

GENAPP 5.1 Liberty



Customer Search GENAPP Extension using Liberty Profile

Overview

Customer Search Web is a general insurance application (GENAPP) extension that demonstrates how you can use the Liberty WebSphere® Application Server profile in CICS® to use Java™ and Web Technologies together with COBOL to create rich CICS applications.

Customer Search Web consists of three core components:

- Web UI
- Servlet
- COMMAREA wrapper

Web UI is a JSP file that provides an input box for a customer number. On submit, an HTTP POST request is sent with the customer number as a parameter. An output table is provided to display the search results from the HTTP response.

Servlet is a Java program that listens on the HTTP POST URL, then extracts the customer number from the request. The customer number is input into a COMMAREA that is sent as a JCICS link() parameter to the GENAPP program LGICUS01.

COMMAREA wrapper is a Java class that provides methods to interact with a byte array that represents the COMMAREA defined in the LGICUS01 copybook. It additionally handles data conversion between UTF-8 and EBCDIC.

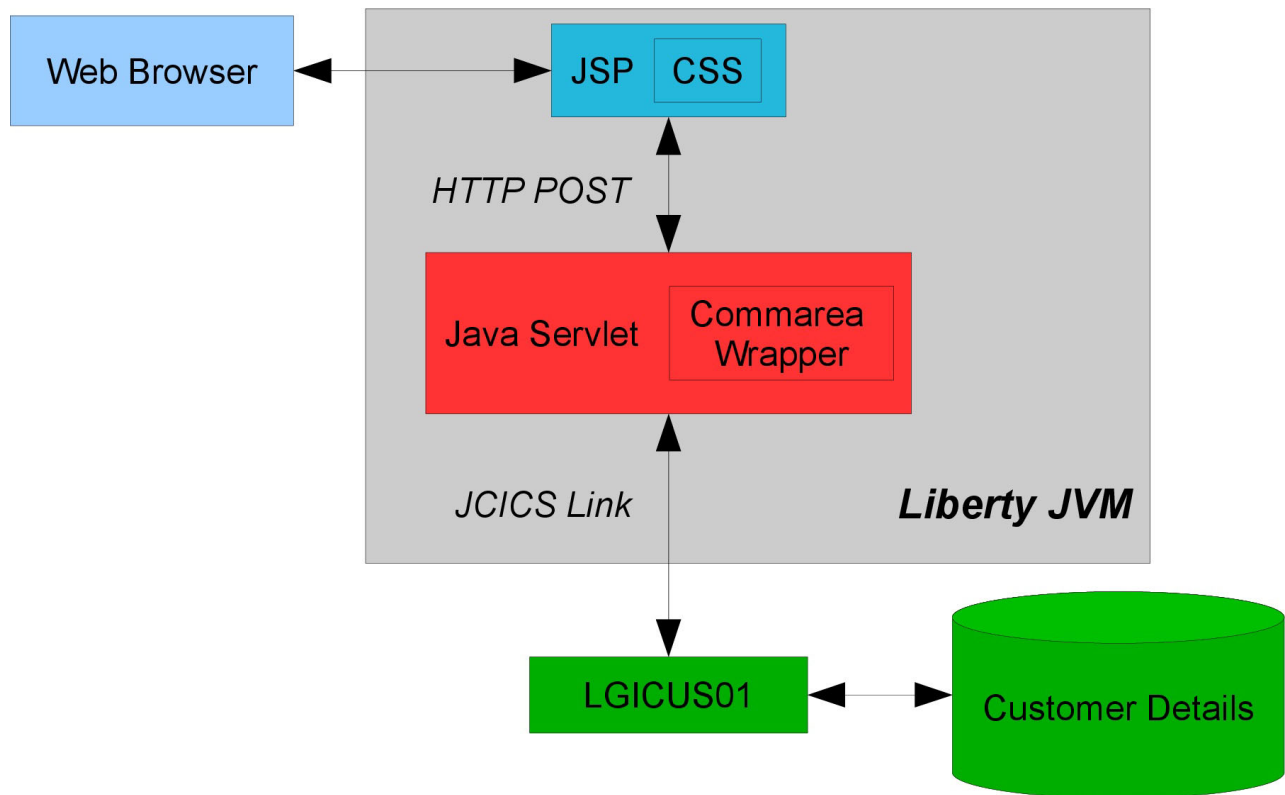






Figure 1. Application overview

Related information:

-  [General insurance application \(GENAPP\) for IBM CICS Transaction Server](#)
-  [Java support in CICS](#)
-  [Liberty profile in CICS](#)
-  [Data encoding with JCICS](#)

Prerequisites

- You must use CICS Transaction Server version 5.1 or later.
- You must install the CICS Explorer® SDK plug-in into an Eclipse environment (see: <http://eclipse.org>) and setup a z/OS® and CICS SM connection.

The CICS Explorer SDK is an Eclipse-based framework for developing extensions to the CICS Explorer. It also provides support for developing Java applications to run in any supported release of CICS. It provides support for JCICS and packaging applications to comply with the OSGi specifications. For more information about installing CICS Explorer SDK, see: http://pic.dhe.ibm.com/infocenter/cicsts/v5r1/topic/com.ibm.cics.ts.java.doc/topics/installing_sdk.html

- You must establish a connection between CICS Explorer® and your CICS® systems by providing details about the system connection, its location, and authentication requirements. By default, CICS Explorer attempts to connect by using the SSL protocol. If the SSL connection is not successful, the connection is attempted without SSL. For more information about configuring z/OS and CICS SM connections, see: http://pic.dhe.ibm.com/infocenter/cicsts/v5r1/topic/com.ibm.cics.ts.installation.doc/topics/explorer_configure_connection.html
- You must set up the target environment for Java development in CICS Explorer to be able to use the JCICS API. Ensure that `com.ibm.cics.server` and `org.eclipse.osgi` are selected in the Content tab of the New Target Definition window. See: http://pic.dhe.ibm.com/infocenter/ratdevz/v8r5/topic/com.ibm.cics.server.sdk.help/topics/setup_target_environment.html
- All JVM profiles must be placed in a directory that is accessible to the CICS regions.

Configuring a JVM server

About this task

A Liberty JVM server is required to run web applications in CICS.

An example of a Liberty JVM profile is shown in the following figure:

```
*****
#
JAVA_HOME=/usr/lpp/java/J7.0_64
WORK_DIR=.
LIBPATH_SUFFIX=/usr/lpp/db2910/lib
WLP_INSTALL_DIR=&USSHOME;/wlp
#
OSGI_BUNDLES=/usr/lpp/db2910/classes/db2jcc4.jar,\
              /usr/lpp/db2910/classes/db2jcc_license_cisuz.jar
OSGI_FRAMEWORK_TIMEOUT=60
#
*****
#
-Xgcpolicy:gencon
#
-Dcom.ibm.cics.jvmserver.wlp.autoconfigure=true
-Dcom.ibm.cics.jvmserver.wlp.server.http.port=12345
-Dfile.encoding=ISO-8859-1
#
```

Figure 2. Example Liberty JVM profile

Procedure

Create and install a Liberty enabled JVM Server in CICS region CICSTOR1

To create your own profile, you can copy the supplied profile, DFHWLP, from the installation directory to the directory that is specified by the JVMPROFILEDIR system initialization parameter. The profile that you copy requires further changes to make it suitable for your environment. If you change the name of the profile, it must be 1 - 8 characters in length.

For more information about how to set up a Liberty enabled JVM server, see http://pic.dhe.ibm.com/infocenter/cicsts/v5r1/topic/com.ibm.cics.ts.java.doc/JVMserver/config_jvmserver_liberty.html.

Deploying and running the web bundle

You must install the web component before you can run Customer Search Web.

Procedure

1. In the Java perspective, import the Genapp Customer Search Web project from the archive.
2. Create a CICS Bundle project to reference the Genapp Customer Search Web project:
 - a. Open the CICS Cloud perspective.
 - b. In the Project Explorer view, right-click and click **New > Project...**
 - c. Expand the CICS Resources folder, click **CICS Bundle Project**, and click **Next**.
 - d. Enter the project name Genapp Customer Search Web bundle and specify an appropriate version number for the bundle, such as 1.0.0 for the original version. Then, click **Finish**.
 - e. Add the web project by right-clicking the project and clicking **New > Include Dynamic Web Project in Bundle**. Select the Genapp Customer Search Web project.
 - f. In the **JVM Server** field, enter the name of the JVMSERVER resource, either DFHWLP or your own resource, which you set up in Configuring a JVM server. Then, click **Finish**.
3. Deploy the CICS bundle:
 - a. Export the project to zFS
 - b. Create a bundle definition
 - c. Install the bundle definition.

For more information about this step, see http://pic.dhe.ibm.com/infocenter/cicsts/v5r1/topic/com.ibm.cics.ts.java.doc/JVMserver/create_liberty_bundle.html.

4. Run the web bundle:
 - a. Open a web browser.
 - b. Enter the following URL:
`https://hostname:port/Genapp_Customer_Search`

Where:

hostname

Specifies the name of the host or IP address where you are running the Liberty JVM server.

port

Specifies the HTTPS port number that is configured in the Liberty server.xml file.

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