web.xml file
 - Converged Project
 - Project is set up for development of both SIP and HTTP servlets
 - Contains *both* web.xml and sip.xml files

SIP projects can be created using the AST's standard project creation wizards. While SIP projects contain only SIP servlets, converged projects contain both SIP and HTTP servlets. The project creation wizard allows you to specify a project name and a target runtime environment.

One example of a converged application is click-to-call. Think of this as an online directory, and when you've found the person you were searching for, you can click a button to call her. This could initiate a call to her computer using voice over IP, or it could initiate a call to her land line telephone. HTTP servlets would be managing the underlying directory, while SIP servlets would be brokering the actual call.

Creating SIP servlets

- Start the SIP Servlet wizard from the **File > New > Other > SIP > SIP Servlet** menu
- Generates method stubs for processing a variety of SIP messages
- SIP servlets are asynchronous
 - ▶ A request does not necessarily result in an immediate response
 - ▶ A single request can result in multiple responses
- SIP servlets are bidirectional
 - ▶ The server can send requests to the client
- Multiple SIP servlets can coexist in one application, based on well-defined rules



The AST also provides a wizard for generating SIP servlets. This wizard can be accessed through the File menu options and also by using the SIP deployment descriptor editor. The tools allow you to specify which method stubs you would like to include in your SIP servlet – each of these methods will be responsible for processing a particular type of SIP message. SIP servlet functionality differs from the functionality of HTTP servlets in two important ways: SIP servlets are both asynchronous and bi-directional. A SIP application can contain multiple SIP servlets. These servlets can all co-exist based on well-defined routing rules.

SIP deployment descriptors

- The SIP deployment descriptor editor is similar to the Web deployment descriptor editor
- Allows you to perform several application configuration tasks, including
 - ▶ Creating listeners
 - ▶ Adding servlet mappings
 - ▶ Configuring security
 - ▶ Specifying resource references
 - ▶ Providing initialization parameters



The SIP deployment descriptor editor is a multi-page editor that allows you to configure your SIP application and specify the parameters that you need. For example, different servlets in your application may be responsible for handling different types of SIP messages. In the deployment descriptor editor, you can add servlet mappings so that the SIP messages get routed to the appropriate servlet for processing. These rules can be based on a variety of different criteria, including the type of message, the address of the message sender, and so on. The deployment descriptor editor is a graphical interface for modifying the sip.xml configuration file.

Section

Summary and references

The last portion of the presentation contains a summary and references.

Summary

- The Application Server Toolkit V6.1 provides several SIP application development tools
 - ▶ SIP project and servlet creation wizards
 - ▶ SIP deployment descriptor editor
 - ▶ Ability to import/export SAR packages



The Application Server Toolkit provides several SIP development tools that you can use to write applications that take advantage of the new SIP container provided in WebSphere Application Server Toolkit V6.1. The AST offers SIP projects – both pure SIP projects and converged SIP/HTTP projects – and a SIP servlet creation wizard. The graphical SIP deployment descriptor editor allows you to modify your application configuration, and you can import and export SIP application packages in the form of SAR files.

References

- SIP RFCs
 - ▶ <http://www.ietf.org>
- Java™ SIP servlet specification
 - ▶ <http://www.jcp.org/en/jsr/detail?id=116>



This page provides some helpful SIP references.

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