



WebSphere for DBAs

Mike Chaney

ChainLink Networking Solutions, Inc.

mikec@chainlink.com



Purpose

- ◆ How does WebSphere work
- ◆ To explore different ways to utilize WebSphere to make the DBA job easier
- ◆ Demonstrate via simple examples how to utilize WebSphere with IDS



Development Environment

- ◆ WebSphere Studio v5.1
 - Site Developer
 - Application Developer for J2EE
- ◆ Informix IDS v9.3
- ◆ WebSphere Application Server (optional)



WebSphere Overview

◆ What is WebSphere?

WebSphere Portal Server

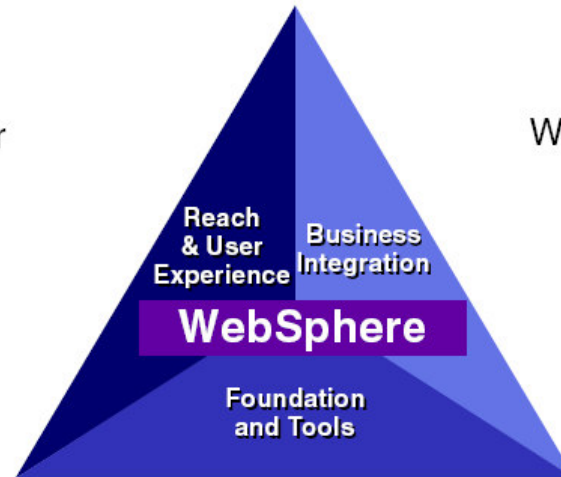
WebSphere Everyplace

WebSphere Commerce

WebSphere Business Integration

WebSphere MQ
Integrator Broker

WebSphere MQ



WebSphere Application Server

WebSphere Studio



WebSphere Studio

- ◆ Core Open Source Eclipse project
 - Developer community for plug ins
- ◆ Includes WebSphere Application Server
- ◆ Can be used with other J2EE servers (i.e. Apache Tomcat)
- ◆ Role based perspectives
 - Data perspective
 - Java Perspective
 - Web Perspective
 - J2EE Perspective
 - Server Perspective

J2EE - IBM WebSphere Studio Application Developer

File Edit Navigate Search Project Profile Run Window Help



J2EE Hierarchy

- Enterprise Applications
- Application Client Modules
- Connector Modules
- Web Modules
- EJB Modules
- Databases
- Servers
- Server Configurations

New Window

- Open Perspective
- Show View
- Hide Editors
- Lock the Toolbars
- Reset Toolbar Layout
- Customize Perspective...
- Save Perspective As...
- Reset Perspective
- Close Perspective
- Close All Perspectives
- Keyboard Shortcuts
- Switch to Editor... Ctrl+Shift+W
- Preferences



- Data
- Debug
- J2EE
- Java
- Profiling
- Other...

J2EE Hierarchy J2EE Navigator

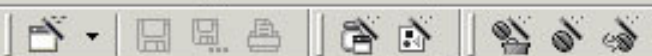
Outline
An outline is not available.

Tasks (0 items)

C	!	Description	Resource	In Folder

J2EE - IBM WebSphere Studio Application Developer

File Edit Navigate Search Project Profile Run Window Help



J2EE Hierarchy

- Enterprise Applications
- Application Client Modules
- Connector Modules
- Web Modules
- EJB Modules
- Databases
- Servers
- Server Configurations

New Window

- Open Perspective
- Show View
- Hide Editors
- Lock the Toolbars
- Reset Toolbar Layout
- Customize Perspective...
- Save Perspective As...
- Reset Perspective
- Close Perspective
- Close All Perspectives
- Keyboard Shortcuts
- Switch to Editor... Ctrl+Shift+W
- Preferences



- Data
- Debug
- J2EE
- Java
- Profiling
- Other...

Select Perspective

- Component Test
- CVS Repository Exploring
- Data
- Debug
- Install/Update
- J2EE (default)
- Java
- Java Browsing
- Java Type Hierarchy
- Plug-in Development
- Profiling
- Resource
- Server

OK Cancel

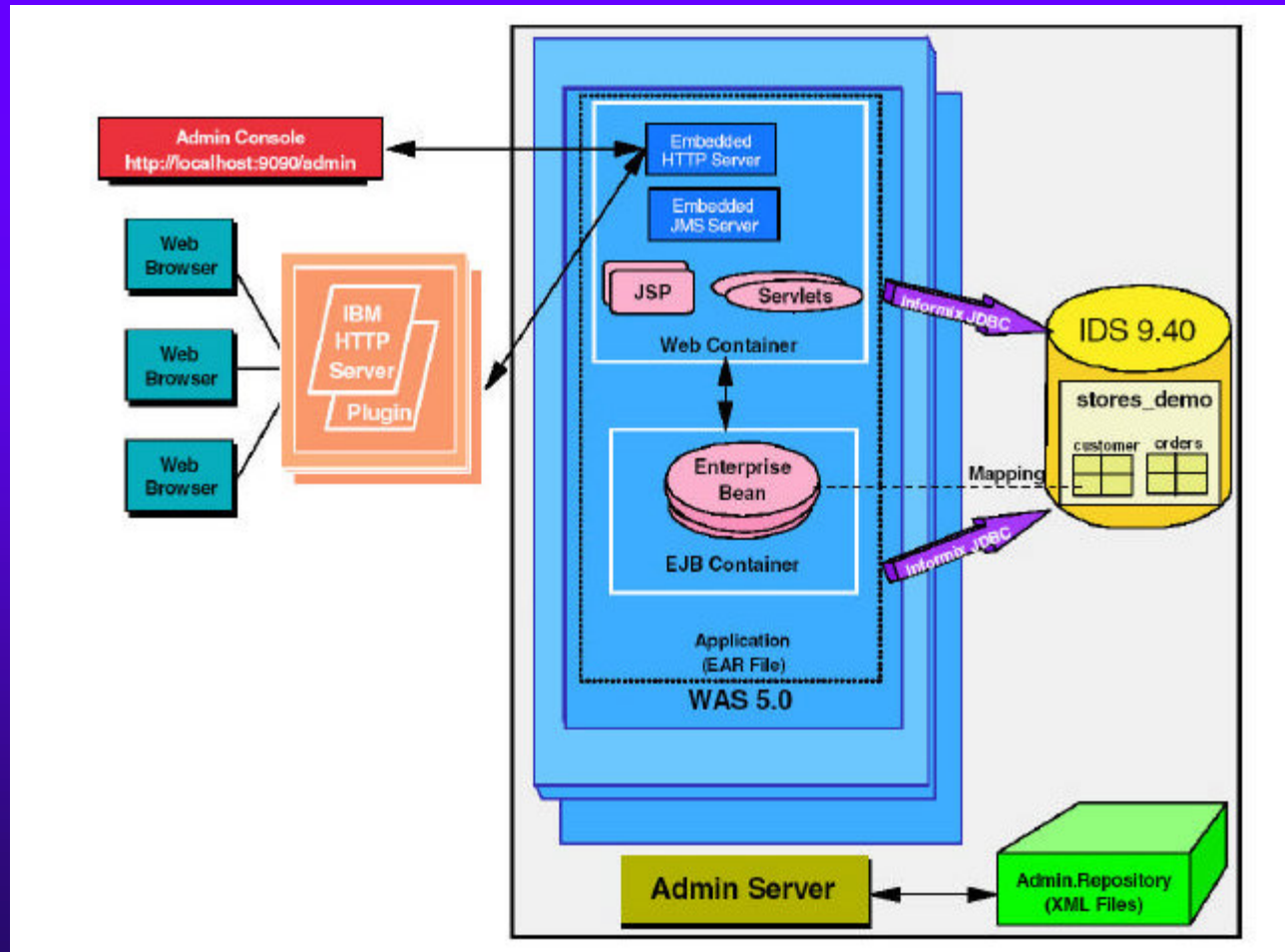
J2EE Hierarchy J2EE Navigator

Outline
An outline is not available.

Tasks (0 items)

C	!	Description	Resource	In Folder

Integrating IDS with WebSphere





Setup Server Environment

- ◆ JDBC Driver
- ◆ Informix Environment Variables
- ◆ JNDI Datasource



Install Informix JDBC Driver

Download the JDBC driver alone from:

- <http://www-3.ibm.com/software/data/informix/>

Server - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Profile Run Window Help

Navigator

- Servers
- WAIUGDemo
- WAIUGDemoClient
 - appClientModule
 - META-INF
 - SelectCustomer.class
 - SelectCustomer.java
 - .classpath
 - .project
- WAIUGDemoWeb

SelectCustomer.java WAIUG Demo Server

WebSphere Server

Server

Enter settings for the server.

Server name:

Enable JavaScript debugging

Server Configuration

- Servers
 - WAIUG Demo Server
- Server Configurations
 - WAIUG Demo Server

Server Configuration Paths Environment Web Data source Ports Variables Trace Security EJB J2C JMS Applications

Servers

Server	Status	Server State
WAIUG Demo Server	Stopped	The server should be republished

Servers Console

Writable

Server - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Profile Run Window Help

SelectCustomer.java | WAIUG Demo Server

Substitution Variables

Scope: localhost/localhost/server1

▶ Cell Settings

▼ Node Settings

Modify the substitution variables in the node.

Defined variables:

Name	Value	Description
CLOUDSCAPE_JDBC_DRIVER_...	\${WAS_LIBS_DIR}	The directory wh
INFORMIX_JDBC_DRIVER_PATH		The directory wh
SYBASE_JDBC_DRIVER_PATH		The directory wh
ORACLE_JDBC_DRIVER_PATH		The directory wh

Add... Edit... Remove

▼ Server Settings

Modify the substitution variables in the server.

Defined variables:

Name	Value	Description
SERVER_...	\${LOG_ROOT}/server1	The filesystem path to the directory w...
SERVER_...	\${SERVER_TEMP_DIR_P...	

Add... Edit...

Server Configuration | Paths | Environment | Web | Data source | Ports | Variables | Trace | Security | EJB | J2C | JMS | Applications

Server Configuration

Servers

Server	Status	Server State
WAIUG Demo Server	Stopped	The server should be republished

Servers Console

Writable

Server - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Profile Run Window Help

Substitution Variables
 Scope: localhost/localhost/server1

Cell Settings

Node Settings
 Modify the substitution variables in the node.
 Defined variables:

Name	Value	Description
SERVER_...	\${LOG_ROOT}/server1	The filesystem path to the directory w...
SERVER_...	\${SERVER_TEMP_DIR_P...	

Add... Edit... Remove

Edit a Variable

Name: INFORMIX_JDBC_DRIVER_PATH
 Value: C:\Informix\java\lib
 Description: The directory where contains the driver from Informix JDBC Provider.

OK Cancel

Add... Edit...

Server Configuration Paths Environment Web Data source Ports Variables Trace Security EJB J2C JMS Applications

Servers Console

Writable

Server - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Profile Run Window Help

Substitution Variables
 Scope: localhost/localhost/server1

Cell Settings

Node Settings
 Modify the substitution variables in the node.
 Defined variables:

Name	Value	Description
CLOUDSCAPE_JDBC_DRIVER_...	\${WAS_LIBS_DIR}	The directory wh
INFORMIX_JDBC_DRIVER_PATH	C:\informix\java\lib	The directory wh
SYBASE_JDBC_DRIVER_PATH		The directory wh
ORACLE_JDBC_DRIVER_PATH		The directory wh

Add... Edit... Remove

Server Settings
 Modify the substitution variables in the server.
 Defined variables:

Name	Value	Description
SERVER_...	\${LOG_ROOT}/server1	The filesystem path to the directory w...
SERVER_...	\${SERVER_TEMP_DIR_P...	

Add... Edit...

Server Configuration Paths Environment Web Data source Ports Variables Trace Security EJB J2C JMS Applications

Server Configuration

Server	Status	Server State
WAIUG Demo Server	Stopped	The server should be republished

Servers Console

Writable

Server - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Profile Run Window Help

Paths
 ws.ext.dirs
Class Path
 Change class path entries.

C:\Informix\java\lib\ifxjdbc.jar
 C:\Informix\java\lib\ifxjdbc.jar

Up
 Down
Add External JARs...
 Add External Folder...
 Add Folder...
 Add Path...
 Edit...
 Remove

Server Configuration Paths Environment Web Data source Ports Variables Trace Security EJB J2C JMS Applications

Server Configuration
 Servers
 WAIUG Demo Server
 Server Configurations
 WAIUG Demo Server

Servers

Server	Status	Server State
WAIUG Demo Server	Stopped	The server should be republished

Servers Console

Writable

Server - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Profile Run Window Help

Navigator

- Servers
- WAIUGDemo
- WAIUGDemoClient
 - appClientModule
 - META-INF
 - SelectCustomer.class
 - SelectCustomer.java
 - .classpath
 - .project
- WAIUGDemoWeb

SelectCustomer.java

Security Options

Scope: localhost/localhost/server1

Cell Settings

Enable and setup security.

Enable security (Not supported on Windows 98 and Windows ME)

Local OS Authentication:

Server ID:

Server password:

Confirmed password:

Enforce Java 2 security

JAAS Authentication Entries:

Alias	User ID	Description

SSL Configuration Repertoires:

Server Configuration

- Servers
 - WAIUG Demo Server
- Server Configurations
 - WAIUG Demo Server

Server | Configuration | Paths | Environment | Web | Data source | Ports | Variables | Trace | Security | EJB | J2C | JMS | Applications

Servers

Server	Status	Server State
WAIUG Demo Server	Stopped	The server should be republished

Servers | Console

Writable

Server - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Profile Run Window Help

SelectCustomer.java WAIUG Demo Server

Security Options

Scope: localhost/localhost/server 1

Cell Settings

Enable and setup security.

Enable security (Not supported on Windows 98 and Windows ME)

Local OS Authentication:

Server ID:

Enfo

JAAS Au

Alias

Informix User
 User ID: informix
 Password: *****
 Description:

SSL Configuration Repertoires:

Server Configuration Paths Environment Web Data source Ports Variables Trace Security EJB J2C JMS Applications

Servers

Server	Status	Server State
WAIUG Demo Server	Stopped	The server should be republished

Servers Console

Writable

Server - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Profile Run Window Help

Navigator

- Servers
- WAIUGDemo
- WAIUGDemoClient
 - appClientModule
 - META-INF
 - SelectCustomer.class
 - SelectCustomer.java
 - .classpath
 - .project
- WAIUGDemoWeb

SelectCustomer.java WAIUG Demo Server

Security Options

Scope:

Cell Settings

Enable and setup security.

Enable security (Not supported on Windows 98 and Windows ME)

Local OS Authentication:

Server ID:

Server password:

Confirmed password:

Enforce Java 2 security

JAAS Authentication Entries:

Alias	User ID	Description
Informix User	informix	

SSL Configuration Repertoires:

Server | Configuration | Paths | Environment | Web | Data source | Ports | Variables | Trace | Security | EJB | J2C | JMS | Applications

Servers

Server	Status	Server State
WAIUG Demo Server	Stopped	The server should be republished

Servers Console

Writable

Server - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Profile Run Window Help

Scope:

Node Settings

Server Settings

Create and manage data sources.

JDBC provider list:

Name	Implementation class name	Add...
Cloudscape JDBC ...	com.ibm.db2j.jdbc.DB2jConnectionPoolDataSource	Edit...
Default DB2 JDBC ...	COM.ibm.db2.jdbc.DB2ConnectionPoolDataSource	Remove

Data source defined in the JDBC provider selected above:

Name	JNDI Name	Type	Add...
			Edit...
			Remove

Resource properties defined in the data source selected above:

Name	Value	Type

Servers Configuration Paths Environment Web Data source Ports Variables Trace Security EJB J2C JMS Applications

Servers

Server	Status	Server State
WAIUG Demo Server	Stopped	The server should be republished

Servers Console

Writable

Server - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Profile Run Window Help

Navigator

- Servers
- WAIUGDemo
- WAIUGDemoClient
 - appClientModule
 - META-INF
 - SelectCustomer.class
 - SelectCustomer.java
 - .classpath
 - .project
- WAIUGDemoWeb

SelectCustomer.java

Data sources

Scope: localhost/localhost/server1

Node Settings

Server Settings

Create and manage data sources.

JDBC provider list:

Name	Implementation class name

Data source defined in the JDBC provider selected above:

Name	JNDI Name	Type

Resource properties defined in the data source selected above:

Name	Value	Type

Server Configuration

- Servers
 - WAIUG Demo Server
- Server Configurations
 - WAIUG Demo Server

Server | Configuration | Paths | Environment | Web | Data source | Ports | Variables | Trace | Security | EJB | J2C | JMS | Applications

Servers

Server	Status	Server State
WAIUG Demo Server	Stopped	The server should be republished

Servers | Console

Writable

Server - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Profile Run Window Help

Navigator

- Servers
- WAIUGDemo
- WAIUGDemoClient
 - appClientModule
 - META-INF
 - SelectCustom
 - SelectCustom
 - .classpath
 - .project
 - WAIUGDemoWeb

Server Configuration

- Servers
 - WAIUG Demo Ser
- Server Configurations
 - WAIUG Demo Ser

Create a JDBC Provider

Select the type of JDBC provider to create.

Database type:

- User-defined
- IBM DB2
- Cloudscape
- Informix
- Sybase
- Oracle

JDBC provider type:

- Informix JDBC Driver
- Informix JDBC Driver (XA)

Description: Informix JDBC Driver

< Back Next > Finish Cancel

Servers Console

Writable

Server - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Profile Run Window Help

Navigator

- Servers
- WAIUGDemo
- WAIUGDemoClient
 - appClientModule
 - META-INF
 - SelectCustom
 - SelectCustom
 - .classpath
 - .project
 - WAIUGDemoWeb

Server Configuration

- Servers
 - WAIUG Demo Ser
 - Server Configurations
 - WAIUG Demo Ser

SelectCustomer.java

WAIUG Demo Server

Create a JDBC Provider

Create a JDBC Provider

Enter the properties of the JDBC provider.

Name: Informix JDBC Driver

Description: Informix JDBC Driver

Implementation class name: com.informix.jdbcx.IfxConnectionPoolDataSource

Class path:

- \$(INFORMIX_JDBC_DRIVER_PATH)/ifxjdbc.jar
- \$(INFORMIX_JDBC_DRIVER_PATH)/ifxjdbcx.jar

Native path:

Buttons: Add External JARs..., Add Path..., Remove

Buttons: < Back, Next >, Finish, Cancel

Console

Writable

Server - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Profile Run Window Help

Data sources
 Scope:

Node Settings

Server Settings
 Create and manage data sources.

JDBC provider list:

Name	Implementation class name
Informix JDBC Driver	com.informix.jdbcx.IfxConnectionPoolDataSource

Data source defined in the JDBC provider selected above:

Name	JNDI Name	Type

Resource properties defined in the data source selected above:

Name	Value	Type

Server Configuration | Paths | Environment | Web | Data source | Ports | Variables | Trace | Security | EJB | J2C | JMS | Applications

Servers | Console

Writable

Server - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Profile Run Window Help

Navigator

- Servers
- WAIUGDemo
- WAIUGDemoClient
 - appClientModule
 - META-INF
 - SelectCustomer.class
 - SelectCustomer.java
 - .classpath
 - .project
 - WAIUGDemoWeb

Server Configuration

- Servers
 - WAIUG Demo Server
- Server Configurations
 - WAIUG Demo Server

SelectCustomer.java

Create a Data Source

Create a Data Source

Select the type of data source to create.

Select the type of JDBC provider:

- Informix JDBC Driver

Select the data source type:

- Version 5.0 data source
- Version 4.0 data source

Buttons: Add..., Edit..., Remove

Buttons: Add..., Edit..., Remove

Buttons: < Back, Next >, Finish, Cancel

Security | EJB | J2C | JMS | Applications

Server State

The server should be republished

Servers Console

Writable

Server - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Profile Run Window Help

Modify Data Source

Edit the settings of the data source.

Modify Data Source

Name: Stores Datasource

JNDI name: jdbc/storesDS

Description: New JDBC Datasource

Category:

Statement cache size: 10

Data source helper class name: com.ibm.websphere.rsadapter.InformixDataStoreHelper

Connection timeout: 1800

Maximum connections: 10

Minimum connections: 1

Reap time: 180

Unused timeout: 1800

Aged timeout: 0

Purge policy: EntirePool

Component-managed authentication alias: Informix User

Container-managed authentication alias: Informix User

Use this data source in container managed persistence (CMP)

< Back Next > Finish Cancel

Navigator

- Servers
- WAIUGDemo
- WAIUGDemoClient
 - appClientModule
 - META-INF
 - SelectCustom...
 - SelectCustom...
 - .classpath
 - .project
 - WAIUGDemoWeb

Server Configuration

- Servers
 - WAIUG Demo Serv
- Server Configurations
 - WAIUG Demo Serv

2C | JMS | Applications

te

should be republished

Writable

Server - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Profile Run Window Help

Create a Data Source

Modify Resource Properties
Edit the resource properties for this data source.

Resource Properties:

Name	Description
databaseName	This is a required property. Th
serverName	This is a required property. Th
portNumber	This is a required property. Th
ifxIFXHOST	This is a required property. Th
informixLockModeWait	This is a required property,By

Name: databaseName
Type: java.lang.String
Required: Yes
Value: stores_demo
Description: This is a required property. The database name. For example, enter sample to make your Data Sou

< Back Next > Finish Cancel

Servers Console

Writable

Server - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Profile Run Window Help

Create a Data Source

Modify Resource Properties
Edit the resource properties for this data source.

Resource Properties:

Name	Description
databaseName	This is a required property. Th
serverName	This is a required property. Th
portNumber	This is a required property. Th
ifxIFXHOST	This is a required property. Th
informixLockModeWait	This is a required property, Bv

Name: serverName
Type: java.lang.String
Required: Yes
Value: ol_artemis
Description: This is a required property. The name of the Informix instance on the physical machine

< Back Next > Finish Cancel

Servers Console

Writable

Server - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Profile Run Window Help

Create a Data Source

Modify Resource Properties
Edit the resource properties for this data source.

Resource Properties:

Name	Description
databaseName	This is a required property. Th
serverName	This is a required property. Th
portNumber	This is a required property. Th
ifxIFXHOST	This is a required property. Th
informixLockModeWait	This is a required property,By

Name: portNumber
Type: java.lang.Integer
Required: Yes
Value: 1526
Description: This is a required property. The TCP/IP port number of the Informix instance

< Back Next > Finish Cancel

Servers Console

2C | JMS | Applications

te

should be republished

Writable

Server - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Profile Run Window Help

Create a Data Source

Modify Resource Properties
Edit the resource properties for this data source.

Resource Properties:

Name	Description
databaseName	This is a required property. Th
serverName	This is a required property. Th
portNumber	This is a required property. Th
ifxIFXHOST	This is a required property. Th
informixLockModeWait	This is a required property, Bv

Name: ifxIFXHOST
Type: java.lang.String
Required: Yes
Value:
Description:

< Back Next > Finish Cancel

Servers Console

2C JMS Applications
te
should be republished

Writable

Server - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Profile Run Window Help

Scope:

Node Settings

Server Settings

Create and manage data sources.

JDBC provider list:

Name	Implementation class name	Add...	Edit...	Remove
Informix JDBC Driver	com.informix.jdbcx.IfxConnectionPoolDataSource			

Data source defined in the JDBC provider selected above:

Name	JNDI Name	Type	Add...	Edit...	Remove
Stores Datasource	jdbc/storesDS	V5			

Resource properties defined in the data source selected above:

Name	Value	Type

Servers

Server	Status	Server State
WAIUG Demo Server	Stopped	The server should be republished

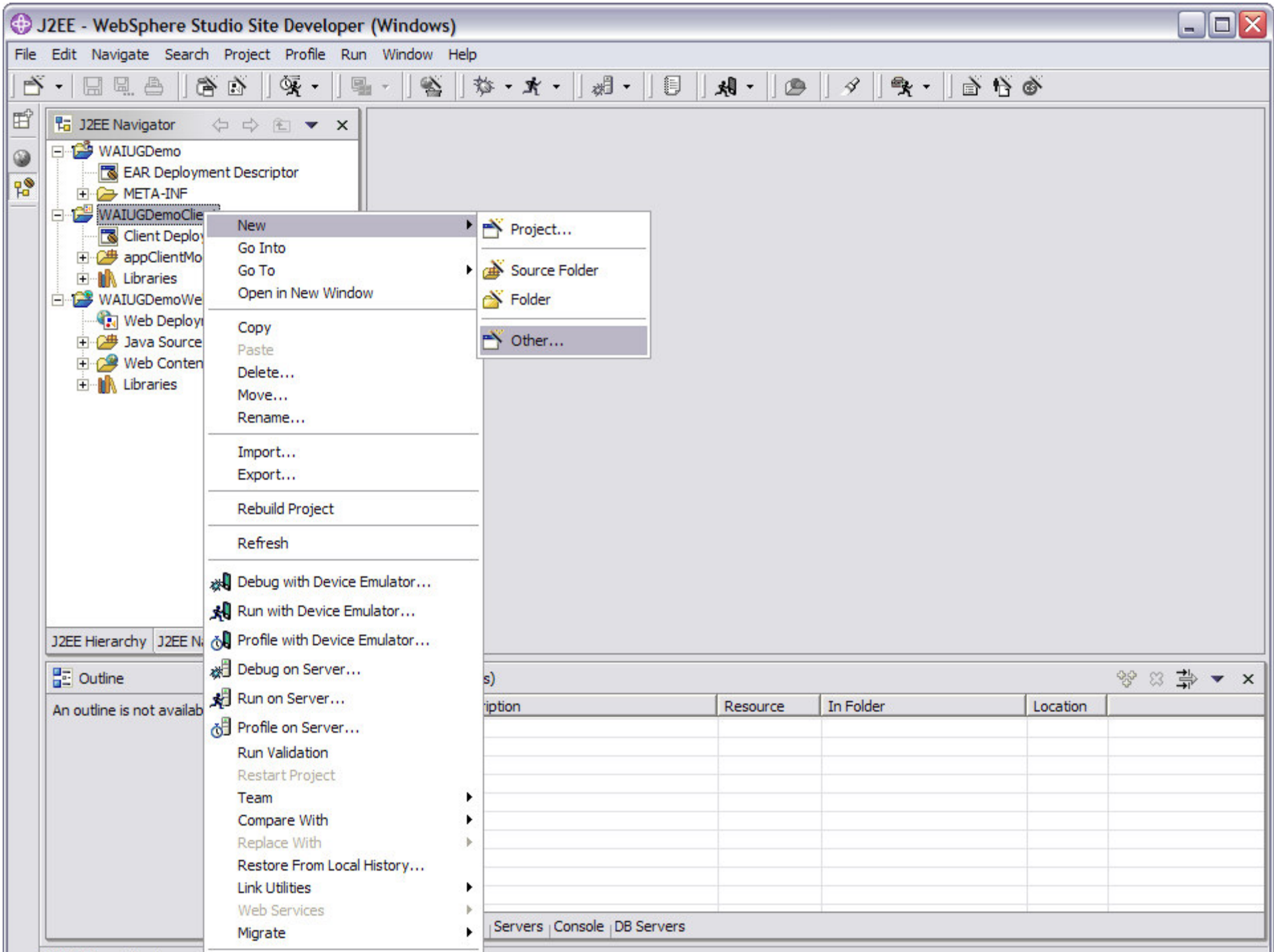
Servers Console

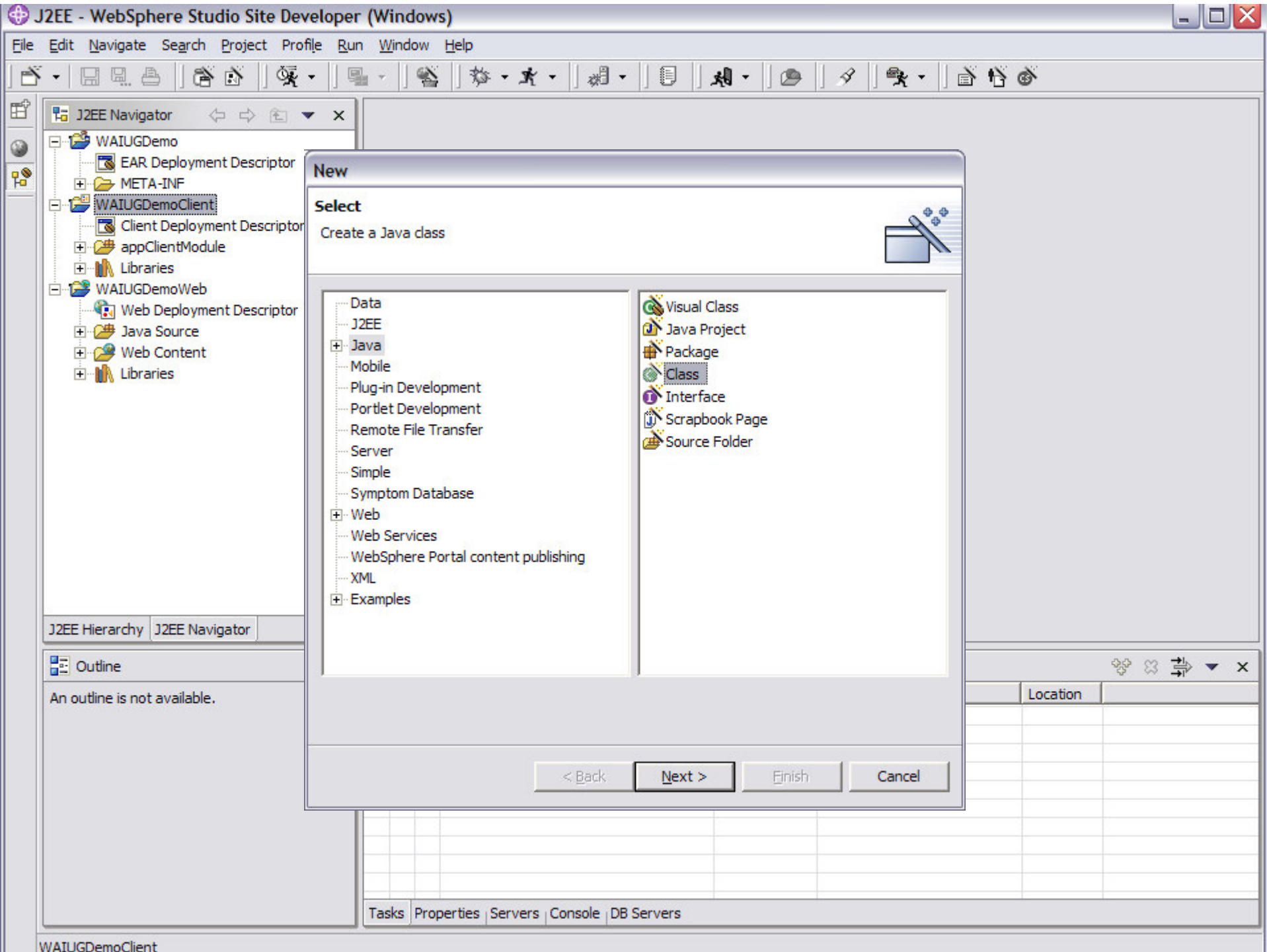
Writable



Simple Java Example

- ◆ WebSphere Studio as an IDE
- ◆ Standalone Java Application





New

Select

Create a Java class

- Data
- J2EE
- + Java
- Mobile
- Plug-in Development
- Portlet Development
- Remote File Transfer
- Server
- Simple
- Symptom Database
- + Web
- Web Services
- WebSphere Portal content publishing
- XML
- + Examples

- Visual Class
- Java Project
- Package
- Class
- Interface
- Scrapbook Page
- Source Folder

< Back

Next >

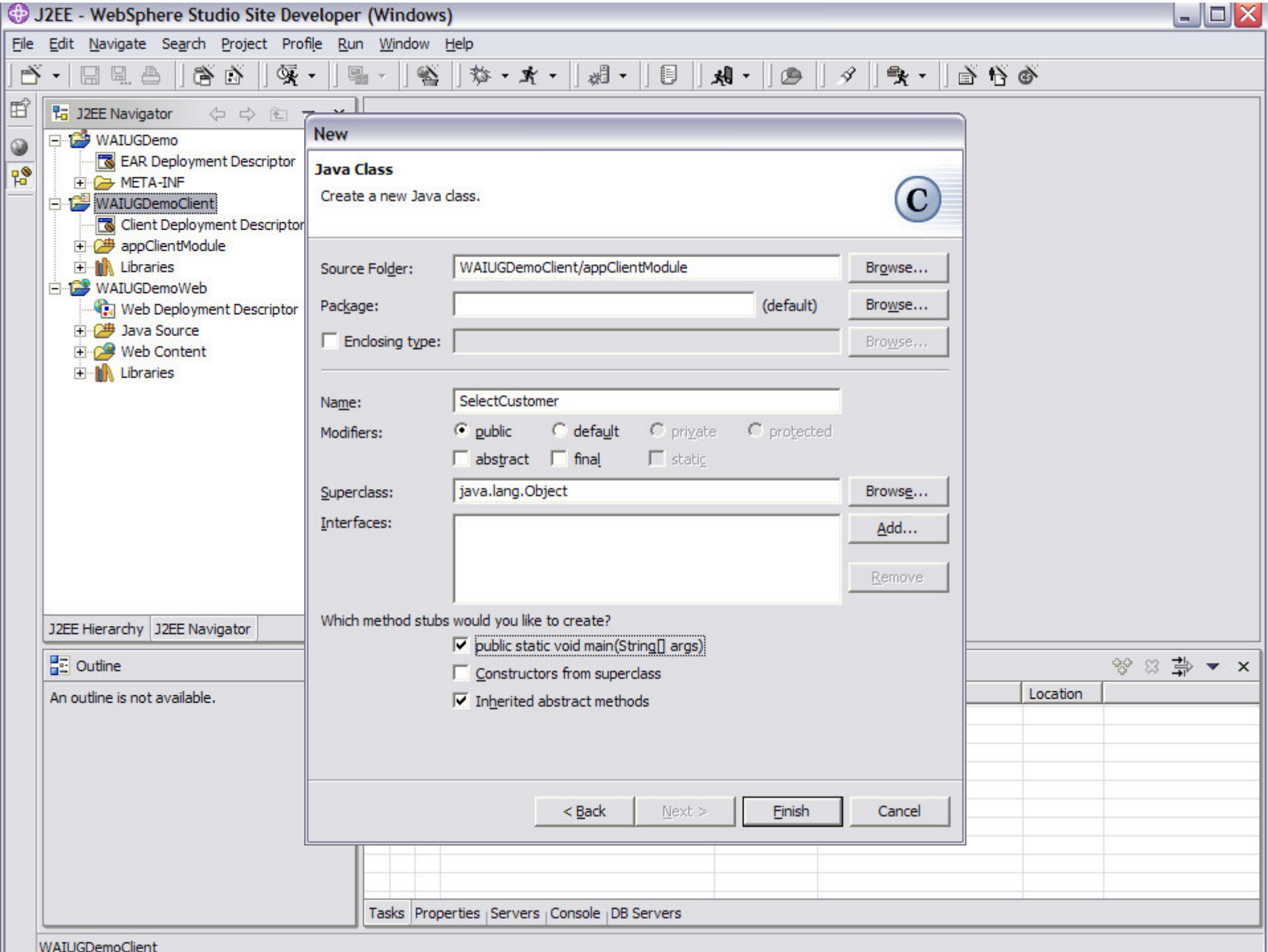
Finish

Cancel

Location

Tasks Properties Servers Console DB Servers

WAIUGDemoClient



J2EE Navigator

- WAIUGDemo
 - EAR Deployment Descriptor
 - META-INF
- WAIUGDemoClient
 - Client Deployment Descriptor
 - appClientModule
 - (default package)
 - SelectCustomer.java
 - META-INF
 - Libraries
- WAIUGDemoWeb
 - Web Deployment Descriptor
 - Java Source
 - Web Content
 - Libraries

```
/**
 * @author mikec
 *
 * To change this generated comment edit the template variable "typecomment":
 * Window>Preferences>Java>Templates.
 * To enable and disable the creation of type comments go to
 * Window>Preferences>Java>Code Generation.
 */
public class SelectCustomer {

    public static void main(String[] args) {

    }

}
```

Outline

- SelectCustomer
 - main(String[])

Tasks (0 items)

C	!	Description	Resource	In Folder	Location

Tasks Properties Servers Console DB Servers

J2EE Navigator

- WAIUGDemo
 - EAR Deployment Descriptor
 - META-INF
- WAIUGDemoClient
 - Client Deployment Descriptor
 - appClientModule
 - (default package)
 - SelectCustomer.java
 - META-INF
 - Libraries
- WAIUGDemoWeb
 - Web Deployment Descriptor
 - Java Source
 - Web Content
 - Libraries

```
SelectCustomer.java
+ mikec.customer.address1,
+ "mikec.customer.address2, "
+ "mikec.customer.city, "
+ "mikec.customer.state, "
+ "mikec.customer.zipcode, "
+ "mikec.customer.phone "
+ "FROM "
+ "mikec.customer "
+ "WHERE "
+ "mikec.customer.customer_num = ?");
stmt.setInt(1,102);
ResultSet rs = stmt.executeQuery();

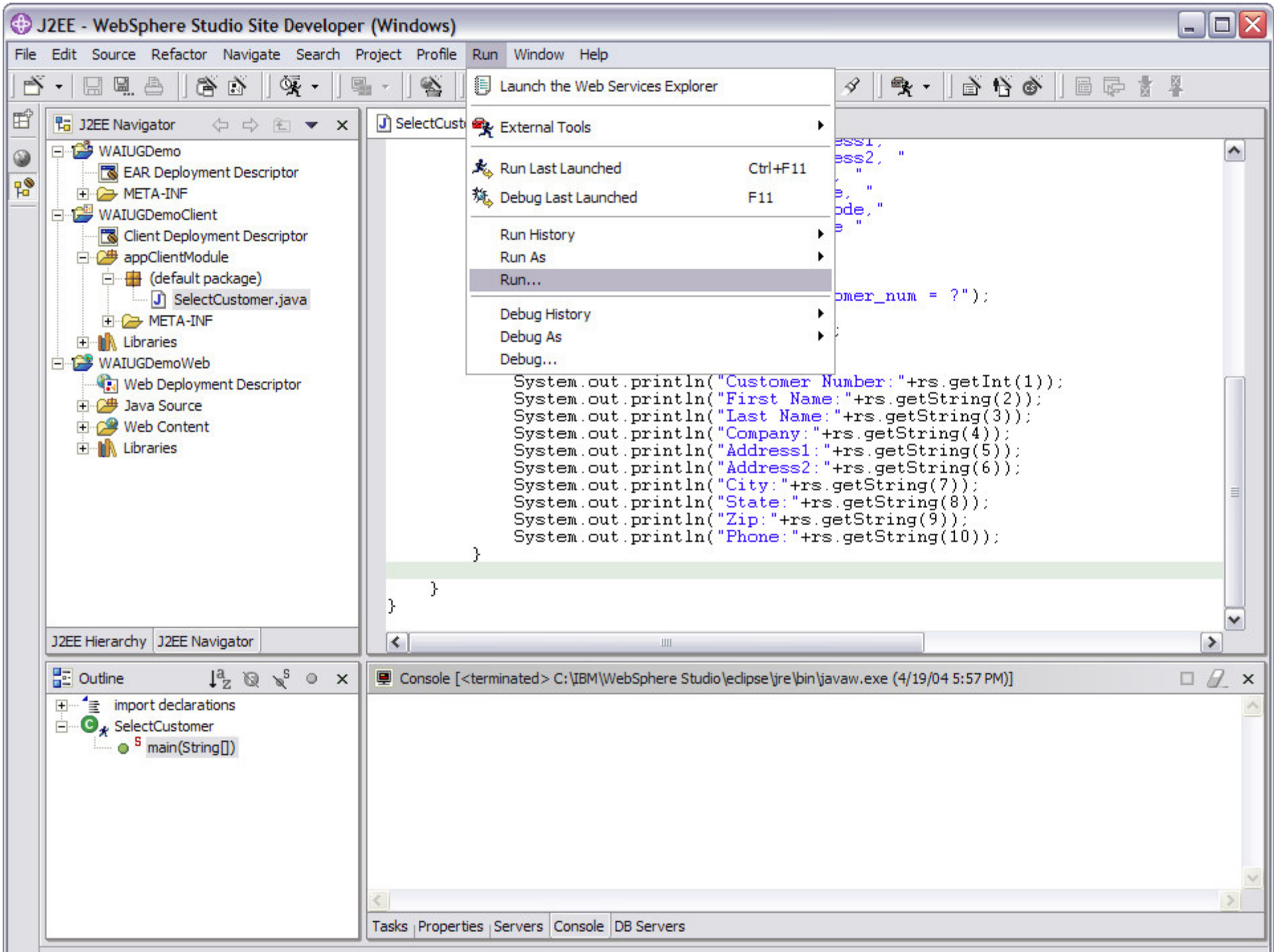
while (rs.next()){
    System.out.println("Customer Number:"+rs.getInt(1));
    System.out.println("First Name:"+rs.getString(2));
    System.out.println("Last Name:"+rs.getString(3));
    System.out.println("Company:"+rs.getString(4));
    System.out.println("Address1:"+rs.getString(5));
    System.out.println("Address2:"+rs.getString(6));
    System.out.println("City:"+rs.getString(7));
    System.out.println("State:"+rs.getString(8));
    System.out.println("Zip:"+rs.getString(9));
    System.out.println("Phone:"+rs.getString(10));
}
}
```

Outline

- import declarations
- SelectCustomer
 - main(String[])

Tasks (0 items)

C	!	Description	Resource	In Folder	Location



J2EE - WebSphere Studio Site Developer (Windows)

File Edit Source Refactor Navigate Search Project Profile Run Window Help

Launch Configurations

Create, manage, and run launch configurations

Select a type of configuration to create, and press the 'New' button

Launch Configurations:

- Java Application
- Java Bean / Applet
- JUnit
- Run-time Workbench
- Server
- WebSphere v5 Applicatio

New Delete

Run Close

Tasks Properties Servers Console DB Servers

Writable Insert 52 : 1

J2EE - WebSphere Studio Site Developer (Windows)

File Edit Source Refactor Navigate Search Project Profile Run Window Help

Launch Configurations

Create, manage, and run launch configurations

Launch Configurations: Name: SelectCustomer

- Java Application
 - SelectCustomer
- Java Bean / Applet
- JUnit
- Run-time Workbench
- Server
- WebSphere v5 Applicatio

Main Arguments JRE Classpath Source Common

Project: WAIUGDemoClient Browse...

Main class: SelectCustomer Search...

Include external jars when searching for a main class

New Delete Apply Revert Run Close

Tasks Properties Servers Console DB Servers

Writable Insert 52 : 1

J2EE - WebSphere Studio Site Developer (Windows)

File Edit Source Refactor Navigate Search Project Profile Run Window Help

Launch Configurations

Create, manage, and run launch configurations

Launch Configurations: Name: SelectCustomer

Java Application
SelectCustomer
Java Bean / Applet
JUnit
Run-time Workbench
Server
WebSphere v5 Applicatio

Main Arguments JRE Classpath Source Common

User classes Bootstrap classes

- SERVERJDK_50_PLUGINDIR/jre/lib/rt.jar [SERVERJDK_50_PLUGINDIR/src.jar/SERVERJDK_!
- WAIUGDemoClient
- WAS_50_PLUGINDIR/lib/j2ee.jar
- WAS_50_PLUGINDIR/lib/ivjejb35.jar

Use default class path

New Delete Apply Revert Run Close

Tasks Properties Servers Console DB Servers

Writable Insert 52 : 1

J2EE - WebSphere Studio Site Developer (Windows)

File Edit Source Refactor Navigate Search Project Profile Run Window Help

Launch Configurations

Create, manage, and run launch configurations

Launch Configurations: Name: SelectCustomer

Java Application
SelectCustomer
Java Bean / Applet
JUnit
Run-time Workbench
Server
WebSphere v5 Applicatio

Main Arguments JRE Classpath Source Common

User classes Bootstrap classes

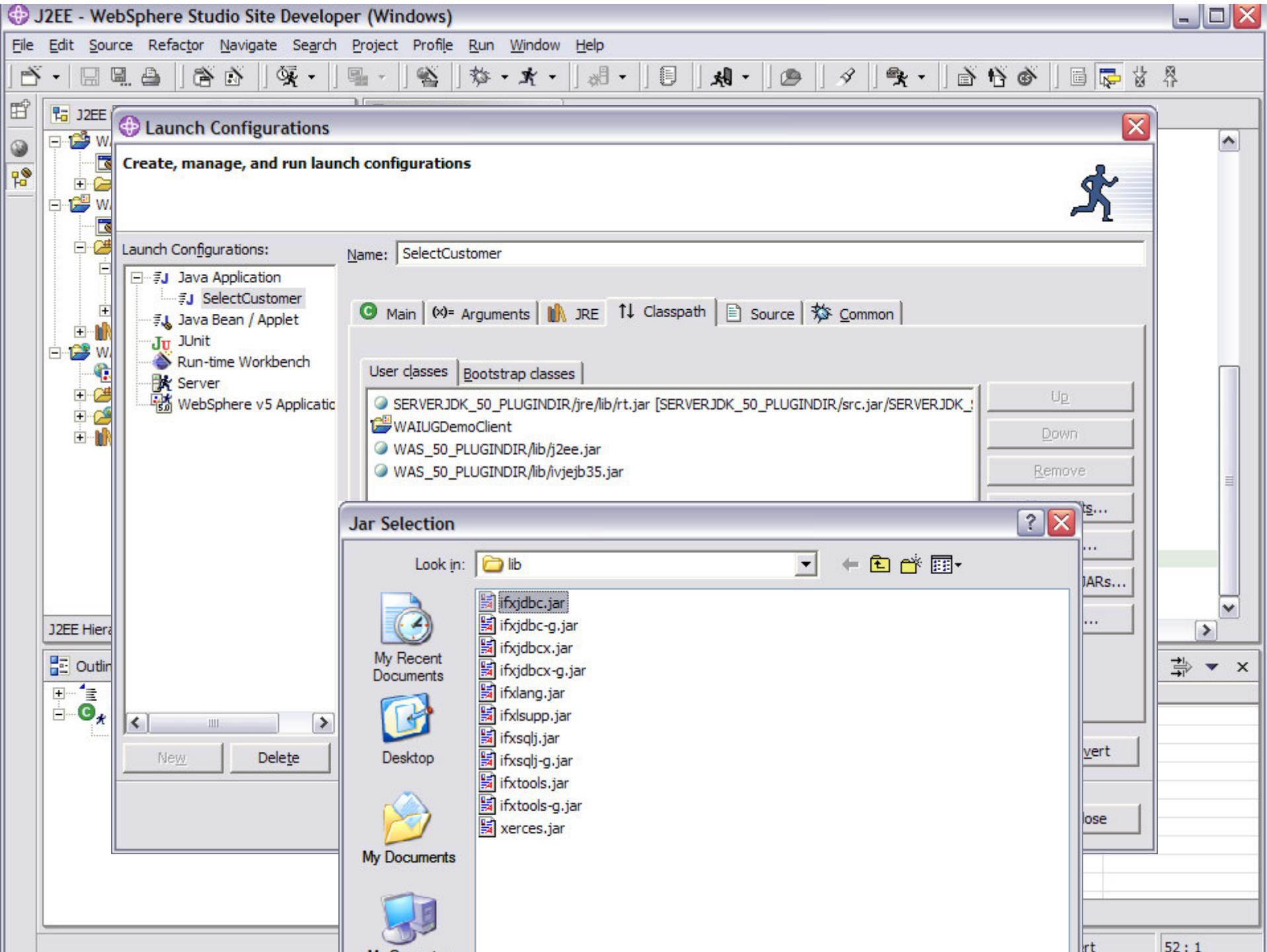
- SERVERJDK_50_PLUGINDIR/jre/lib/rt.jar [SERVERJDK_50_PLUGINDIR/src.jar/SERVERJDK_!
- WAIUGDemoClient
- WAS_50_PLUGINDIR/lib/j2ee.jar
- WAS_50_PLUGINDIR/lib/ivjejb35.jar

Use default class path

New Delete Apply Revert Run Close

Tasks Properties Servers Console DB Servers

Writable Insert 52 : 1



J2EE - WebSphere Studio Site Developer (Windows)

File Edit Source Refactor Navigate Search Project Profile Run Window Help

Launch Configurations

Create, manage, and run launch configurations

Launch Configurations: Name: SelectCustomer

Main Arguments JRE Classpath Source Common

User classes Bootstrap classes

- SERVERJDK_50_PLUGINDIR/jre/lib/rt.jar [SERVERJDK_50_PLUGINDIR/src.jar/SERVERJDK_...
- WAIUGDemoClient
- WAS_50_PLUGINDIR/lib/j2ee.jar
- WAS_50_PLUGINDIR/lib/ivjejb35.jar
- C:/Informix/java/lib/afxjdbc.jar

Ug Down Remove Add Projects... Add JARs... Add External JARs... Advanced...

Use default class path

New Delete Apply Revert Run Close

Tasks Properties Servers Console DB Servers

Writable Insert 52 : 1

J2EE - WebSphere Studio Site Developer (Windows)

File Edit Source Refactor Navigate Search Project Profile Run Window Help

J2EE Navigator

- WAIUGDemo
 - EAR Deployment Descriptor
 - META-INF
- WAIUGDemoClient
 - Client Deployment Descriptor
 - appClientModule
 - (default package)
 - SelectCustomer.java
 - META-INF
 - Libraries
- WAIUGDemoWeb
 - Web Deployment Descriptor
 - Java Source
 - Web Content
 - Libraries

SelectCustomer.java

```
+ "mikec.customer.address1, "
+ "mikec.customer.address2, "
+ "mikec.customer.city, "
+ "mikec.customer.state, "
+ "mikec.customer.zipcode, "
+ "mikec.customer.phone "
+ "FROM "
+ "mikec.customer "
+ "WHERE "
+ "mikec.customer.customer_num = ?");
stmt.setInt(1,102);
ResultSet rs = stmt.executeQuery();

while (rs.next()){
    System.out.println("Customer Number:"+rs.getInt(1));
    System.out.println("First Name:"+rs.getString(2));
    System.out.println("Last Name:"+rs.getString(3));
    System.out.println("Company:"+rs.getString(4));
    System.out.println("Address1:"+rs.getString(5));
    System.out.println("Address2:"+rs.getString(6));
    System.out.println("City:"+rs.getString(7));
    System.out.println("State:"+rs.getString(8));
    System.out.println("Zip:"+rs.getString(9));
    System.out.println("Phone:"+rs.getString(10));
}
}
```

J2EE Hierarchy J2EE Navigator

Outline

- import declarations
- SelectCustomer
 - main(String[])

Console [<terminated> C:\IBM\WebSphere Studio\edipse\jre\bin\javaw.exe (4/19/04 6:03 PM)]

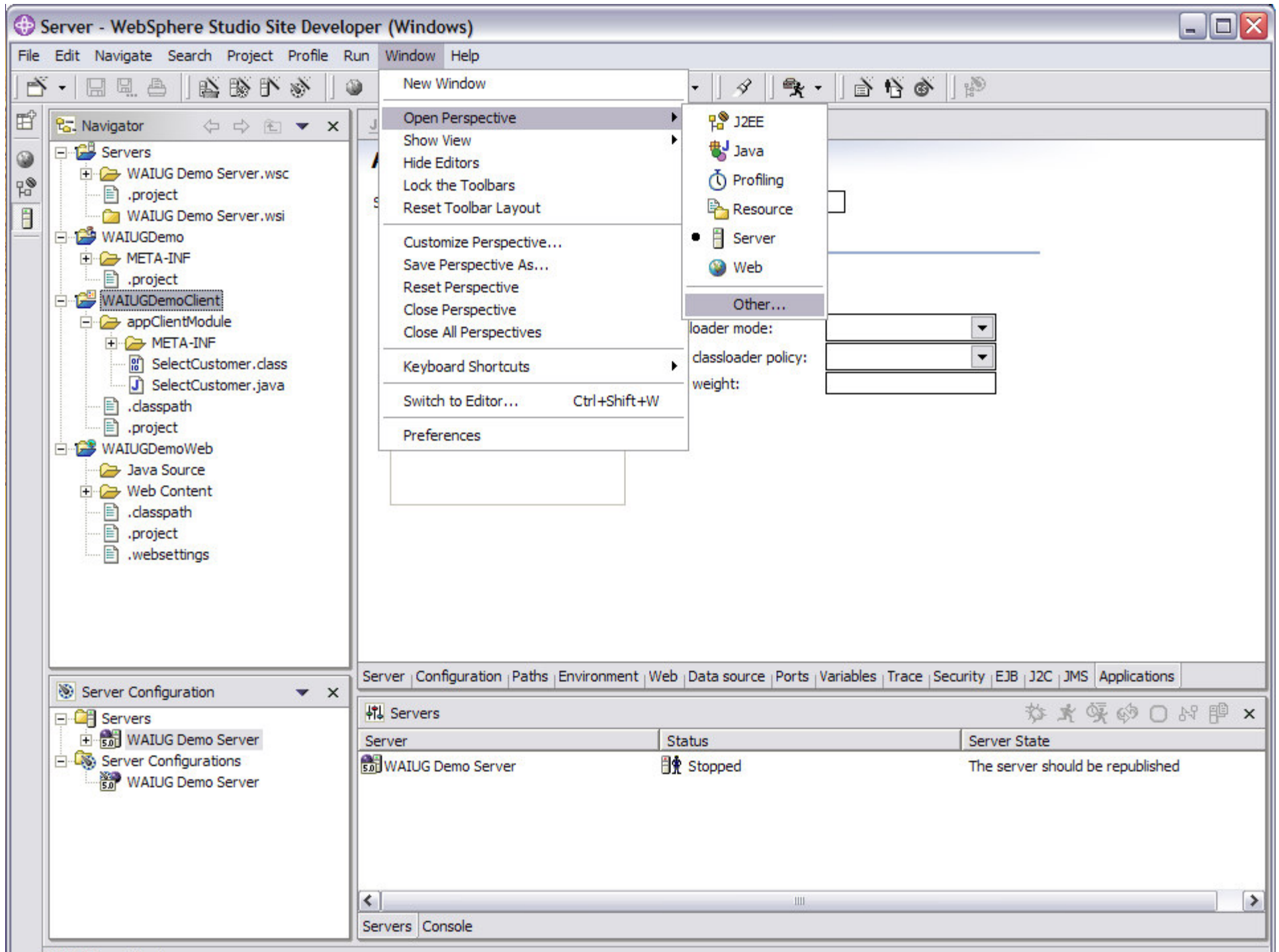
```
Customer Number:102
First Name:Carole
Last Name:Sadler
Company:Sports Spot
Address1:785 Geary St
Address2:null
City:San Francisco
State:CA
Zip:94117
Phone:415-822-1289
```

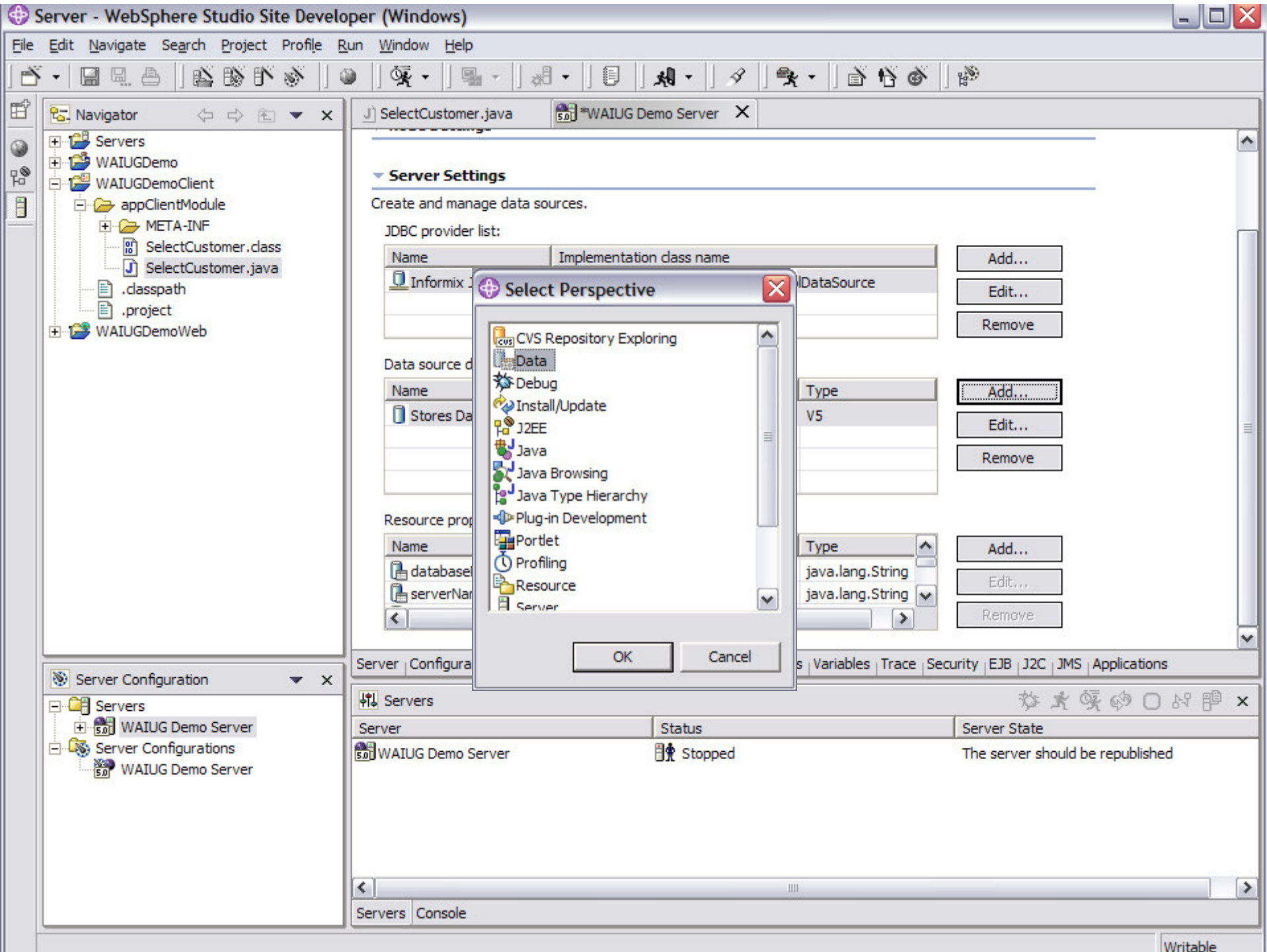
Tasks Properties Servers Console DB Servers



Using WebSphere for Database Administration

- ◆ Create Database Connections
- ◆ Develop Schemas
- ◆ Create SQL Statements
- ◆ Use within multiple projects





Data - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Run Window Help

Navigator

- Servers
 - WAIUG Demo Server.wsc
 - .project
 - WAIUG Demo Server.wsi
- WAIUGDemo
 - META-INF
 - .project
 - WAIUGDemoClient**
 - appClientModule
 - META-INF
 - SelectCustomer.class
 - SelectCustomer.java
 - .classpath
 - .project
 - WAIUGDemoWeb
 - Java Source
 - Web Content
 - .classpath
 - .project

Data Definition Navigator

SelectCustomer.java WAIUG Demo Server

Application Options

Scope:

Application Settings

Enter settings for the application.

Applications:

Classloader mode:

WAR classloader policy:

Start weight:

Outline

An outline is not available.

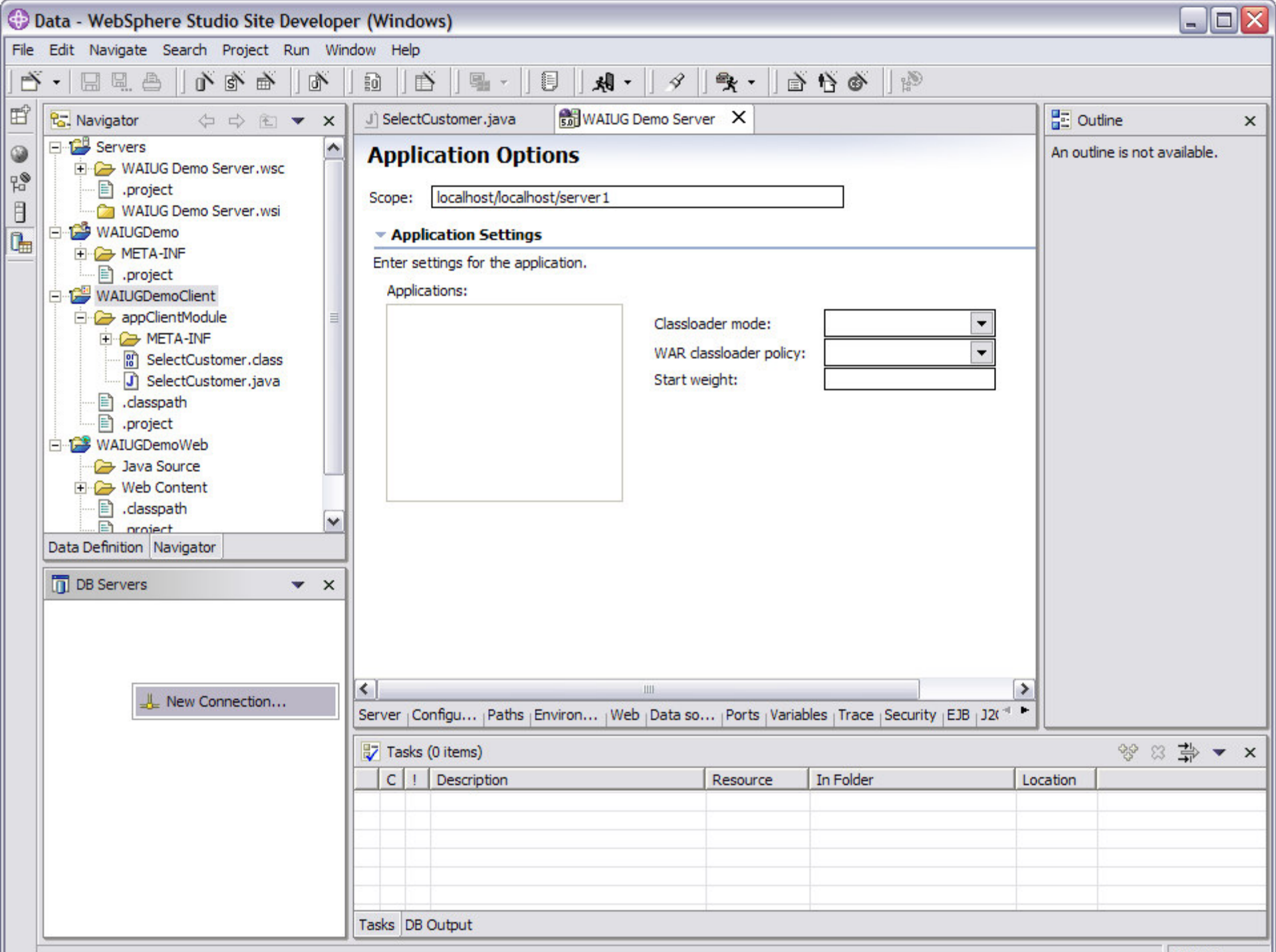
DB Servers

Server | Configu... | Paths | Environ... | Web | Data so... | Ports | Variables | Trace | Security | EJB | J2E...

Tasks (0 items)

C	!	Description	Resource	In Folder	Location

Tasks DB Output



Data - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Run Window Help

Navigator

- Servers
 - WAIUG Demo Server.wsc
 - .project
 - WAIUG Demo Server.wsi
 - WAIUGDemo
 - META-INF
 - .project
 - WAIUGDemoClient
 - appClientModule
 - META-INF
 - SelectCustomer.class
 - SelectCustomer.java
 - .classpath
 - .project
 - WAIUGDemoWeb
 - Java Source
 - Web Content
 - .classpath
 - .project

Data Definition Navigator

DB Servers

Tasks DB Output

WAIUGDemoClient Writable

Outline

An outline is not available.

New Database Connection

Establish a JDBC connection to a database.

Connection name: StoresConn

Database: stores_demo

User ID: informix

Password: *****

Database vendor type: Informix Dynamic Server, V9.3

JDBC driver: INFORMIX JDBC NET DRIVER

Host: artemis

(Optional) Port number: 1526

Server name: ol_artemis

Database Location: Browse...

JDBC driver class: com.informix.jdbc.IfxDriver

Class location: C:\Informix\java\lib\ifxjdbcx.jar;C:\Informix\lib\jdbc.jar Browse...

Connection URL: jdbc:informix-sqli://artemis:1526/stores_demo:INFORMIX JDBC NET DRIVER

Filters...

Finish Cancel

Data - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Run Window Help

Navigator SelectCustomer.java WAIUG Demo Server Outline

Servers

- WAIUG Demo Server.wsc
 - .project
 - WAIUG Demo Server.wsi
- WAIUGDemo
 - META-INF
 - .project
- WAIUGDemoClient
 - appClientModule
 - META-INF
 - SelectCustomer.class
 - SelectCustomer.java
 - .classpath
 - .project
 - WAIUGDemoWeb
 - Java Source
 - Web Content
 - .classpath
 - project

DB Servers

- StoresConn
 - stores_demo(jdbc:informix-sqli:
 - mikec
 - Tables
 - mikec.call_type
 - mikec.catalog
 - mikec.cust_calls
 - mikec.customer
 - customer_num
 - fname : CHAR
 - lname : CHAR
 - company : CHA
 - address1 : CHA
 - address2 : CHA
 - city : CHAR

Application Options

Scope: localhost/localhost/server1

Application Settings

Enter settings for the application.

Applications:

Classloader mode:

WAR classloader policy:

Start weight:

Outline

An outline is not available.

Server | Configu... | Paths | Environ... | Web | Data so... | Ports | Variables | Trace | Security | EJB | J2E...

Tasks (0 items)

C	!	Description	Resource	In Folder	Location

Tasks DB Output

1 item selected. Writable

Data - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Run Window Help

Data Definition

- Servers
- WAIUGDemo
 - META-INF
 - stores_demo (Informix Dynamic Se
 - mikec
 - Statements
- WAIUGDemoClient
- WAIUGDemoWeb

Data Definition Navigator

DB Servers

- StoresConn
 - stores_demo(jdbc:informix-sqli:
 - mikec
 - Tables
 - mikec.call_type
 - mikec.catalog
 - mikec.cust_calls
 - mikec.customer
 - customer_num
 - fname : CHAR
 - lname : CHAR
 - company : CHA
 - address1 : CHA
 - address2 : CHA
 - city : CHAR

1 item selected.

SelectCustomer.java WAIUG Demo Server

Application Options

Scope: localhost/localhost/server1

Application Settings

Enter settings for the application.

Applications:

Classloader mode:

WAR classloader policy:

Start weight:

Outline

An outline is not available.

Server Configu... Paths Environ... Web Data so... Ports Variables Trace Security EJB J2E

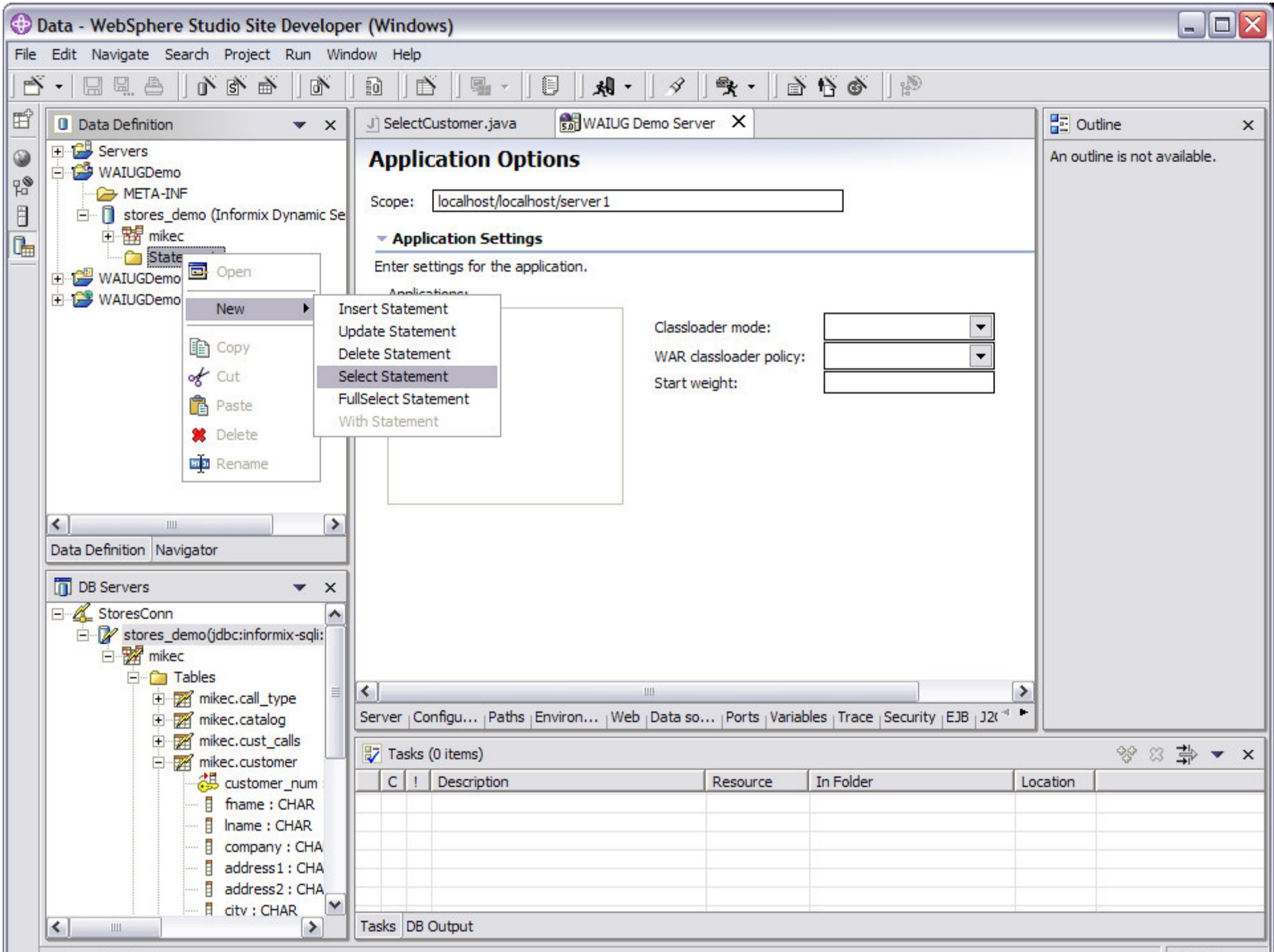
Tasks (0 items)

C	!	Description	Resource	In Folder	Location

Tasks DB Output

1 item selected.

Writable



Data - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Run Window Help

Application Options

Scope: localhost/localhost/server 1

Application Settings

Enter settings for the application.

Applications:

Classloader mode: [dropdown]
 WAR classloader policy: [dropdown]
 Start weight: [input]

New Select Statement

Statement Name:
 CustomerSelect

OK Cancel

DB Servers

StoresConn

stores_demo(jdbc:informix-sqli:)

mikec

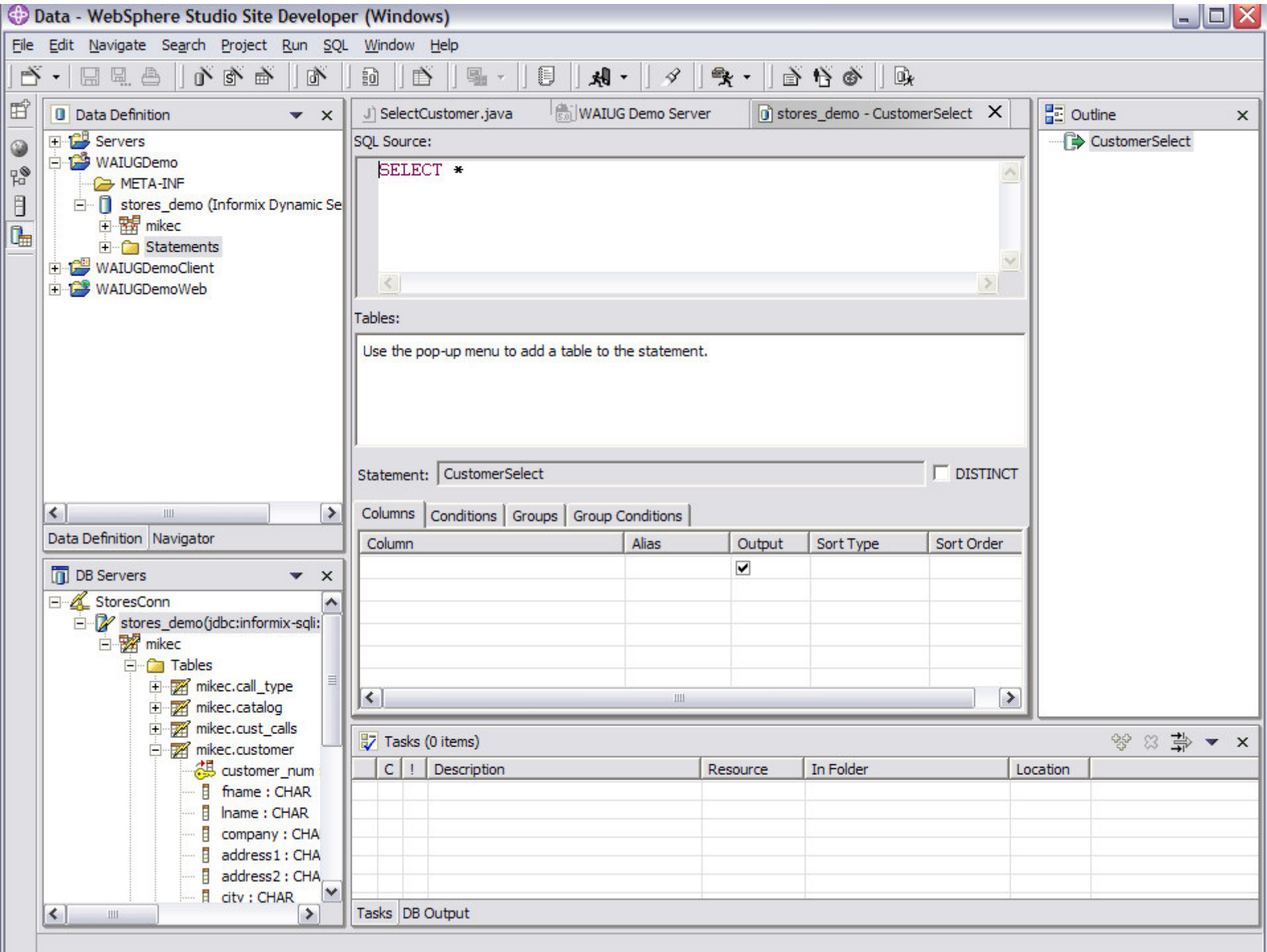
Tables

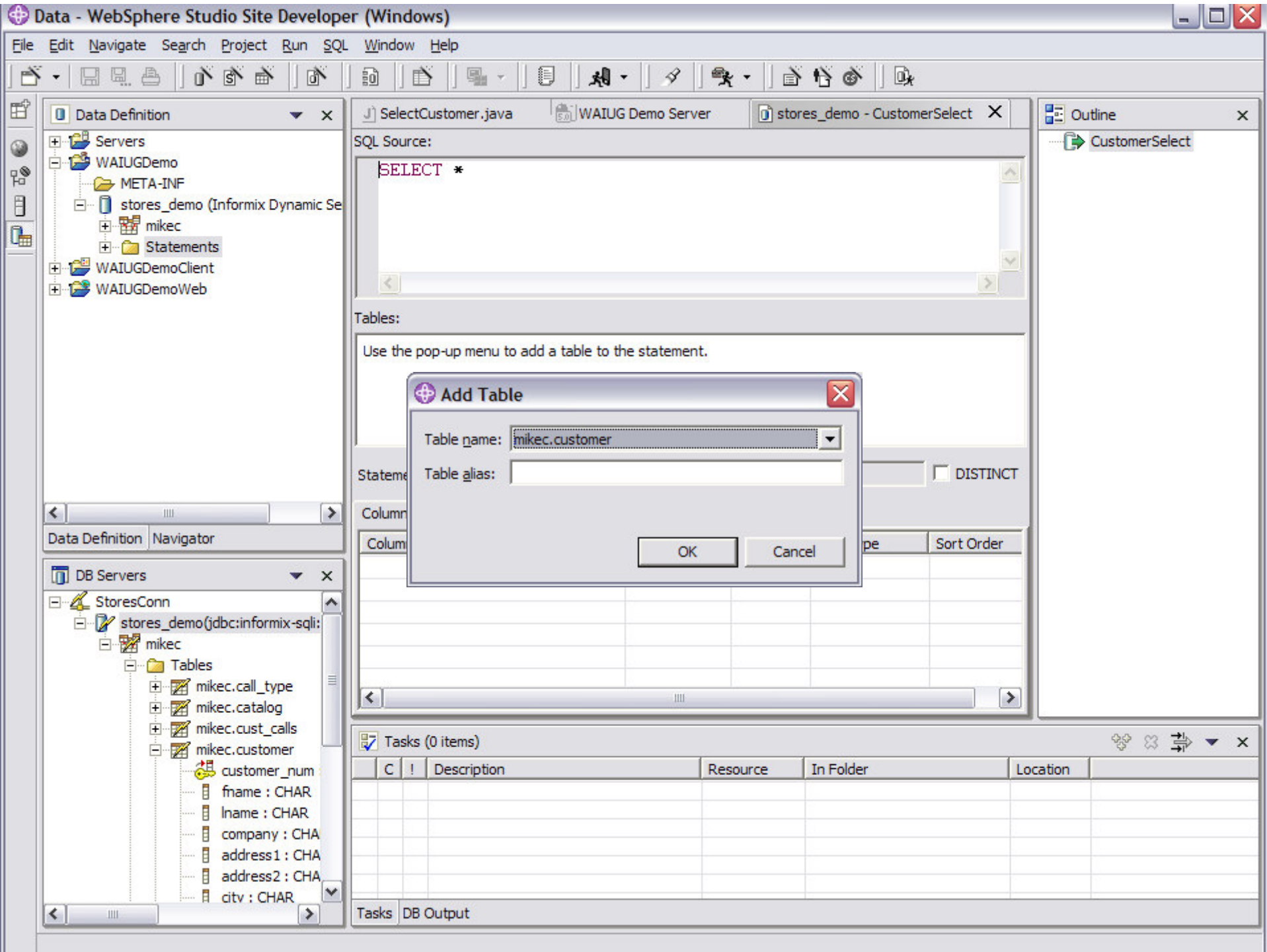
- mikec.call_type
- mikec.catalog
- mikec.cust_calls
- mikec.customer
 - customer_num
 - fname : CHAR
 - lname : CHAR
 - company : CHA
 - address1 : CHA
 - address2 : CHA
 - city : CHAR

Tasks (0 items)

C	!	Description	Resource	In Folder	Location

1 item selected. Writable





Data - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Run SQL Window Help

SQL Source:

```
SELECT
  mikec.customer.customer_num,
  mikec.customer.fname,
  mikec.customer.lname,
  mikec.customer.company,
  mikec.customer.address1,
  mikec.customer.address2,
  mikec.customer.city
```

Tables:

- address2
- city
- state
- zipcode
- phone

Statement: CustomerSelect DISTINCT

Column	Alias	Output	Sort Type	Sort Order
mikec.customer.fname		<input checked="" type="checkbox"/>		
mikec.customer.lname		<input checked="" type="checkbox"/>		
mikec.customer.company		<input checked="" type="checkbox"/>		
mikec.customer.address1		<input checked="" type="checkbox"/>		
mikec.customer.address2		<input checked="" type="checkbox"/>		
mikec.customer.city		<input checked="" type="checkbox"/>		

Tasks (0 items)

C	!	Description	Resource	In Folder	Location

Tasks DB Output

Data Definition

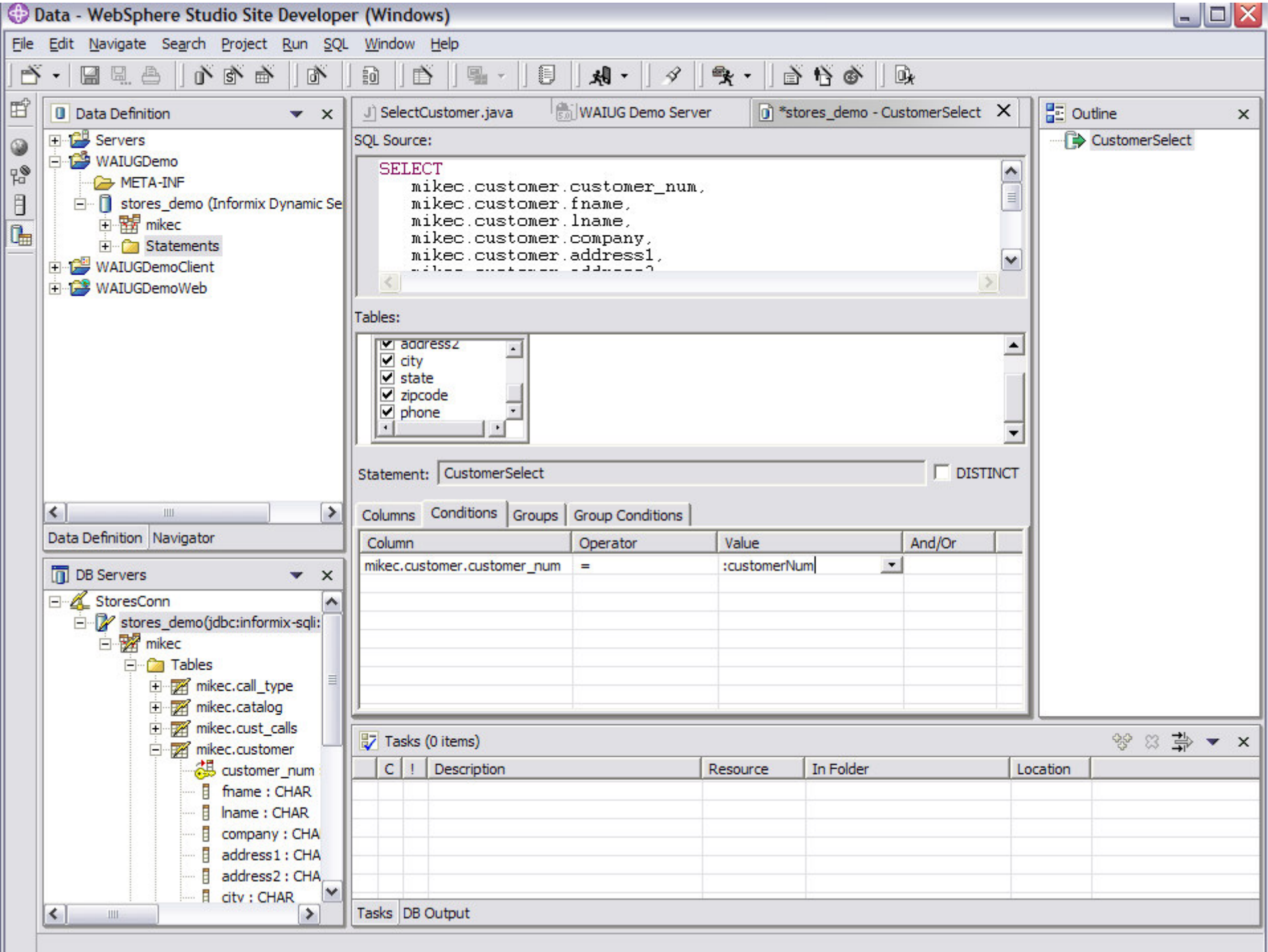
- Servers
 - WAIUGDemo
 - META-INF
 - stores_demo (Informix Dynamic Se)
 - mikec
 - Statements
 - WAIUGDemoClient
 - WAIUGDemoWeb

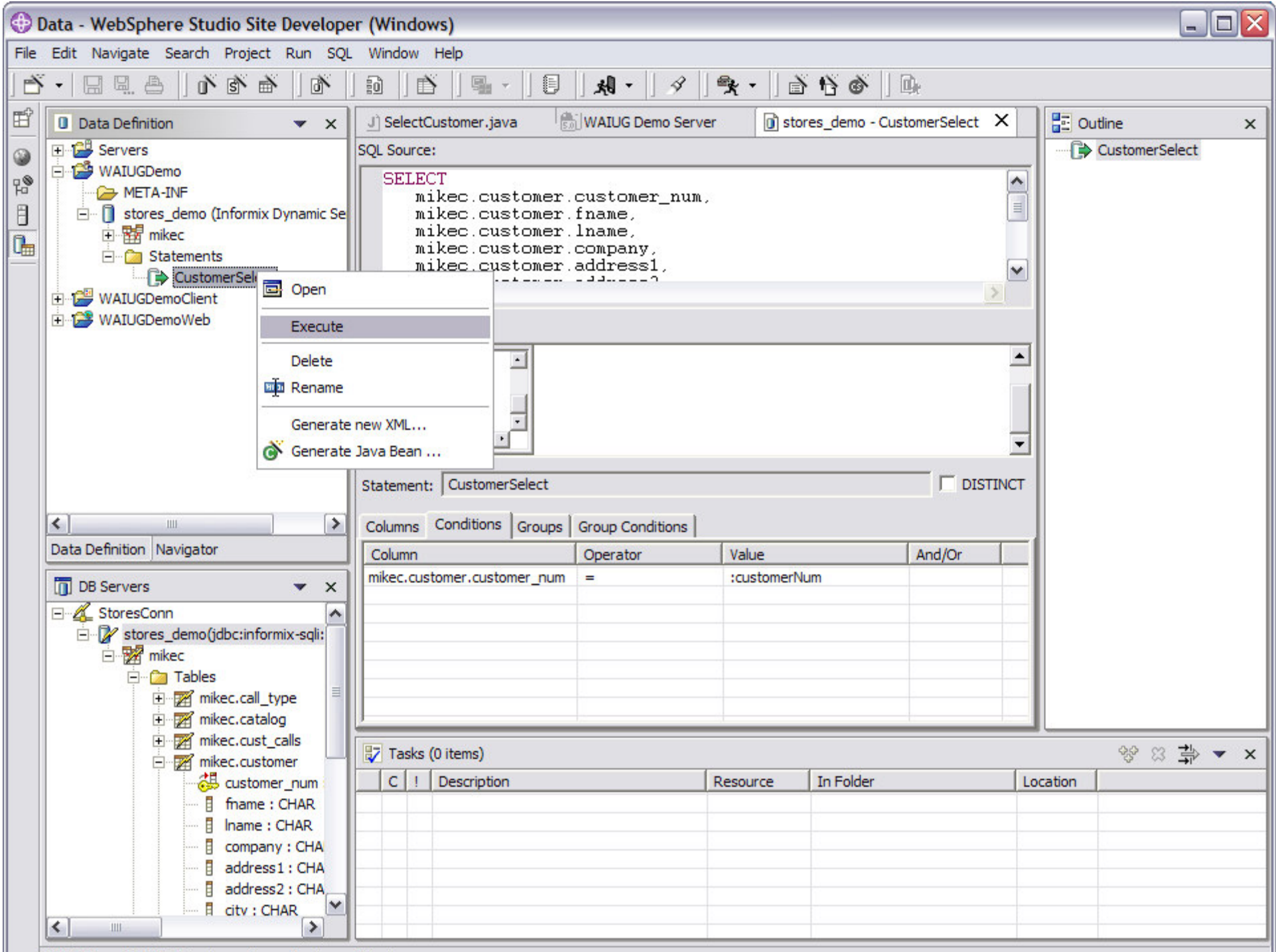
DB Servers

- StoresConn
 - stores_demo(jdbc:informix-sqli:
 - mikec
 - Tables
 - mikec.call_type
 - mikec.catalog
 - mikec.cust_calls
 - mikec.customer
 - customer_num
 - fname : CHAR
 - lname : CHAR
 - company : CHA
 - address1 : CHA
 - address2 : CHA
 - city : CHAR

Outline

- CustomerSelect





Data - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Run SQL Window Help

SQL Source:

```
SELECT
  mikec.customer customer_num
```

Specify Variable Values

Host Variable Values
 Specify the variable values to use

Name	Type	Value
:customerNum	SERIAL	102

DISTINCT
 d/Or

Finish Cancel

Outline
 CustomerSelect

DB Servers
 StoresConn
 stores_demo(jdbc:informix-sqli:
 mikec
 Tables
 mikec.call_type
 mikec.catalog
 mikec.cust_calls
 mikec.customer
 customer_num
 fname : CHAR
 lname : CHAR
 company : CHA
 address1 : CHA
 address2 : CHA
 citv : CHAR

Data - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Run SQL Window Help

SQL Source:

```
SELECT
  mikec.customer.customer_num,
  mikec.customer.fname,
  mikec.customer.lname,
  mikec.customer.company,
  mikec.customer.address1,
  mikec.customer.address2,
  mikec.customer.city,
  mikec.customer.state,
  mikec.customer.zipcode,
  mikec.customer.phone
```

Tables:

- address2
- city
- state
- zipcode
- phone

Statement: CustomerSelect DISTINCT

Column	Operator	Value	And/Or
mikec.customer.customer_num	=	:customerNum	

DB Servers

- StoresConn
 - stores_demo(jdbc:informix-sqli:
 - mikec
 - Tables
 - mikec.call_type
 - mikec.catalog
 - mikec.cust_calls
 - mikec.customer
 - customer_num
 - fname : CHAR
 - lname : CHAR
 - company : CHA
 - address1 : CHA
 - address2 : CHA
 - city : CHAR

DB Output

Status	Action	Object Name
Success	Execute	CustomerSelect

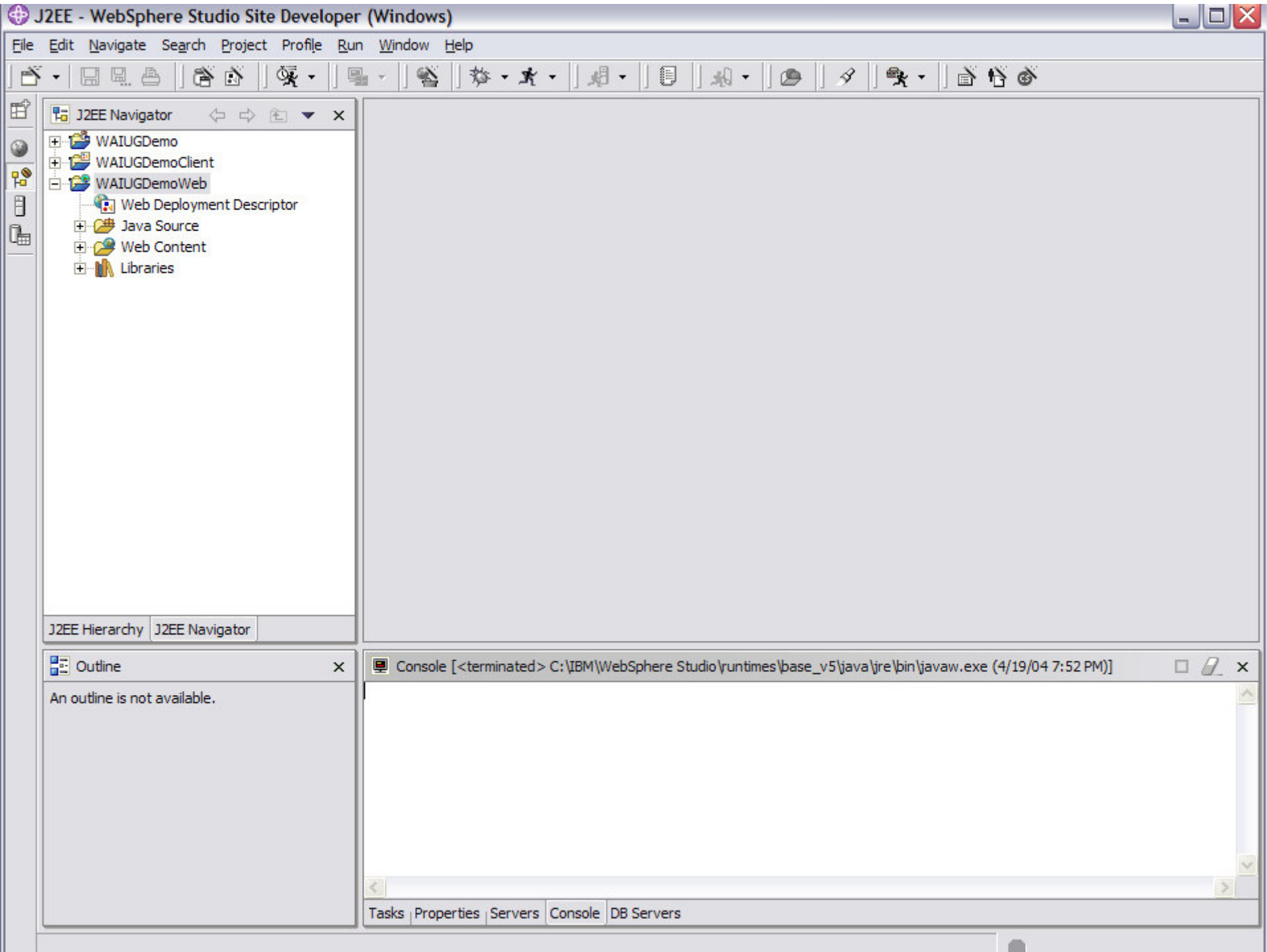
CustomerSelect

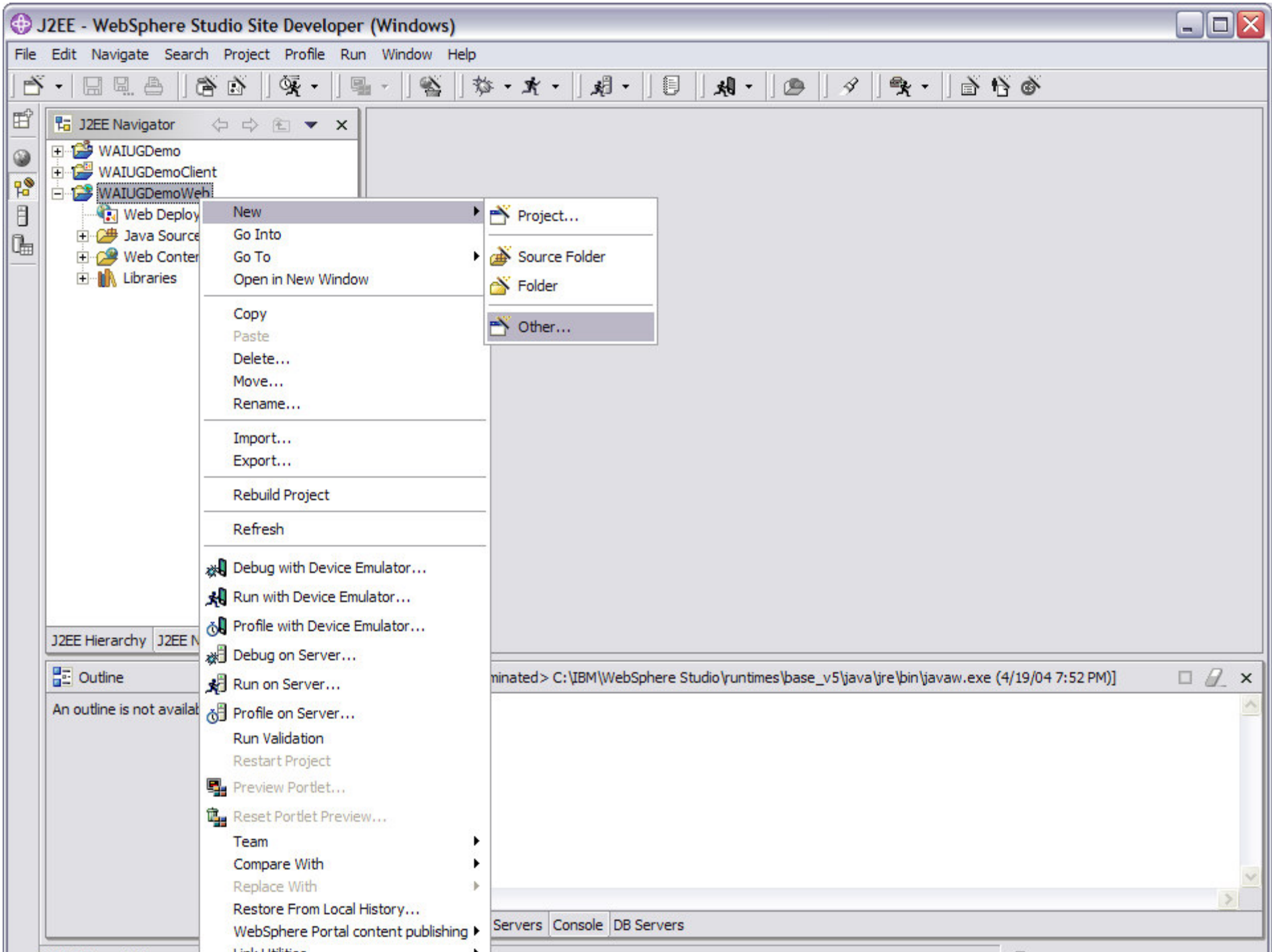
customer_n...	fname	lname	company	address1
102	Carole	Sadler	Sports Spot...	785 Geary ...

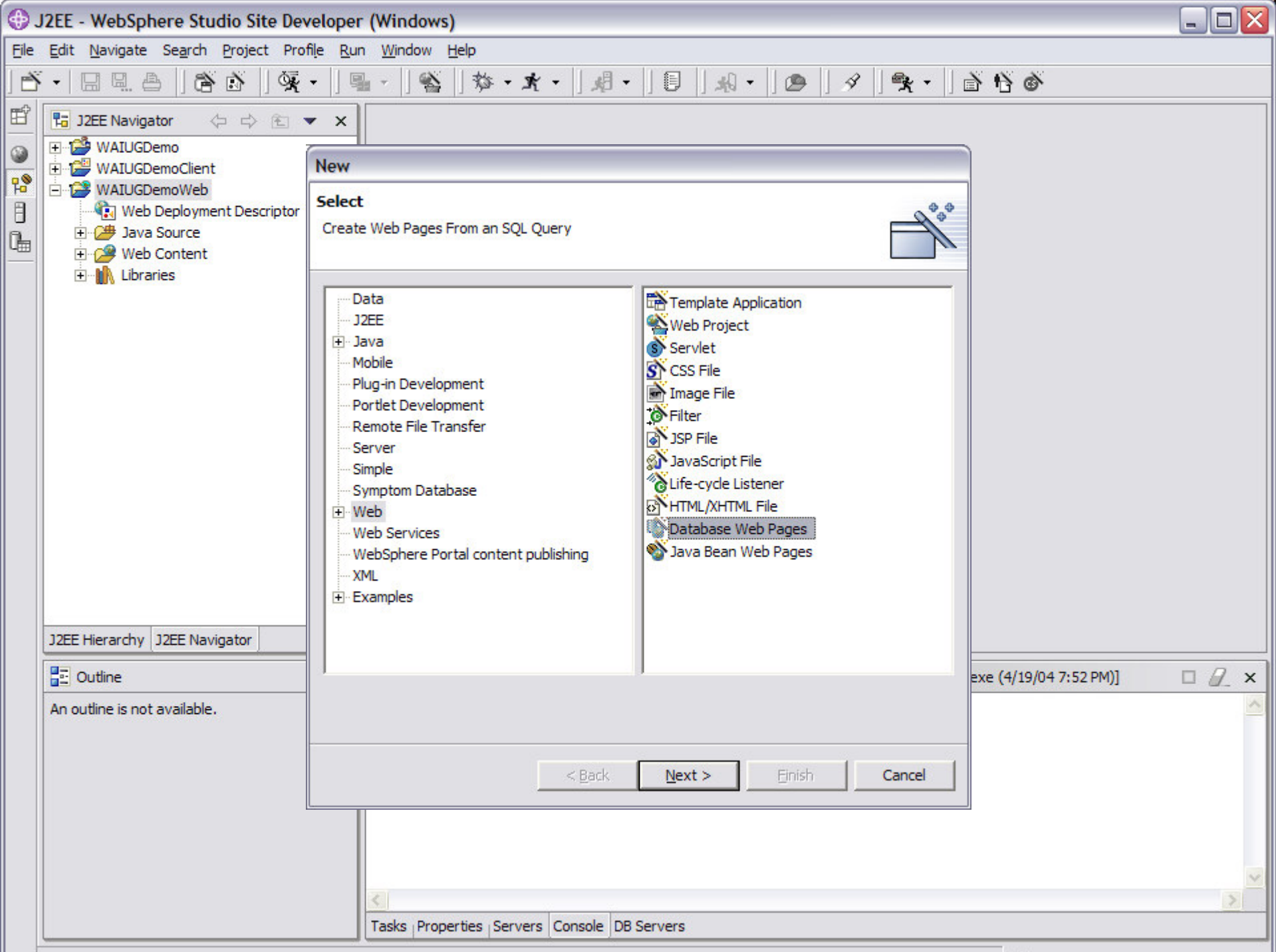


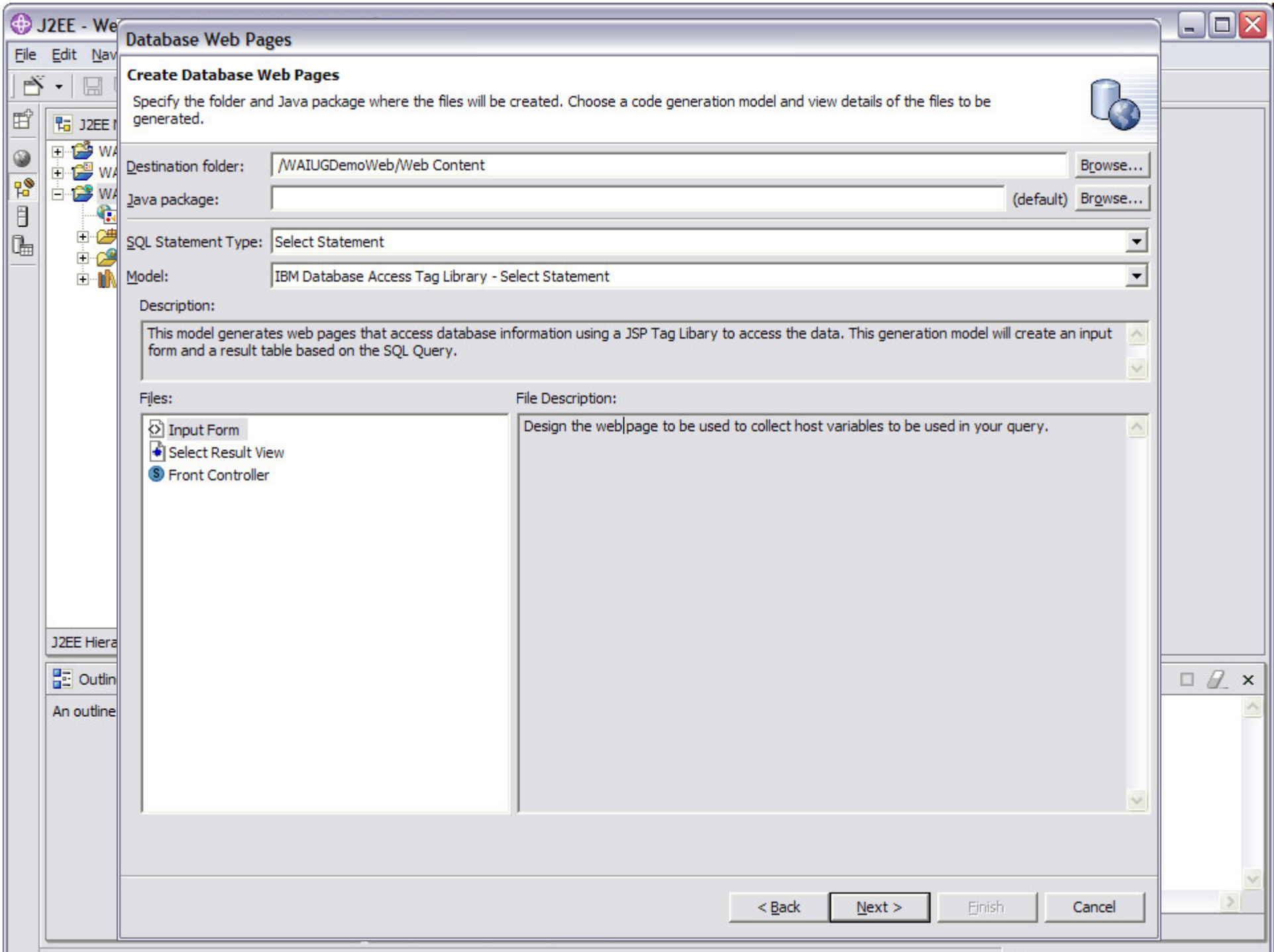
Database Web Page Wizard

- ◆ Use SQL statement to build page within wizard
 - No coding required
- ◆ Two methods
 - SQL within JSP
 - Use Java Bean to handle database query









J2EE - Web

File Edit Nav

Database Web Pages

Select an existing statement saved in your workspace

Optionally choose an existing SQL statement or continue to the next page to create a new SQL statement.

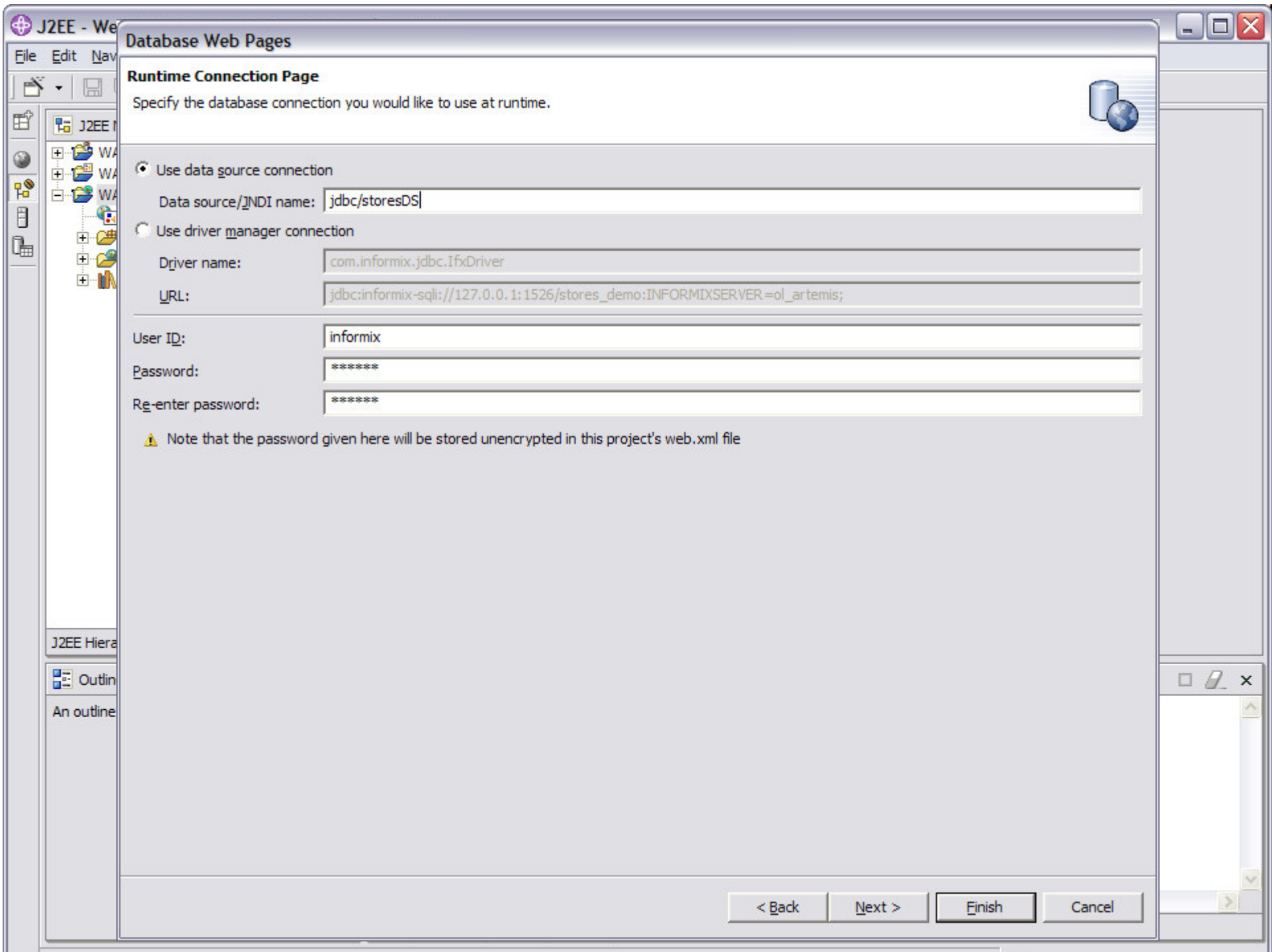
Use Existing SQL Statement

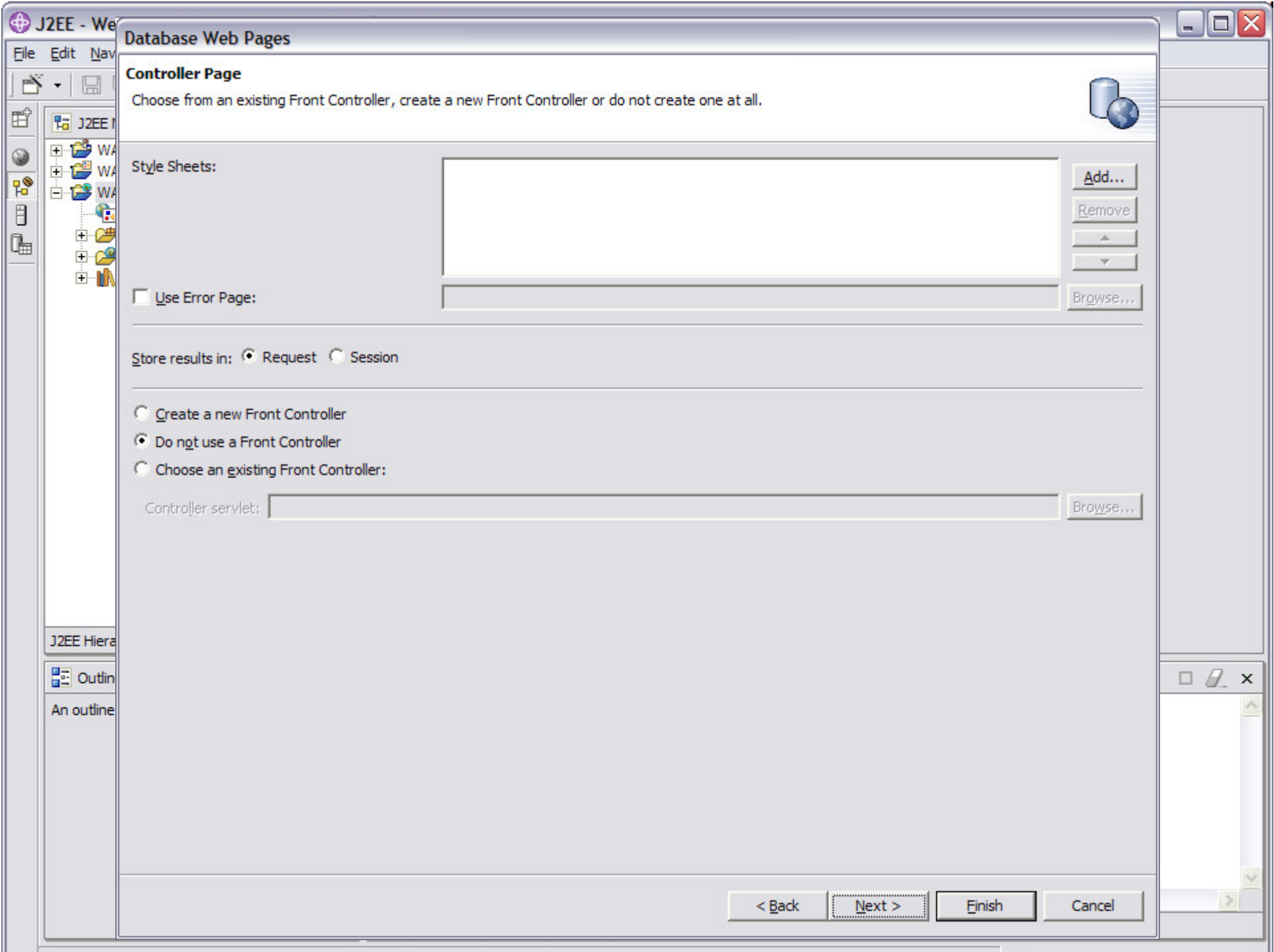
- WAIUGDemo
 - stores_demo (Informix Dynamic Server, V9.3)
 - Statements
 - CustomerSelect

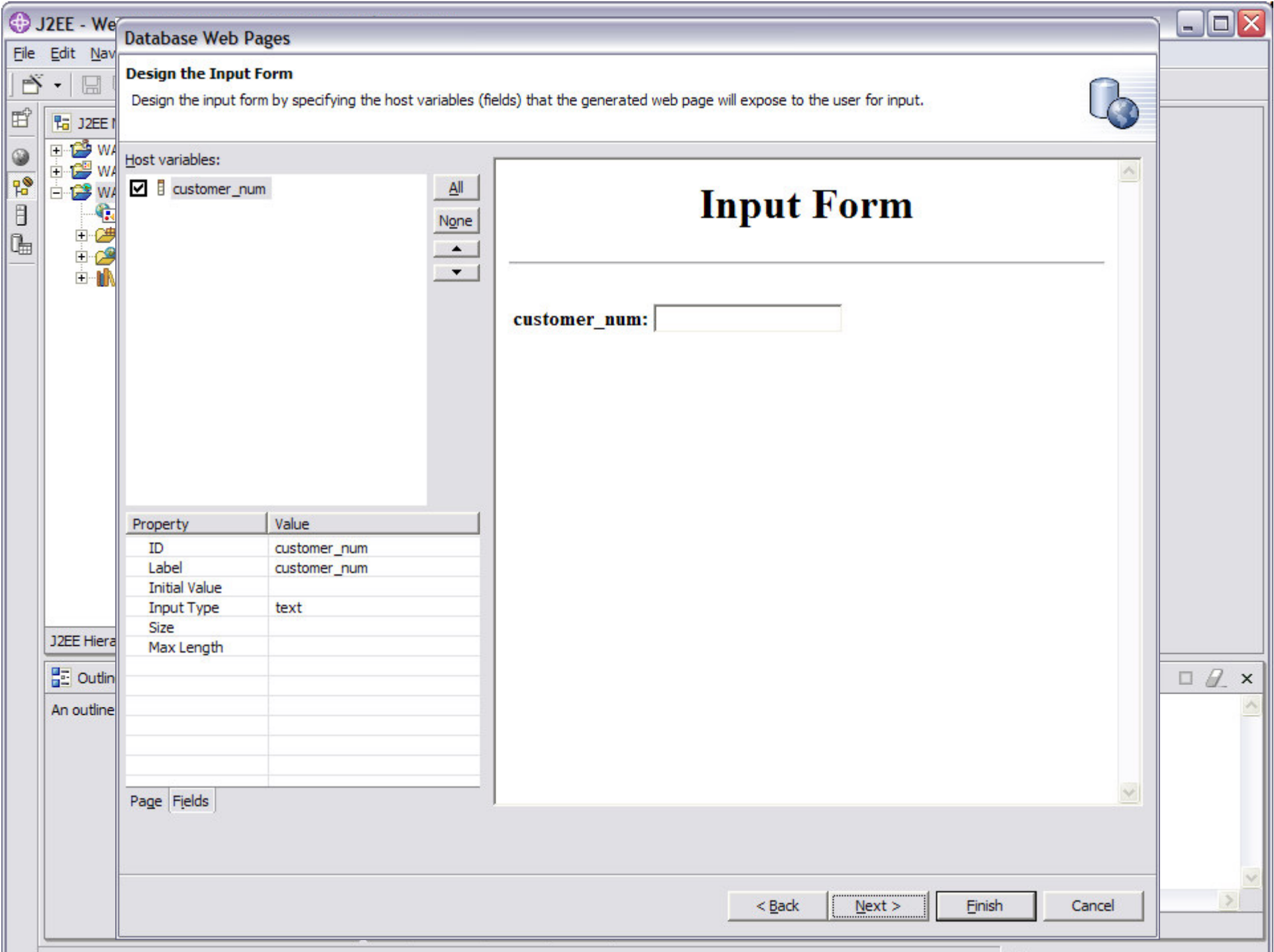
SQL Statement:

```
SELECT
mikec.customer.customer_num,
mikec.customer.fname,
mikec.customer.lname,
mikec.customer.company,
mikec.customer.address1,
mikec.customer.address2,
```

< Back Next > Finish Cancel







Database Web Pages

Design the Input Form

Design the input form by specifying the host variables (fields) that the generated web page will expose to the user for input.

Host variables:

- customer_num
- All
None
▲
▼

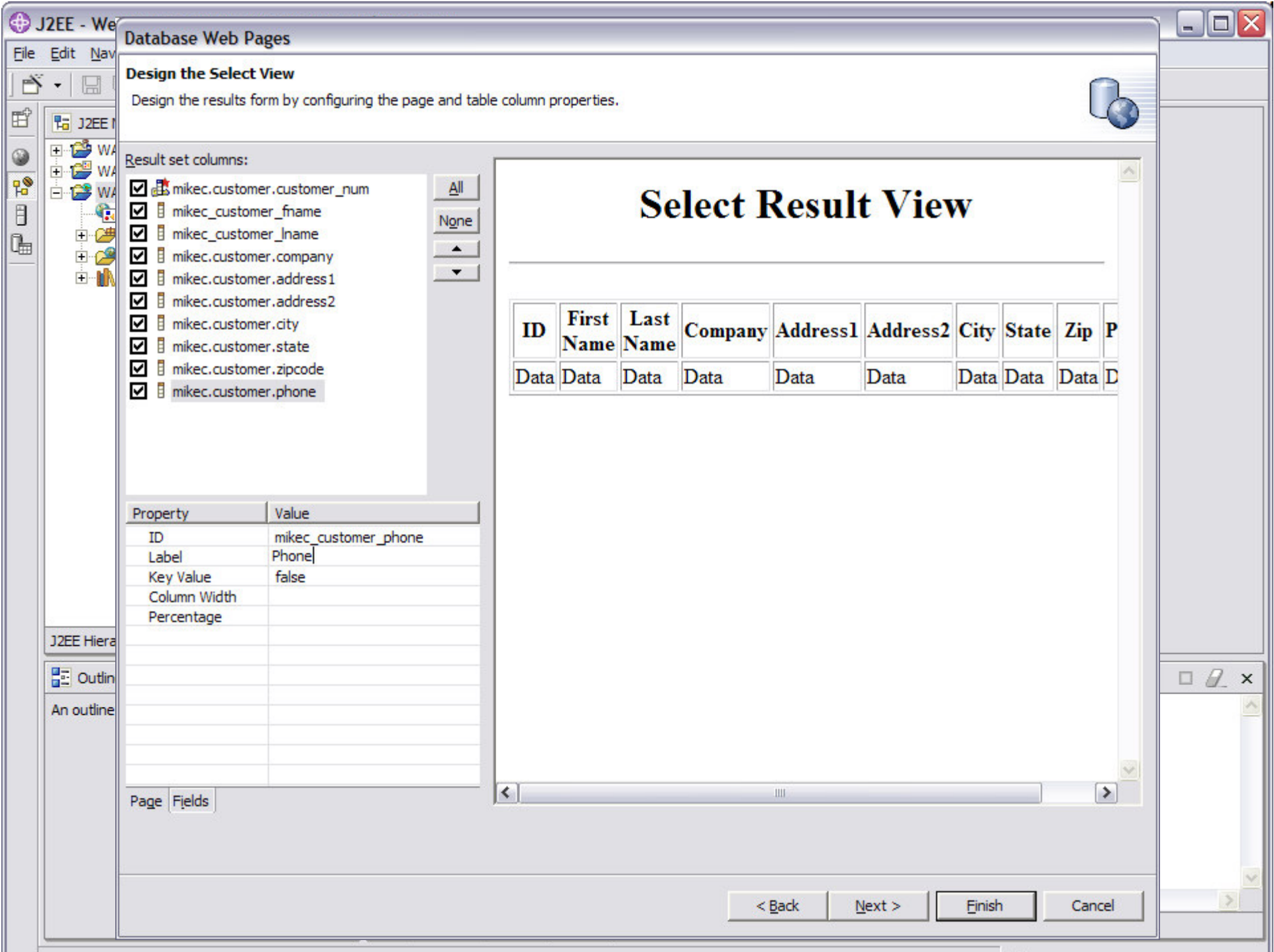
Input Form

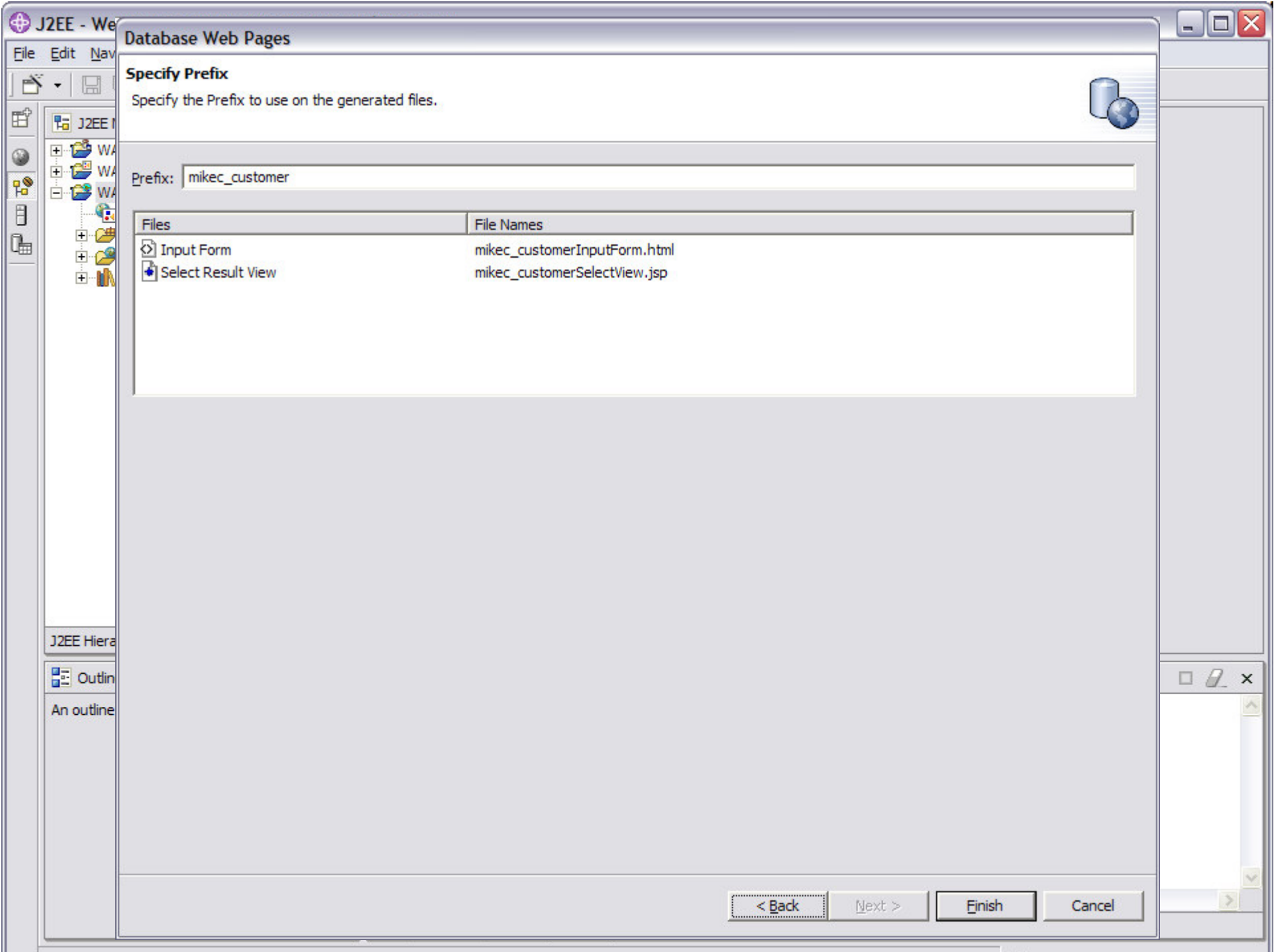
customer_num:

Property	Value
ID	customer_num
Label	customer_num
Initial Value	
Input Type	text
Size	
Max Length	

Page Fields

< Back Next > Finish Cancel





J2EE - WebSphere Studio Site Developer (Windows)

File Edit Toolbar Insert JSP Format Page Tools Navigate Search Project Profile Run Window Help

J2EE Navigator

- WAIUGDemo
- WAIUGDemoClient
- WAIUGDemoWeb
 - Web Deployment Descriptor
 - Java Source
 - Web Content
 - META-INF
 - WEB-INF
 - mikec_customerInputForm.html
 - mikec_customerSelectView.jsp
 - Libraries

mikec_customerSelectView.jsp

```
<!--Execute the query-->
<dab:select id="select_master" scope="request" connectionSpecRef="<%=dsSpec%>">
  <dab:sql>
    SELECT mikec.customer.customer_num, mikec.customer.fname, mikec.customer.
  </dab:sql>
  <dab:parameter position="1" type="INTEGER" value="<%=inputcustomer_num%>">
</dab:select>
<!--Hidden Variables-->
<INPUT TYPE="hidden" NAME="command" VALUE="mikec_customerSelectView"/>

<%
Vector hidden_names = new Vector();
Vector hidden_values = new Vector();
%>
<!--Table-->
<TABLE border="1">
<TBODY>
  <TR>
    <TH>ID</TH>
    <TH>First Name</TH>
    <TH>Last Name</TH>
    <TH>Company</TH>
    <TH>Address1</TH>
```

J2EE Hierarchy J2EE Navigator

Design Source Preview

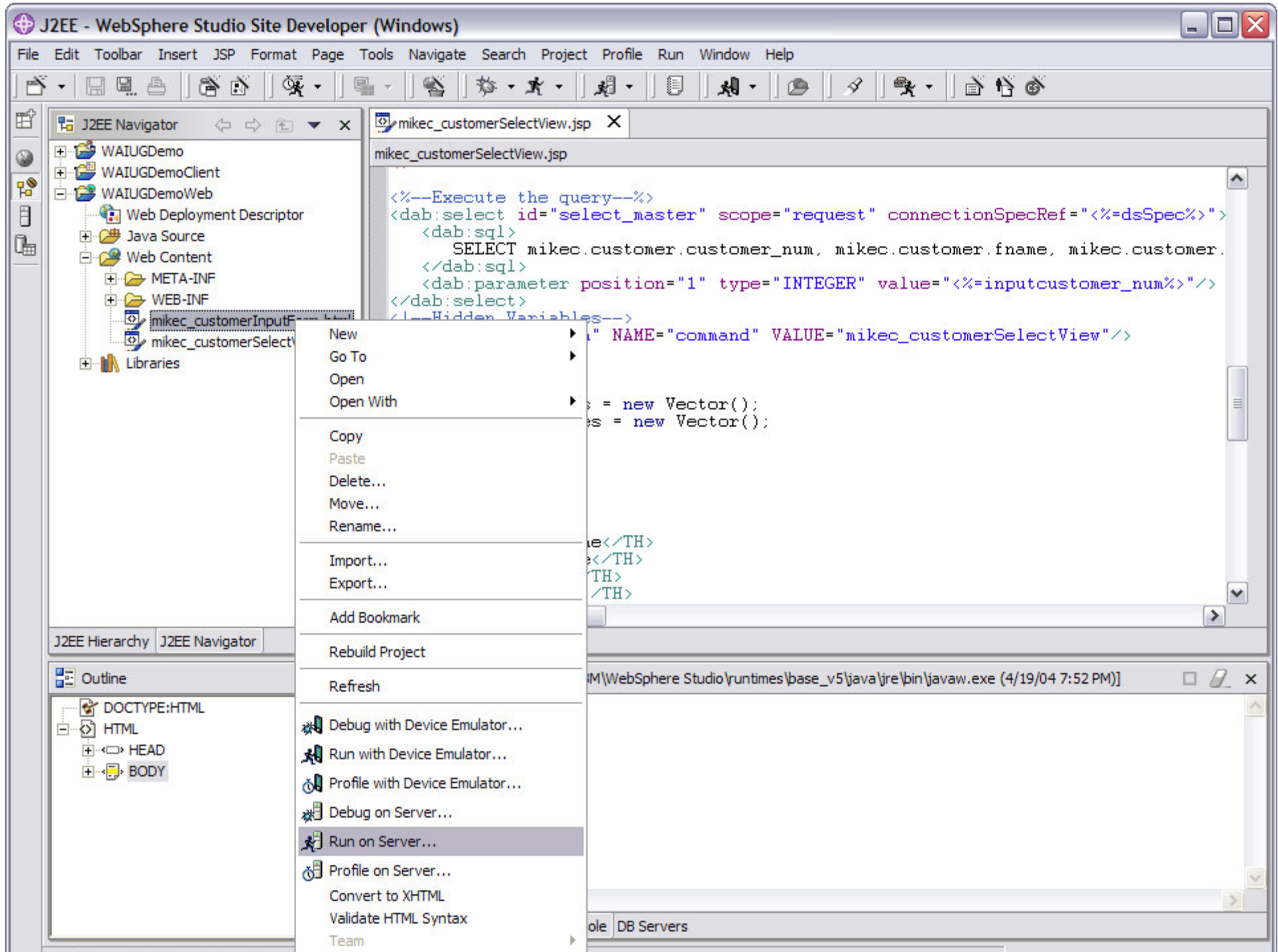
Outline

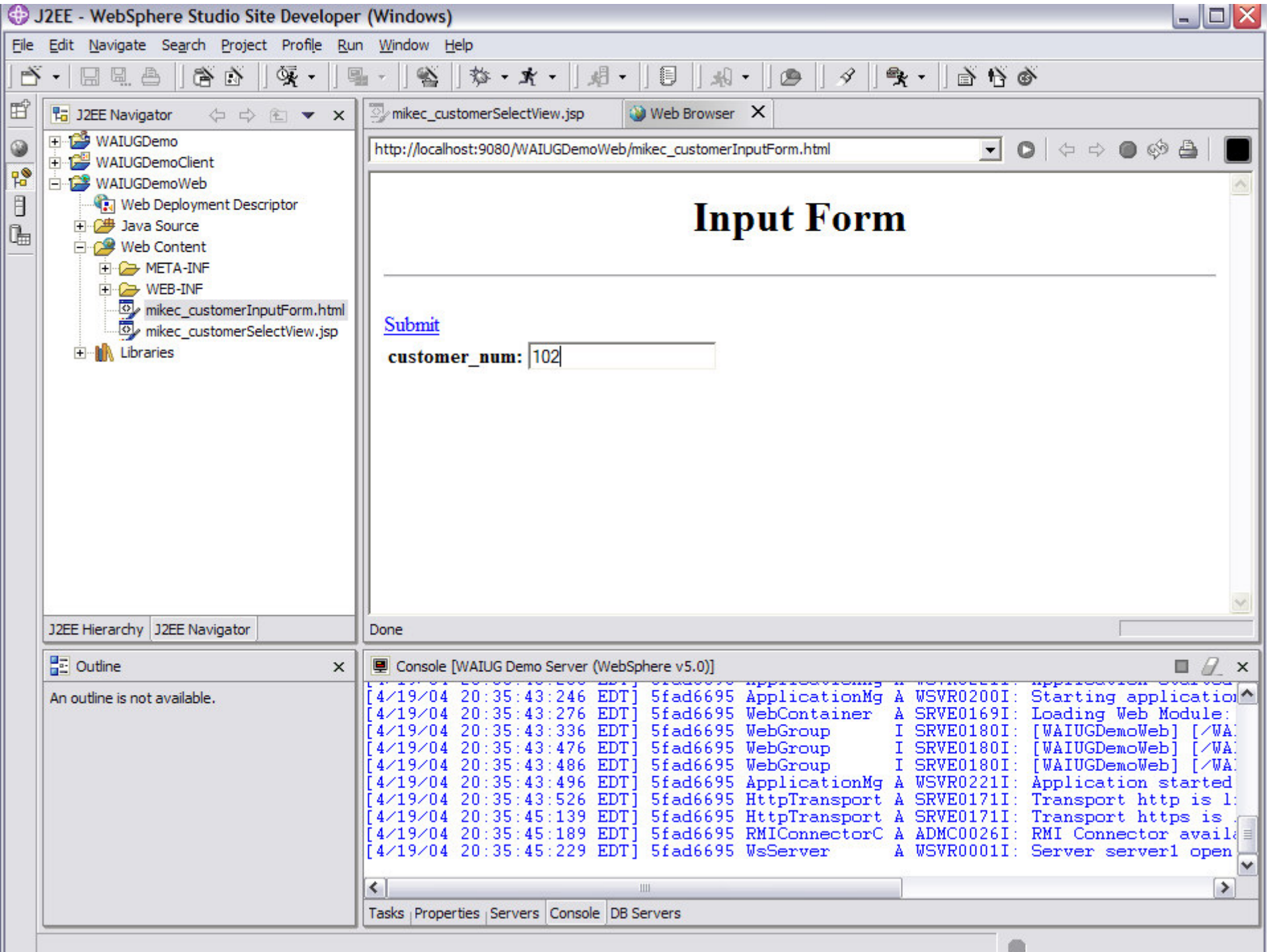
- DOCTYPE:HTML
- HTML
 - HEAD
 - BODY

Console [<terminated> C:\IBM\WebSphere Studio\runtimes\base_v5\java\jre\bin\javaw.exe (4/19/04 7:52 PM)]

Tasks Properties Servers Console DB Servers

WAIUGDemoWeb/Web Content/mikec_customerSelectView.jsp Writable Insert 27 : 7





J2EE - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Profile Run Window Help

J2EE Navigator

- WAIUGDemo
 - WAIUGDemoClient
 - WAIUGDemoWeb
 - Web Deployment Descriptor
 - Java Source
 - Web Content
 - META-INF
 - WEB-INF
 - mikec_customerInputForm.html
 - mikec_customerSelectView.jsp
 - Libraries

mikec_customerSelectView.jsp Web Browser

http://localhost:9080/WAIUGDemoWeb/mikec_customerSelectView

Select Result View

ID	First Name	Last Name	Company	Address1	Address2	City	State	Zip	Phone
102	Carole	Sadler	Sports Spot	785 Geary St		San Francisco	CA	94117	415-822-1289

Done

Outline

An outline is not available.

Console [WAIUG Demo Server (WebSphere v5.0)]

```

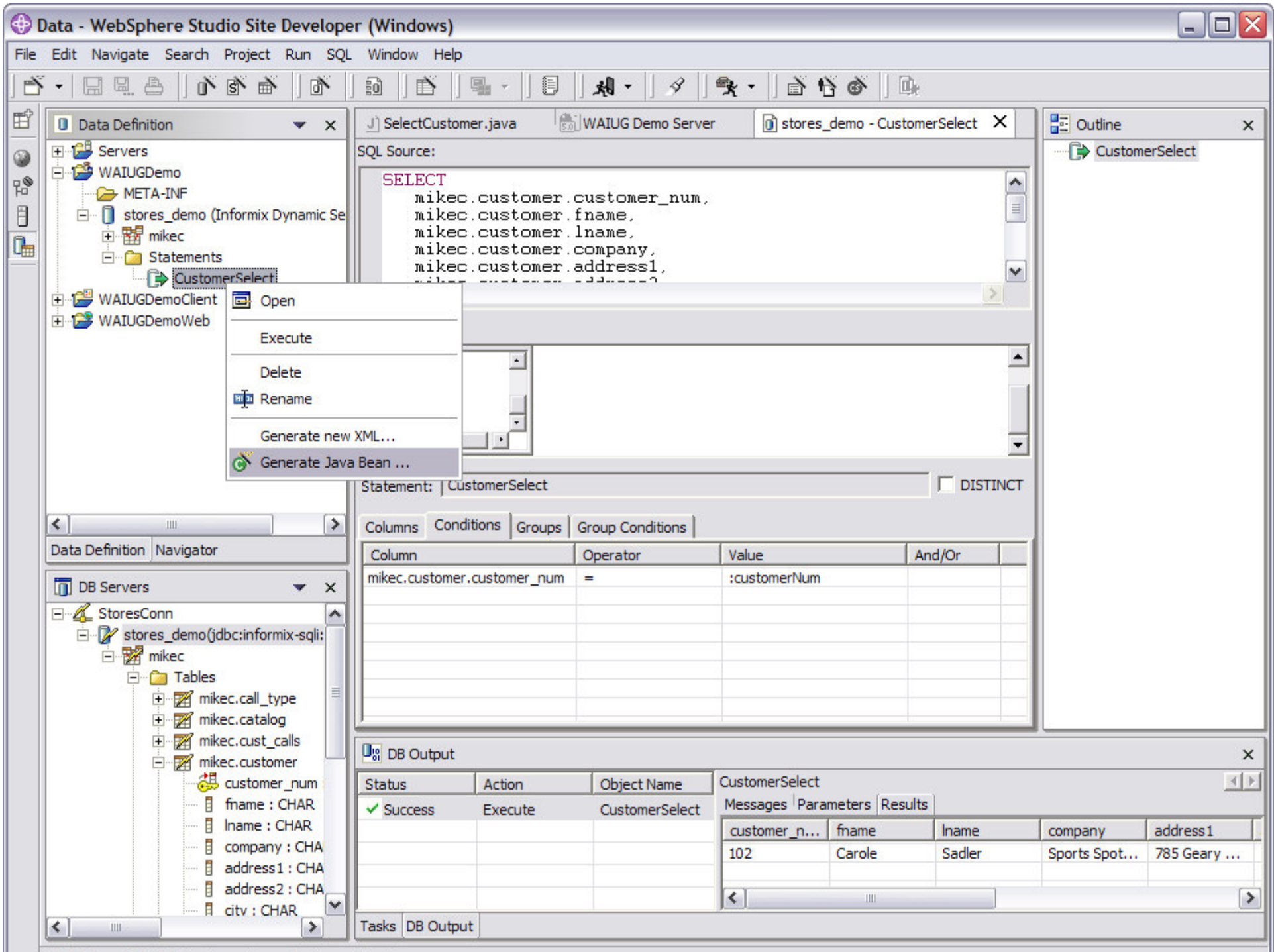
res-resolution-control: 999 (undefined)
[Other attributes]

isCMP1_x: false (not CMP1.x)
isJMS: false (not JMS)

[4/19/04 20:39:16:553 EDT] 13c6a6ff WSRdbDataSour u Database version is
9.30.TC2E3
[4/19/04 20:39:16:553 EDT] 13c6a6ff WSRdbDataSour u JDBC Driver version is
2.21.JC5

```

Tasks Properties Servers Console DB Servers



Data - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Run SQL Window Help

SQL Source:

```
SELECT
```

Create a Java Bean that executes an SQL Select statement

Java Class Specification

Specify the name for the Java Bean, and specify options for code generation.

Source Folder:

Package:

Name:

Generate a parameter on the execute() method to specify a row limit for the result set.

< Back Next > Finish Cancel

DB Servers

- StoresConn
 - stores_demo(jdbc:informatica)
 - mikec
 - Tables
 - mikec.call_t
 - mikec.catal
 - mikec.cust
 - mikec.custo
 - custom

Tasks DB Output

Success	Execute	CustomerSelect	Messages	Parameters	Results		
			customer_n...	fname	lname	company	address1
			102	Carole	Sadler	Sports Spot...	785 Geary ...

Data - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Run SQL Window Help

SQL Source:
SELECT

Create a Java Bean that executes an SQL Select statement

Java Class Specification
Specify the name for the class

Source Folder:
Package:
Name:
 Generate a package

Folder Selection
Choose a folder:

- WAIUGDemoClient
- WAIUGDemoWeb
 - Java Source

Browse...
Browse...
OK Cancel

< Back Next > Finish Cancel

DB Servers
StoresConn
stores_demo(jdbc:informatica)

- mikec
 - Tables
 - mikec.call_t
 - mikec.catal
 - mikec.cust
 - mikec.custo
 - customer

fname : CHAR
lname : CHAR
company : CHAR
address1 : CHAR
address2 : CHAR
city : CHAR

Tasks DB Output

Messages Parameters Results

customer_n...	fname	lname	company	address1
102	Carole	Sadler	Sports Spot...	785 Geary ...

Outline
CustomerSelect

Data - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Run SQL Window Help

SQL Source: SelectCustomer.java WAIUG Demo Server stores_demo - CustomerSelect

Create a Java Bean that executes an SQL Select statement

Java Class Specification

Specify the name for the Java Bean, and specify options for code generation.

Source Folder: WAIUGDemoWeb/Java Source Browse...

Package: Browse...

Name: CustomerBean

Generate a parameter on the execute() method to specify a row limit for the result set.

< Back **Next >** Finish Cancel

DB Servers

- StoresConn
 - stores_demo(jdbc:informatica://...)
 - mikec
 - Tables
 - mikec.call_t
 - mikec.catal
 - mikec.cust
 - mikec.custo
 - custom

fname : CHAR
lname : CHAR
company : CHA
address1 : CHA
address2 : CHA
city : CHAR

Messages Parameters Results

customer_n...	fname	lname	company	address1
102	Carole	Sadler	Sports Spot...	785 Geary ...

Tasks DB Output

Data - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Run SQL Window Help

SQL Source: `J SelectCustomer.java` WAIUG Demo Server stores_demo - CustomerSelect

Create a Java Bean that executes an SQL Select statement

Specify Runtime Database Connection Information

Enter information for establishing a database connection at runtime

Use Data Source Connection
 Data source/JNDI name: `jdbc/storesDS`

Use Driver Manager Connection
 Driver name: `com.informix.jdbc.IfxDriver`
 URL: `jdbc:informix-sqli://127.0.0.1:1526/stores_demo:INFORMIXSERVER=ol_arten`

How will user authentication be provided?
 By the execute() method's caller
 Inside the execute() method

User ID: `informix`
 Password: `*****`
 Re-enter Password: `*****`

< Back Next > Finish Cancel

DB Servers

- StoresConn
 - stores_demo(jdbc:informix)
 - mikec
 - Tables
 - mikec.call_t
 - mikec.catal
 - mikec.cust
 - mikec.custo
 - custom

Messages Parameters Results

customer_n...	fname	lname	company	address1
102	Carole	Sadler	Sports Spot...	785 Geary ...

Tasks DB Output

Data - WebSphere Studio Site Developer (Windows)

File Edit Source Refactor Navigate Search Project Run Window Help

Navigator

- StoresConn_stores_demo_mike
- StoresConn_stores_demo_mike
- StoresConn_stores_demo.dbxn
- StoresConn.conxmi
- WAIUGDemoClient
- WAIUGDemoWeb
 - Java Source
 - CustomerBean.java
 - CustomerBeanRow.java
 - Web Content
 - META-INF
 - WEB-INF
 - mikec_customerInputForm.l
 - mikec_customerSelectView.l
 - .classpath
 - .project
 - .websettings

DB Servers

- StoresConn
 - stores_demo(jdbc:informix-sql:
 - mikec
 - Tables
 - mikec.call_type
 - mikec.catalog
 - mikec.cust_calls
 - mikec.customer
 - customer_num
 - fname : CHAR
 - lname : CHAR
 - company : CHA
 - address1 : CHA
 - address2 : CHA
 - city : CHAR

Code Editor

```

    initializer();
  }

  /**
   * Creates a DBSelect instance and initializes its properties.
   */
  protected void initializer() {
    select = new DBSelect();
    try {
      select.setDataSourceName("jdbc/storesDS");
      select.setCommand(
        "SELECT mikec.customer.customer_num, mikec.customer.customer_fname,
        DBParameterMetaData parmMetaData = select.getParameterMetaData();
        parmMetaData.setParameter(
          1,
          "customerNum",
          java.sql.DatabaseMetaData.procedureColumnIn,
          java.sql.Types.INTEGER,
          Integer.class);
    } catch (SQLException ex) {
      ex.printStackTrace();
    }
  }

  /**
   * Executes the SQL statement.
   */
  public void execute(String userid, String password, Integer customerNum)
    throws SQLException {
    try {
      select.setUsername(userid);
      select.setPassword(password);
      select.setParameter("customerNum", customerNum);
    }
  }

```

Outline

- import declarations
- CustomerBean
 - select : DBSelect
 - CustomerBean()
 - initializer()
 - execute(String, String, Integer)
 - getDBSelect()
 - getRows()

DB Output

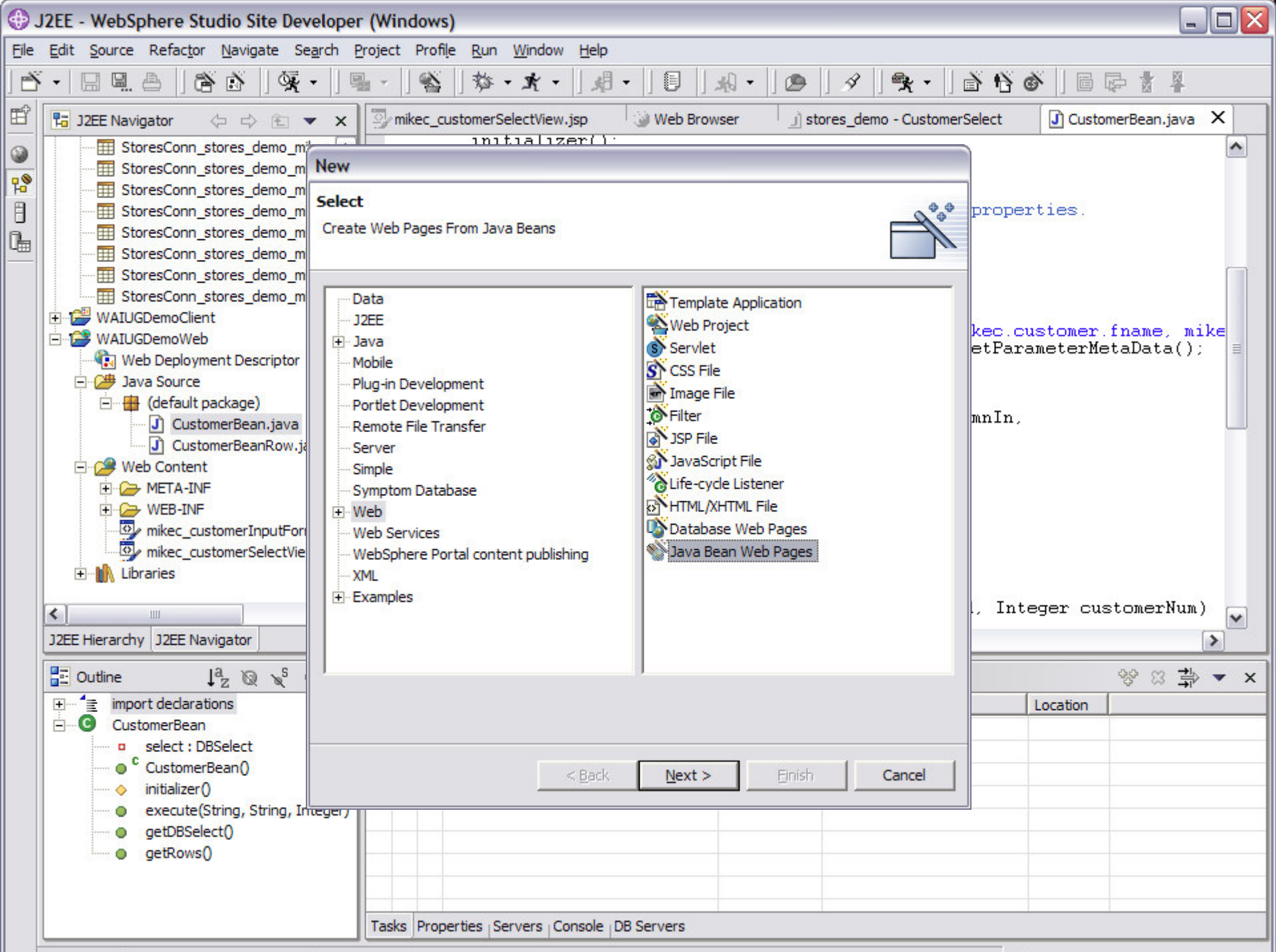
Status	Action	Object Name	CustomerSelect
✓ Success	Execute	CustomerSelect	

CustomerSelect

customer_n...	fname	lname	company	address1
102	Carole	Sadler	Sports Spot...	785 Geary ...

Tasks DB Output

Writable Insert 1 : 1



Java Bean Web Pages

Create Web Pages accessing Java Beans
Specify the folder and Java package for the generated web resources. Choose a code generation model.

Destination folder:

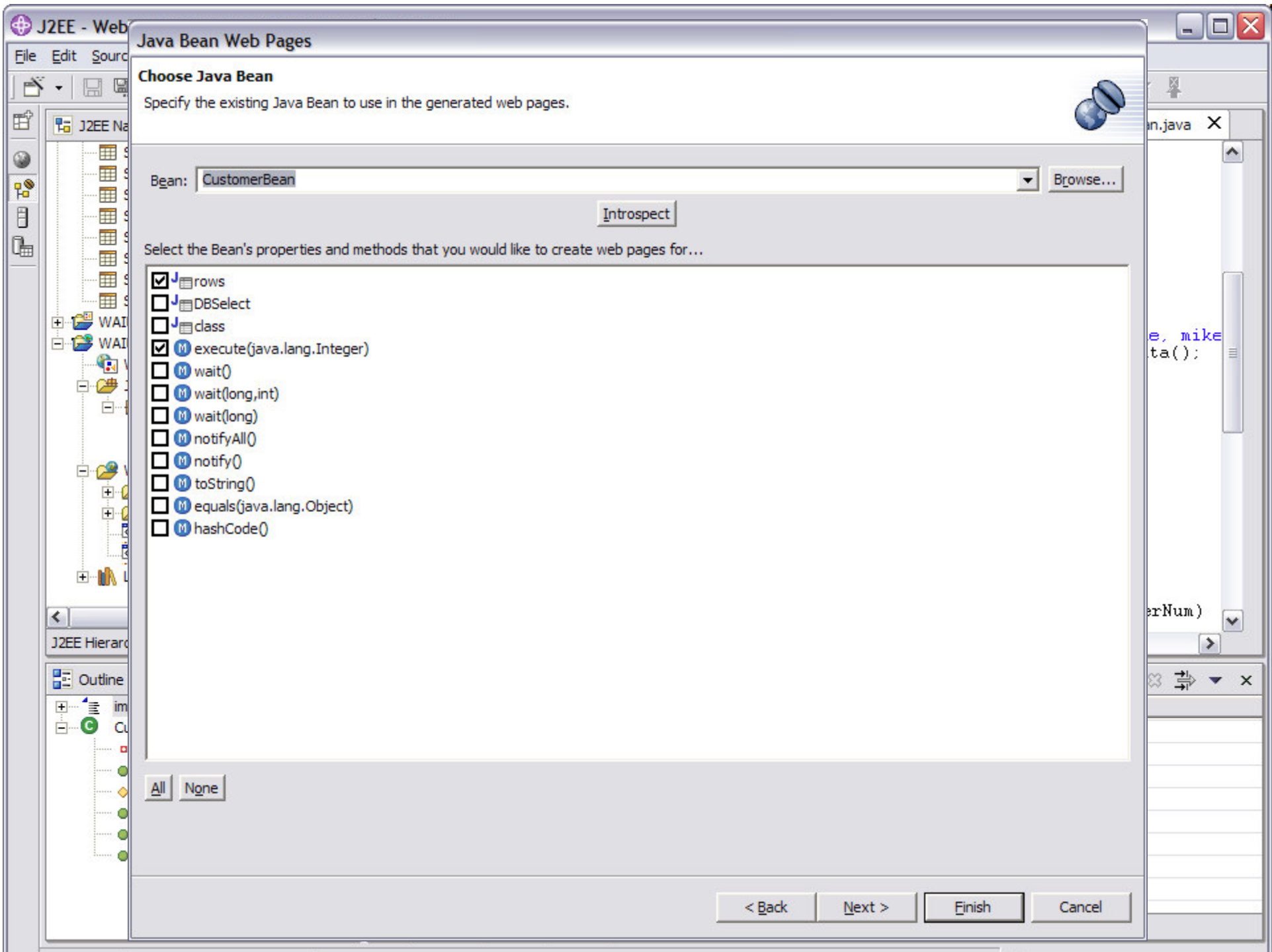
Java package: (default)

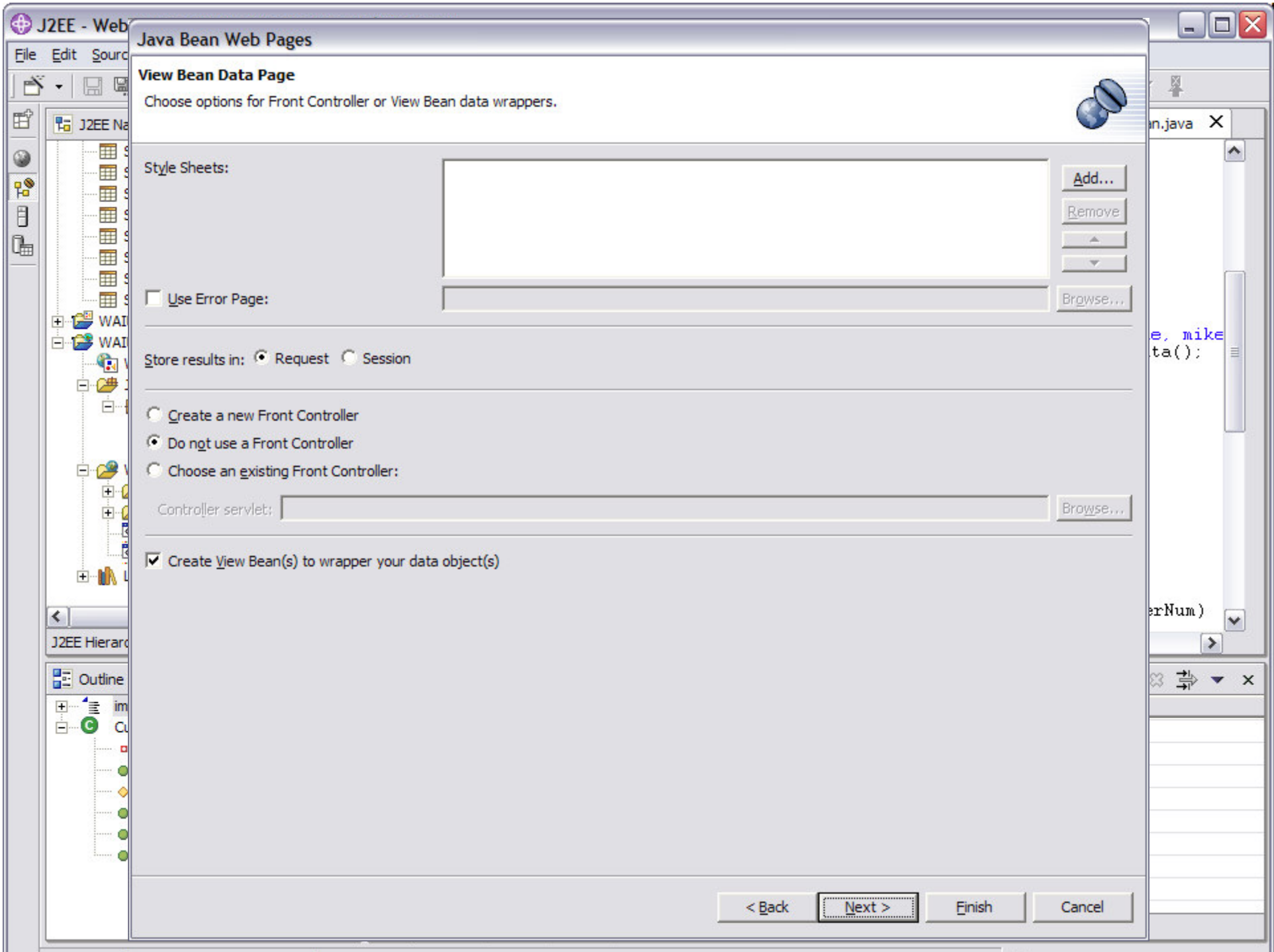
Model:

Description:

Files:	File Description:
<input type="checkbox"/> Input form	<input type="text" value="The form to collect properties and input parameters."/>
<input checked="" type="checkbox"/> Results page	
<input checked="" type="checkbox"/> Controller Servlet	
<input checked="" type="checkbox"/> View Bean	

< Back **Next >** Finish Cancel





J2EE - Web
File Edit Source

Java Bean Web Pages

Design the Results Form

Design the results form.

Properties and method results:

- rows
 - customer_customer_num
 - customer_fname
 - customer_lname
 - customer_company
 - customer_address1
 - customer_address2
 - customer_city
 - customer_state
 - customer_zipcode
 - customer_phone
 - class

All None

Property	Value
ID	rows
Label	rows
Initial Value	
Field Type	static text
Size	
Max Length	
Layout Style	table

Results page

rows	customer_customer_num	customer_fname	customer_lname
	<customer_customer_num>	<customer_fname>	<customer_lname>

```
e, mike  
ta();  
  
erNum)
```

Page Fields

< Back Next > Finish Cancel

J2EE - Web

File Edit Source

Java Bean Web Pages

Specify Prefix

Specify the Prefix to use on the generated files.

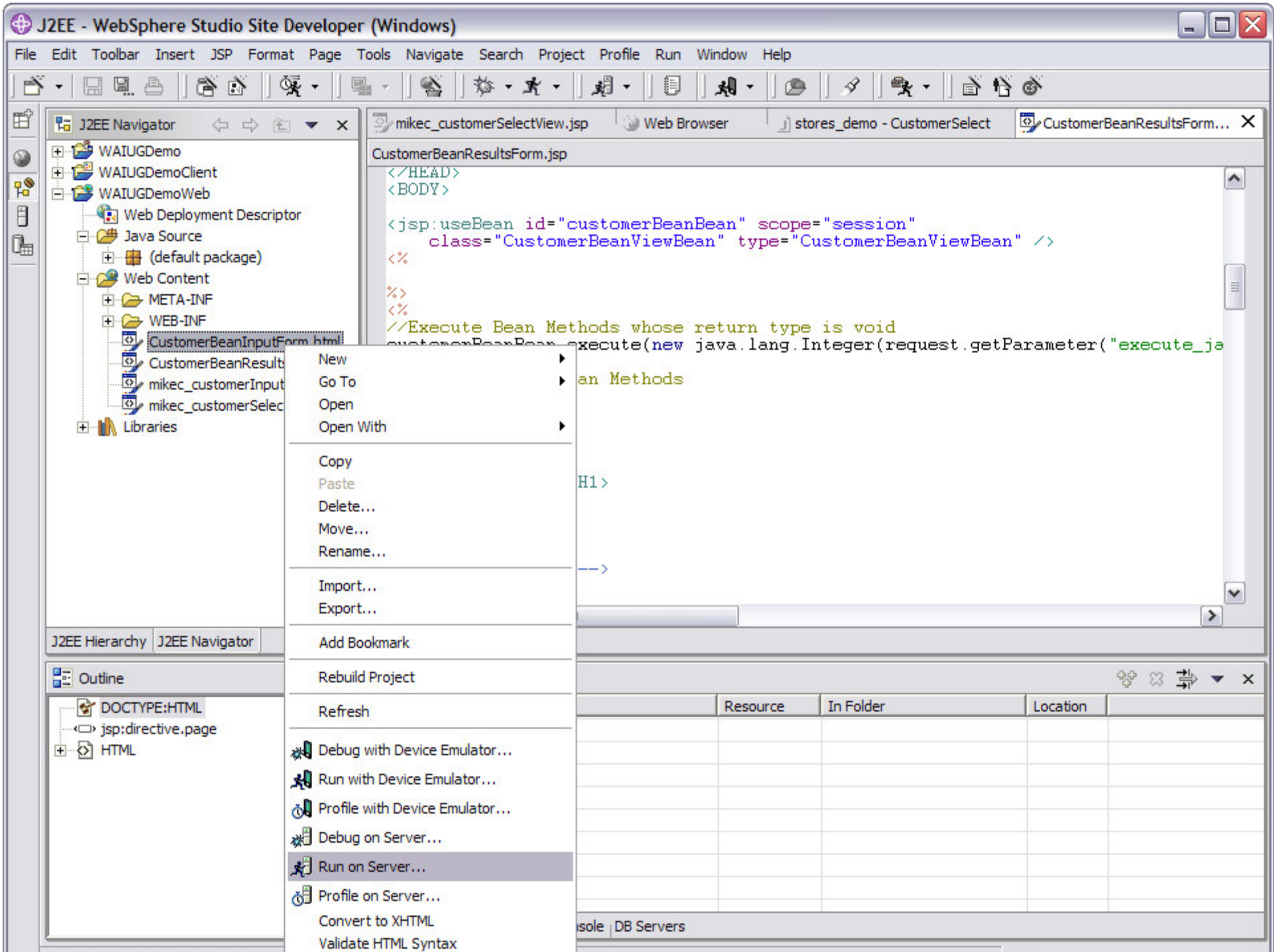
Prefix:

Files	File Names
Input form	CustomerBeanInputForm.html
Results page	CustomerBeanResultsForm.jsp
View Bean	CustomerBeanViewBean.java

Outline

```
e, mike  
ta();  
  
erNum)
```

< Back Next > Finish Cancel



J2EE - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Profile Run Window Help

J2EE Navigator

- WAIUGDemo
- WAIUGDemoClient
- WAIUGDemoWeb
 - Web Deployment Descriptor
 - Java Source
 - (default package)
 - Web Content
 - META-INF
 - WEB-INF
 - CustomerBeanInputForm.html
 - CustomerBeanResultsForm.jsp
 - mikec_customerInputForm.html
 - mikec_customerSelectView.jsp
 - Libraries

mikec_customerSelectView.jsp Web Browser stores_demo - CustomerSelect CustomerBeanResultsForm.jsp

http://localhost:9080/WAIUGDemoWeb/CustomerBeanInputForm.html

Input form

[Submit](#)

`execute(java.lang.Integer) customerNum`

J2EE Hierarchy J2EE Navigator

Outline

An outline is not available.

Console [WAIUG Demo Server (WebSphere v5.0)]

```
[4/19/04 20:59:07:435 EDT] 5fafa94a ApplicationMg A WSVR0200I: Starting application
[4/19/04 20:59:07:465 EDT] 5fafa94a WebContainer A SRVE0169I: Loading Web Module:
[4/19/04 20:59:07:495 EDT] 5fafa94a WebGroup I SRVE0180I: [WAIUGDemoWeb] [/WA
[4/19/04 20:59:07:625 EDT] 5fafa94a WebGroup I SRVE0180I: [WAIUGDemoWeb] [/WA
[4/19/04 20:59:07:635 EDT] 5fafa94a WebGroup I SRVE0180I: [WAIUGDemoWeb] [/WA
[4/19/04 20:59:07:645 EDT] 5fafa94a ApplicationMg A WSVR0221I: Application started
[4/19/04 20:59:07:665 EDT] 5fafa94a HttpTransport A SRVE0171I: Transport http is l
[4/19/04 20:59:09:328 EDT] 5fafa94a HttpTransport A SRVE0171I: Transport https is
[4/19/04 20:59:09:368 EDT] 5fafa94a RMIConnectorC A ADMC0026I: RMI Connector avail
[4/19/04 20:59:09:398 EDT] 5fafa94a WsServer A WSVR0001I: Server server1 open
```

Tasks Properties Servers Console DB Servers

J2EE - WebSphere Studio Site Developer (Windows)

File Edit Navigate Search Project Profile Run Window Help

J2EE Navigator

- WAIUGDemo
 - WAIUGDemoClient
 - WAIUGDemoWeb
 - Web Deployment Descriptor
 - Java Source
 - (default package)
 - Web Content
 - META-INF
 - WEB-INF
 - CustomerBeanInputForm.html
 - CustomerBeanResultsForm.jsp
 - mikec_customerInputForm.html
 - mikec_customerSelectView.jsp
 - Libraries

mikec_customerSelectView.jsp Web Browser X stores_demo - CustomerSelect CustomerBeanResultsForm.jsp

http://localhost:9080/WAIUGDemoWeb/CustomerBeanResultsForm.jsp

Results page

rows	customer_customer_num	customer_fname	customer_lname	customer_company	customer_
	102	Carole	Sadler	Sports Spot	785 Geary

Done

Outline

An outline is not available.

Console [WAIUG Demo Server (WebSphere v5.0)]

```

res-resolution-control: 999 (undefined)
[Other attributes]

isCMP1_x: false (not CMP1.x)
isJMS: false (not JMS)

[4/19/04 20:59:40:012 EDT] 6b6f295c WSRdbDataSour u Database version is
9.30.TC2E3
[4/19/04 20:59:40:012 EDT] 6b6f295c WSRdbDataSour u JDBC Driver version is
2.21.JC5

```

Tasks Properties Servers Console DB Servers



Other Techniques

- ◆ EJB Wizard
- ◆ XML Mapping Wizard



Deployment

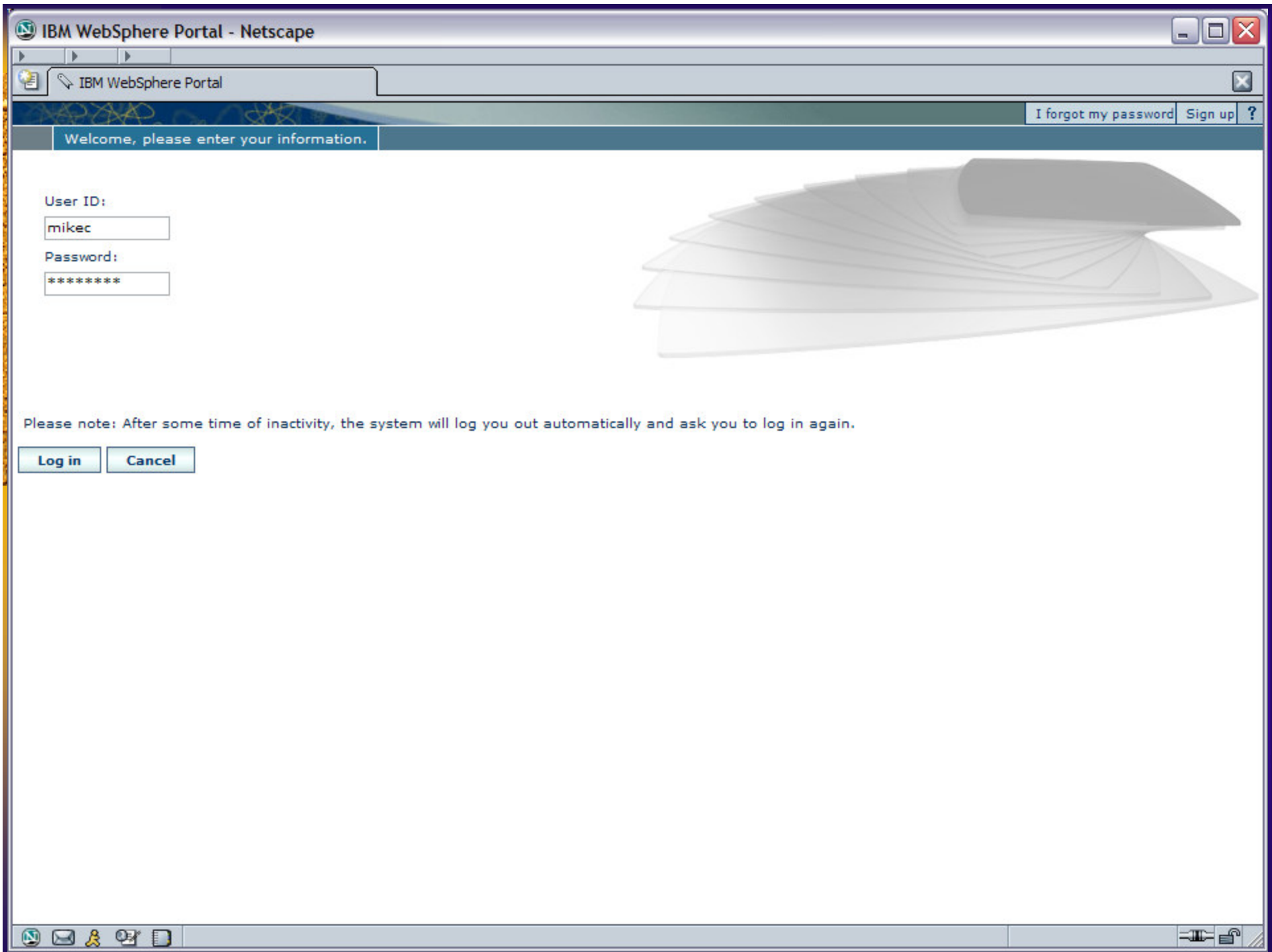
- ◆ Export to .war or .ear file
- ◆ Use web administrative interface to install on WAS



Portal Server Example

- ◆ Create custom page with all tools needed
- ◆ Hundreds of useful portlets from IBM
Portal Catalog

<http://www-106.ibm.com/developerworks/websphere/zones/portal/catalog>



Welcome, please enter your information.

User ID:

Password:

Please note: After some time of inactivity, the system will log you out automatically and ask you to log in again.

IBM WebSphere Portal - Netscape

IBM WebSphere Portal

My Portal Administration Edit my profile ? Log out

New Page Edit Page Assign Permissions

Documents Welcome My Work My Finances My Newsroom WAIUG Demo My Favorites

My Page

Test

Themes/Skins

Bookmarks

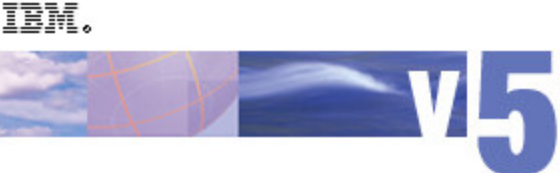
- WebSphere Portal home
- WebSphere Portal Zone
- WebSphere Portal catalog
- WebSphere Portal product documentation
- WebSphere Portal support
- WebSphere Portal offerings

About WebSphere Portal

WebSphere Portal

IBM WebSphere Portal 5.0
Build Level: 144 2003-08-18 11:20

Licensed Materials - Property of IBM
5724-E76, 5724-E77
(C) Copyright IBM Corp. 2001, 2003 All Rights Reserved.




Welcome to WebSphere Portal version 5.0

To rearrange portlets on this page, click the **Show tools** icon. This action produces tools that allow you to arrange and remove portlets. Click **Edit page** to add new portlets or change page layout.

To create a page, click **New page**.

My Vertical News



Baghdad Prison Attack Kills 21
File picture dated August 4, 2003 shows a U.S. soldier guarding his position in a watch tower at the Abu Gharib prison, west of Baghdad.

World News (includes photo)

- Baghdad Prison Attack Kills 21
- Four Alleged Terrorists Killed in Jordanian Police Raids
- Jordanian king snubs Bush
- United States to lift embargo on Libya
- Five Dead, 35 Wounded in Gaza Clashes
- Judges who will try Saddam Selected
- Tony Blair Announces EU Referendum
- Palestinian Youth Killed in Gaza Violence
- Two Men Executed in Saudi
- Bus Crash Kills 3, Injuries 27 in S.Korea
- Kosovo Killer Had No Political Affiliation

US News (includes photo)

- School, Families Mark Fifth

My Stocks

Tuesday, April 20, 2004 4:02:00 PM EST

IBM	90.65	-1.29	-1.40%
\$COMPQ	1,978.63	-41.80	-2.07%
\$DJI	10,314.50	-123.35	-1.18%
\$SPX	1,118.15	-17.67	-1.56%







Data delayed at least 20 minutes.

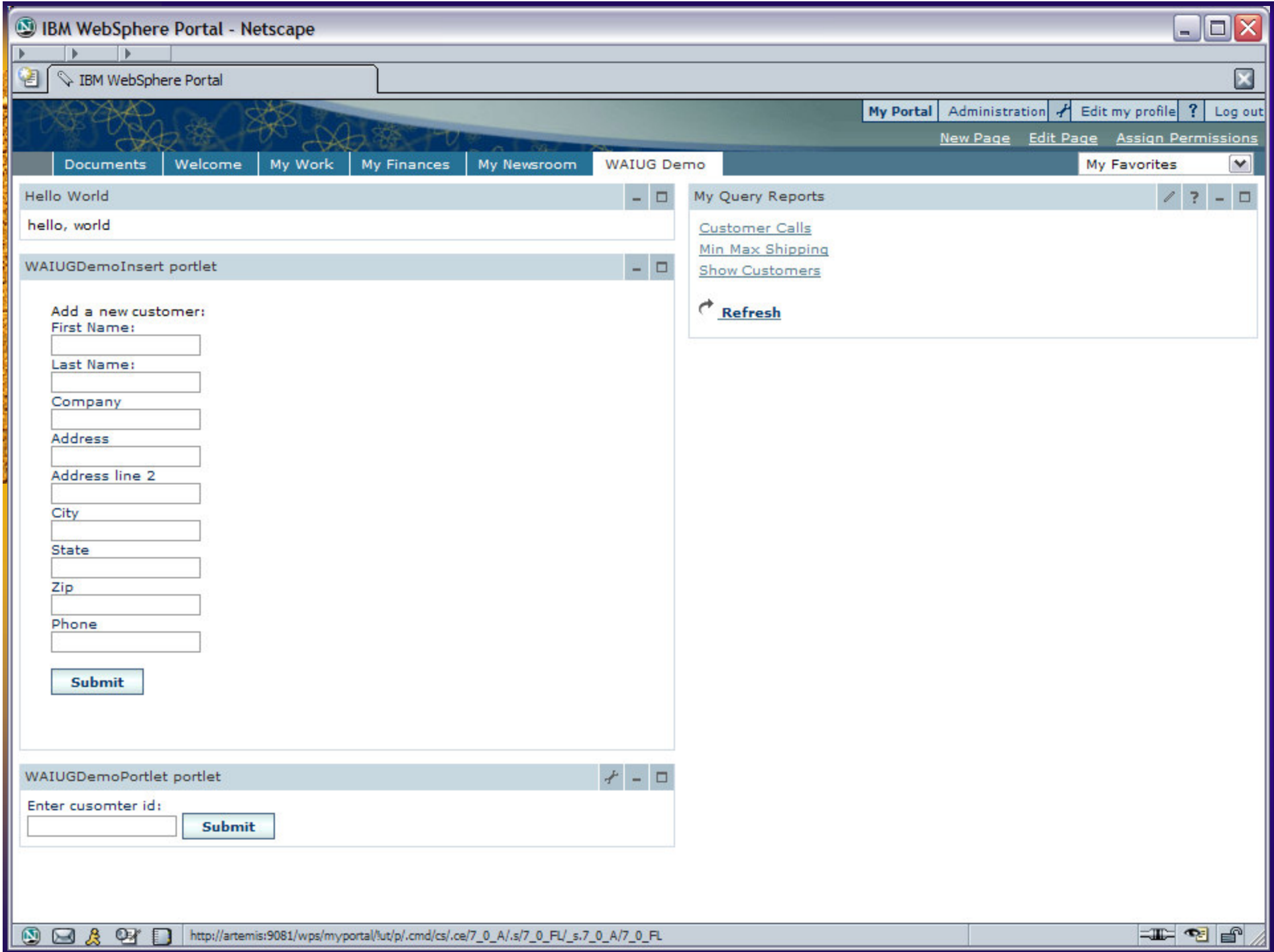
Get Quote Symbol Lookup

Copyright 2004 Pinnacor Inc.

My Weather

Wednesday, April 21, 2004 9:18:00 AM GMT

	Reston, Virginia Partly Cloudy	57° 58°/75°
	Raleigh, North Carolina Partly Cloudy	63° 58°/86°
	Stuttgart, Germany Partly Sunny	55° 49°/63°
	Beijing (Peking), China Mostly Cloudy	81° 61°/90°
	Tokyo, Japan Sunny	70° 60°/73°
	Iowa City, Iowa Mostly Clear	56° 47°/64°



Hello World
hello, world

WAIUGDemoInsert portlet

Add a new customer:

First Name:

Last Name:

Company:

Address:

Address line 2:

City:

State:

Zip:

Phone:

WAIUGDemoPortlet portlet

Enter cusomter id:

My Query Reports

[Customer Calls](#)

[Min Max Shipping](#)

[Show Customers](#)

IBM WebSphere Portal - Netscape

IBM WebSphere Portal

My Portal Administration Edit my profile ? Log out

New Page Edit Page Assign Permissions

Documents Welcome My Work My Finances My Newsroom WAIUG Demo My Favorites

My Query Reports

Show Customers

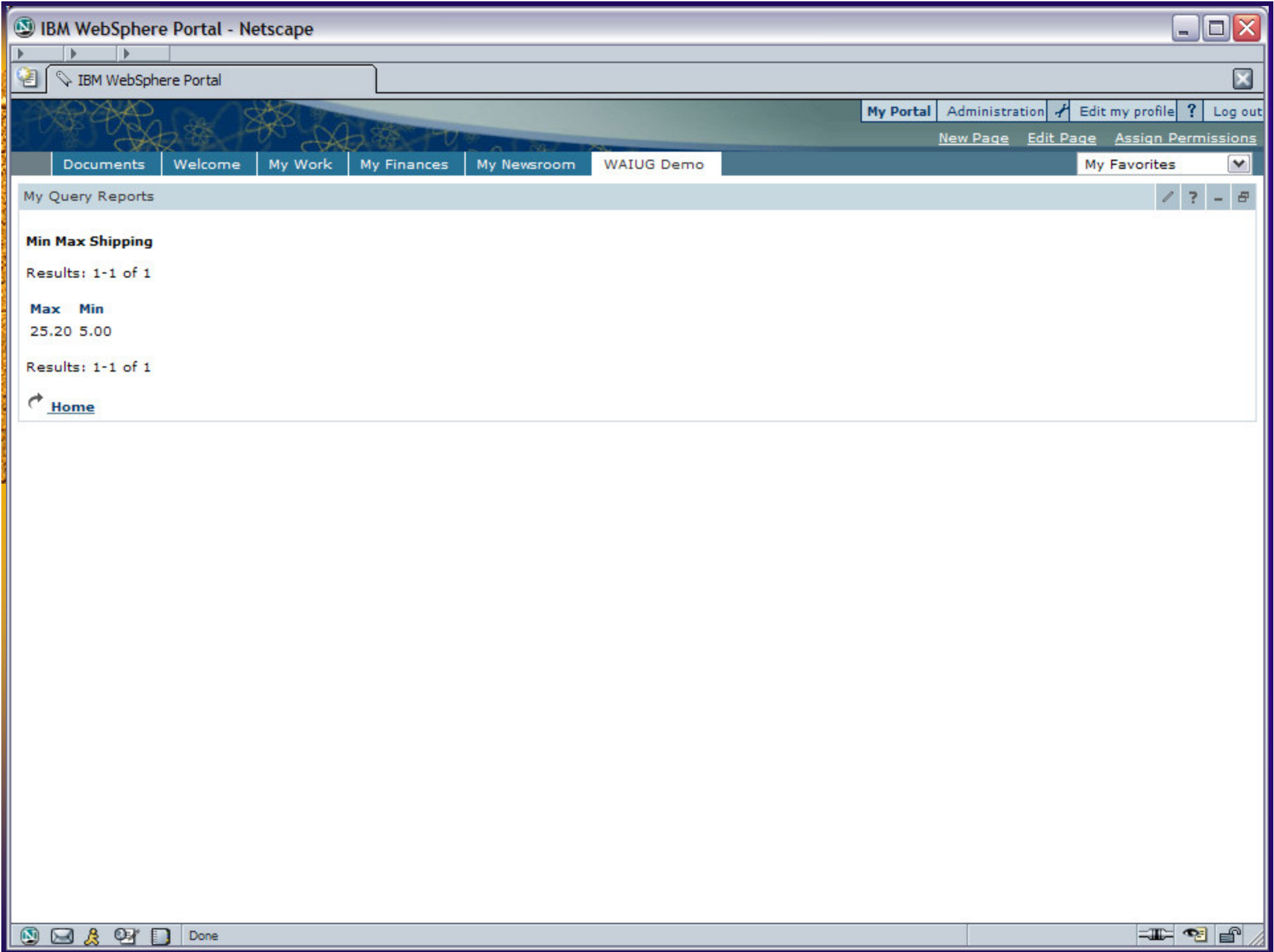
Results: 1-20 of 28 >>Next

customer_num	fname	lname	company	address1	address2	city	state	zipcode	phone
101	Ludwig	Pauli	All Sports Supplies	213 Erstwild Court	null	Sunnyvale	CA	94086	408-789-8075
102	Carole	Sadler	Sports Spot	785 Geary St	null	San Francisco	CA	94117	415-822-1289
103	Philip	Currie	Phil's Sports	654 Poplar	P. O. Box 3498	Palo Alto	CA	94303	415-328-4543
104	Anthony	Higgins	Play Ball!	East Shopping Cntr.	422 Bay Road	Redwood City	CA	94026	415-368-1100
105	Raymond	Vector	Los Altos Sports	1899 La Loma Drive	null	Los Altos	CA	94022	415-776-3249
106	George	Watson	Watson & Son	1143 Carver Place	null	Mountain View	CA	94063	415-389-8789
107	Charles	Ream	Athletic Supplies	41 Jordan Avenue	null	Palo Alto	CA	94304	415-356-9876
108	Donald	Quinn	Quinn's Sports	587 Alvarado	null	Redwood City	CA	94063	415-544-8729
109	Jane	Miller	Sport Stuff	Mayfair Mart	7345 Ross Blvd.	Sunnyvale	CA	94086	408-723-8789
110	Roy	Jaeger	AA Athletics	520 Topaz Way	null	Redwood City	CA	94062	415-743-3611
111	Frances	Keyes	Sports Center	3199 Sterling Court	null	Sunnyvale	CA	94085	408-277-7245
112	Margaret	Lawson	Runners & Others	234 Wyandotte Way	null	Los Altos	CA	94022	415-887-7235
113	Lana	Beatty	Sportstown	654 Oak Grove	null	Menlo Park	CA	94025	415-356-9982
114	Frank	Albertson	Sporting Place	947 Waverly Place	null	Redwood City	CA	94062	415-886-6677
115	Alfred	Grant	Gold Medal Sports	776 Gary Avenue	null	Menlo Park	CA	94025	415-356-1123
116	Jean	Parmelee	Olympic City	1104 Spinosa Drive	null	Mountain View	CA	94040	415-534-8822
117	Arnold	Sipes	Kids Korner	850 Lytton Court	null	Redwood City	CA	94063	415-245-4578
118	Dick	Baxter	Blue Ribbon Sports	5427 College	null	Oakland	CA	94609	415-655-0011
119	Bob	Shorter	The Triathletes Club	2405 Kings Highway	null	Cherry Hill	NJ	08002	609-663-6079
120	Fred	Jewell	Century Pro Shop	6627 N. 17th Way	null	Phoenix	AZ	85016	602-265-8754

Results: 1-20 of 28 >>Next

[Home](#)

Done



IBM WebSphere Portal - Netscape

IBM WebSphere Portal

My Portal Administration Edit my profile ? Log out

New Page Edit Page Assign Permissions

Documents Welcome My Work My Finances My Newsroom WAIUG Demo My Favorites

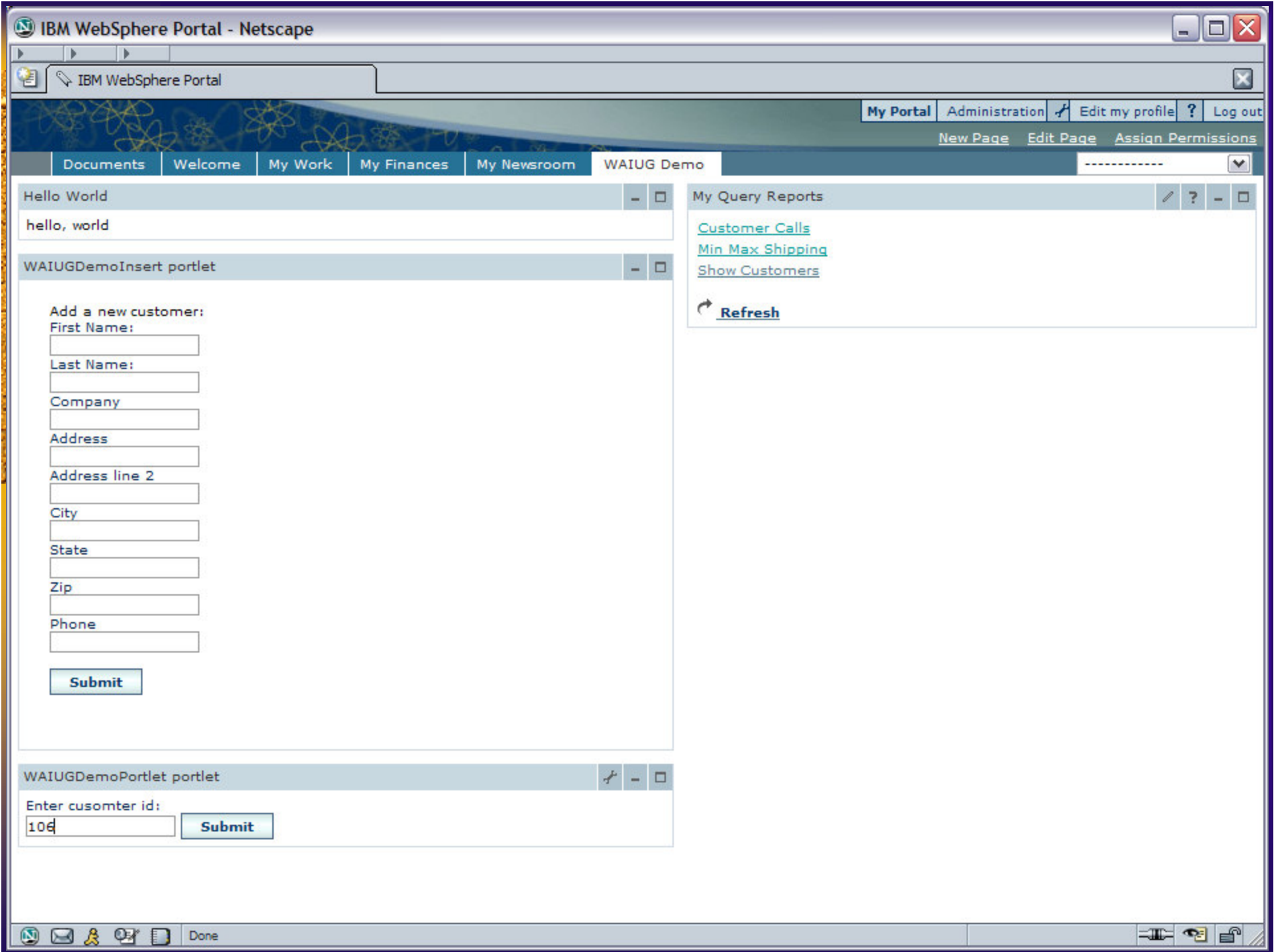
My Query Reports

Customer Calls

Results: 1-20 of 29 >>Next

ID	Last Name	Company	Phone	Call Time	Call Description
101	Pauli	All Sports Supplies	408-789-8075	null	null
102	Sadler	Sports Spot	415-822-1289	null	null
103	Currie	Phil's Sports	415-328-4543	null	null
104	Higgins	Play Ball!	415-368-1100	null	null
105	Vector	Los Altos Sports	415-776-3249	null	null
106	Watson	Watson & Son	415-389-8789	1998-06-12 08:20:00.0	Order was received, but two of the cans of ANZ tennis balls within the case were empty
107	Ream	Athletic Supplies	415-356-9876	null	null
108	Quinn	Quinn's Sports	415-544-8729	null	null
109	Miller	Sport Stuff	408-723-8789	null	null
110	Jaeger	AA Athletics	415-743-3611	1998-07-07 10:24:00.0	Order placed one month ago (6/7) not received.
111	Keyes	Sports Center	408-277-7245	null	null
112	Lawson	Runners & Others	415-887-7235	null	null
113	Beatty	Sportstown	415-356-9982	null	null
114	Albertson	Sporting Place	415-886-6677	null	null
115	Grant	Gold Medal Sports	415-356-1123	null	null
116	Parmelee	Olympic City	415-534-8822	1997-11-28 13:34:00.0	Received plain white swim caps (313 ANZ) instead of navy with team logo (313 SHM)
116	Parmelee	Olympic City	415-534-8822	1997-12-21 11:24:00.0	Second complaint from this customer! Received two cases right-handed outfielder gloves (1 HRO) instead of one case lefties.
117	Sipes	Kids Korner	415-245-4578	null	null
118	Baxter	Blue Ribbon Sports	415-655-0011	null	null

Done



Hello World
hello, world

WAIUGDemoInsert portlet

Add a new customer:

First Name:

Last Name:

Company

Address

Address line 2

City

State

Zip

Phone

Submit

WAIUGDemoPortlet portlet

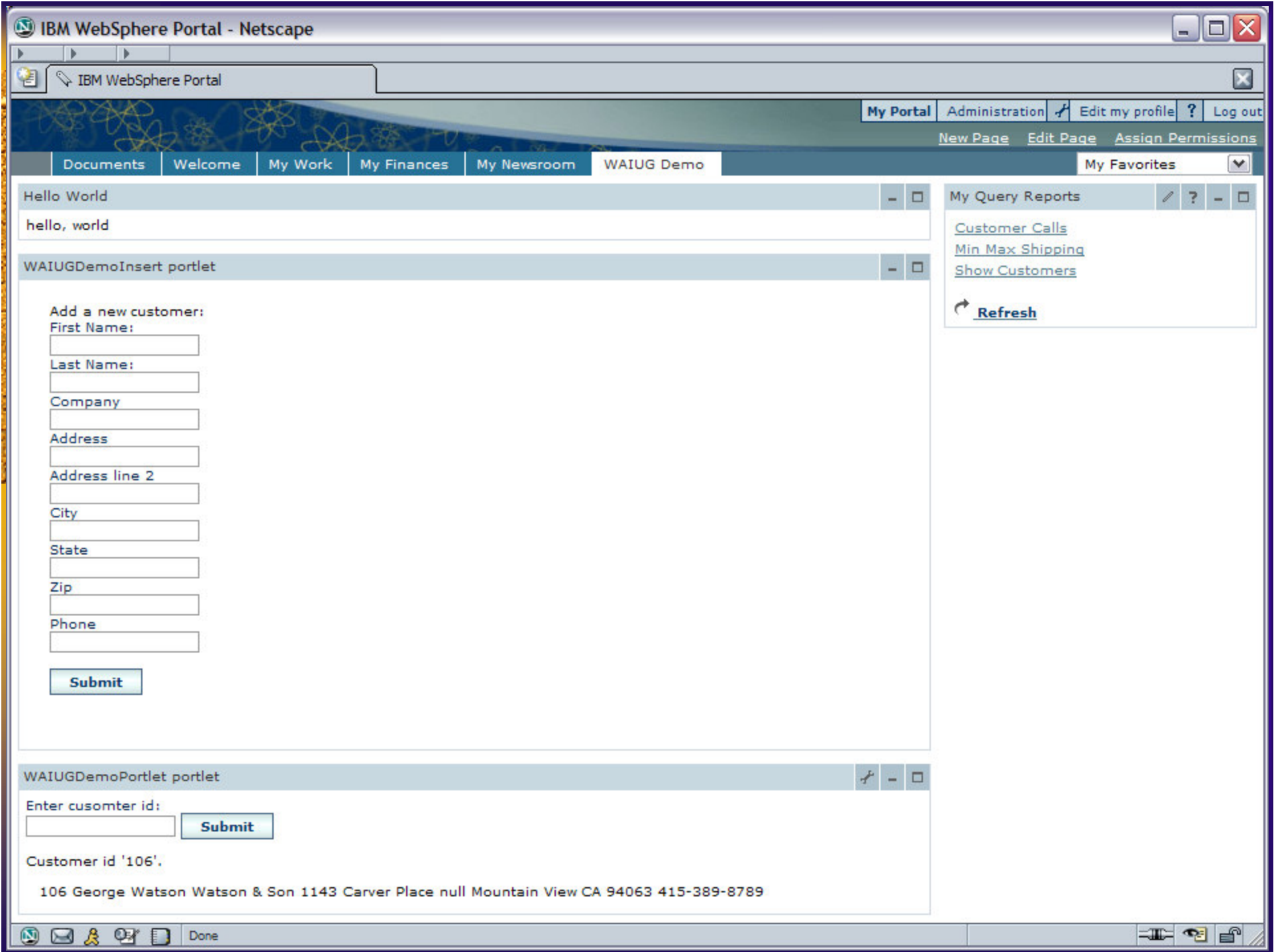
Enter cusomter id:

Submit

My Query Reports

- [Customer Calls](#)
- [Min Max Shipping](#)
- [Show Customers](#)

Refresh



Hello World

hello, world

WAIUGDemoInsert portlet

Add a new customer:

First Name:

Last Name:

Company

Address

Address line 2

City

State

Zip

Phone

Submit

My Query Reports

[Customer Calls](#)

[Min Max Shipping](#)

[Show Customers](#)

[Refresh](#)

WAIUGDemoPortlet portlet

Enter cusomter id:

Submit

Customer id '106'.

106 George Watson Watson & Son 1143 Carver Place null Mountain View CA 94063 415-389-8789

IBM WebSphere Portal - Netscape

IBM WebSphere Portal

My Portal Administration Edit my profile ? Log out

New Page Edit Page Assign Permissions

Documents Welcome My Work My Finances My Newsroom WAIUG Demo My Favorites

Hello World

hello, world

WAIUGDemoInsert portlet

Add a new customer:

First Name: Mike

Last Name: Chaney

Company: ChainLink

Address: .012 Burywood Lane

Address line 2:

City: Reston

State: VA

Zip: 20194

Phone: 703-430-5752

Submit

WAIUGDemoPortlet portlet

Enter customer id: Submit

Customer id '106'.

106 George Watson Watson & Son 1143 Carver Place null Mountain View CA 94063 415-389-8789

My Query Reports

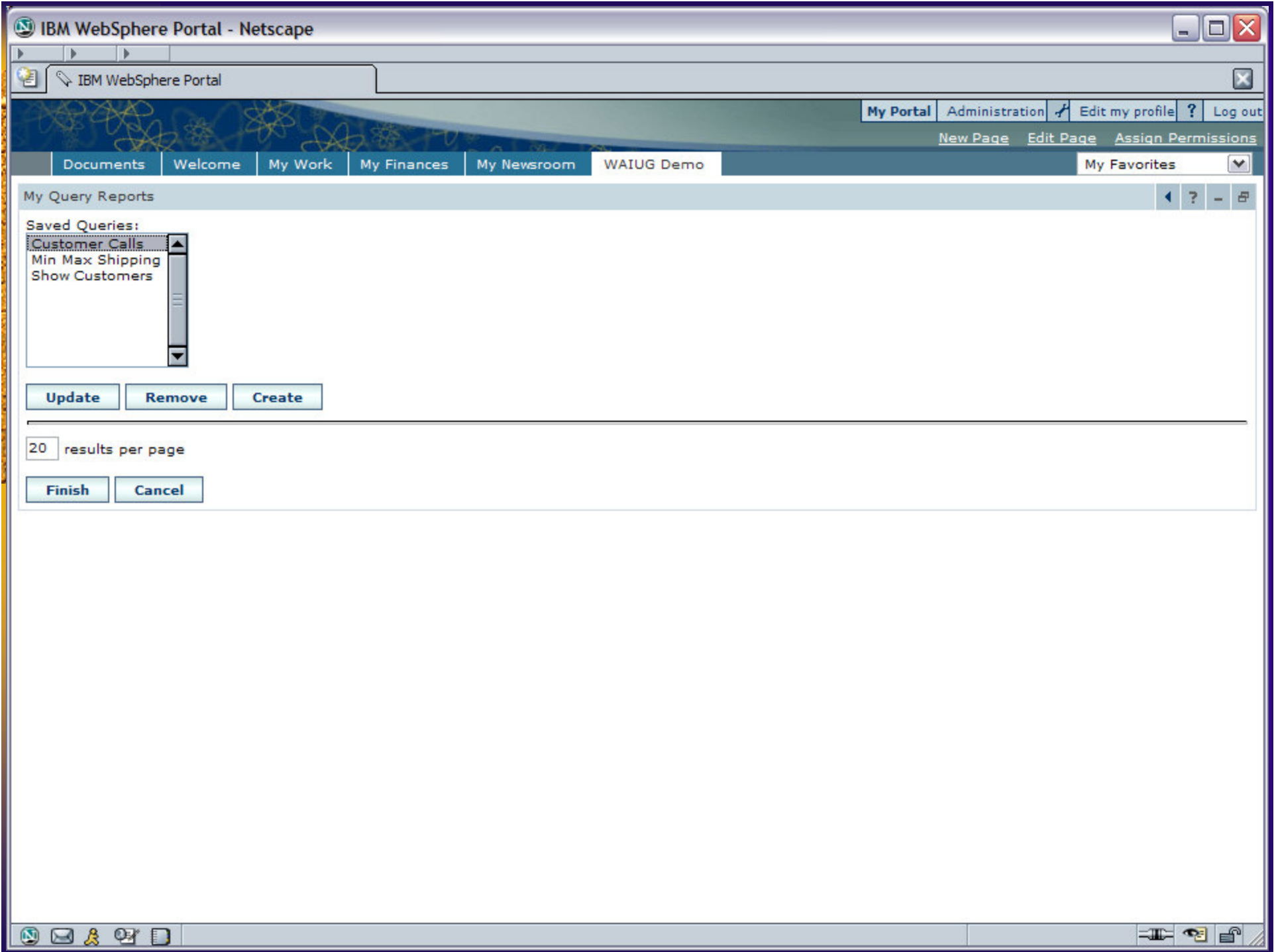
Customer Calls

Min Max Shipping

Show Customers

Refresh

Done



My Query Reports

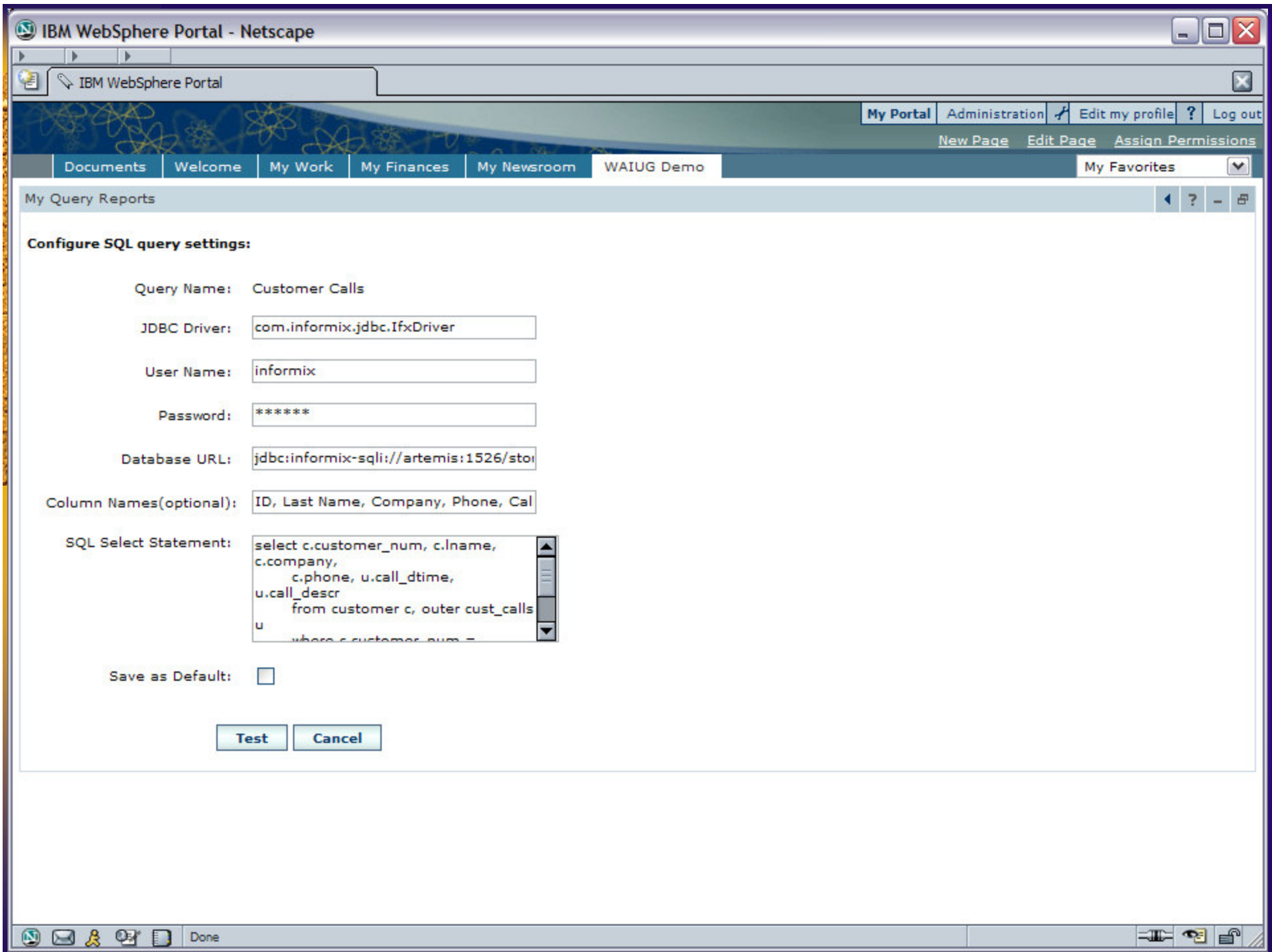
Saved Queries:

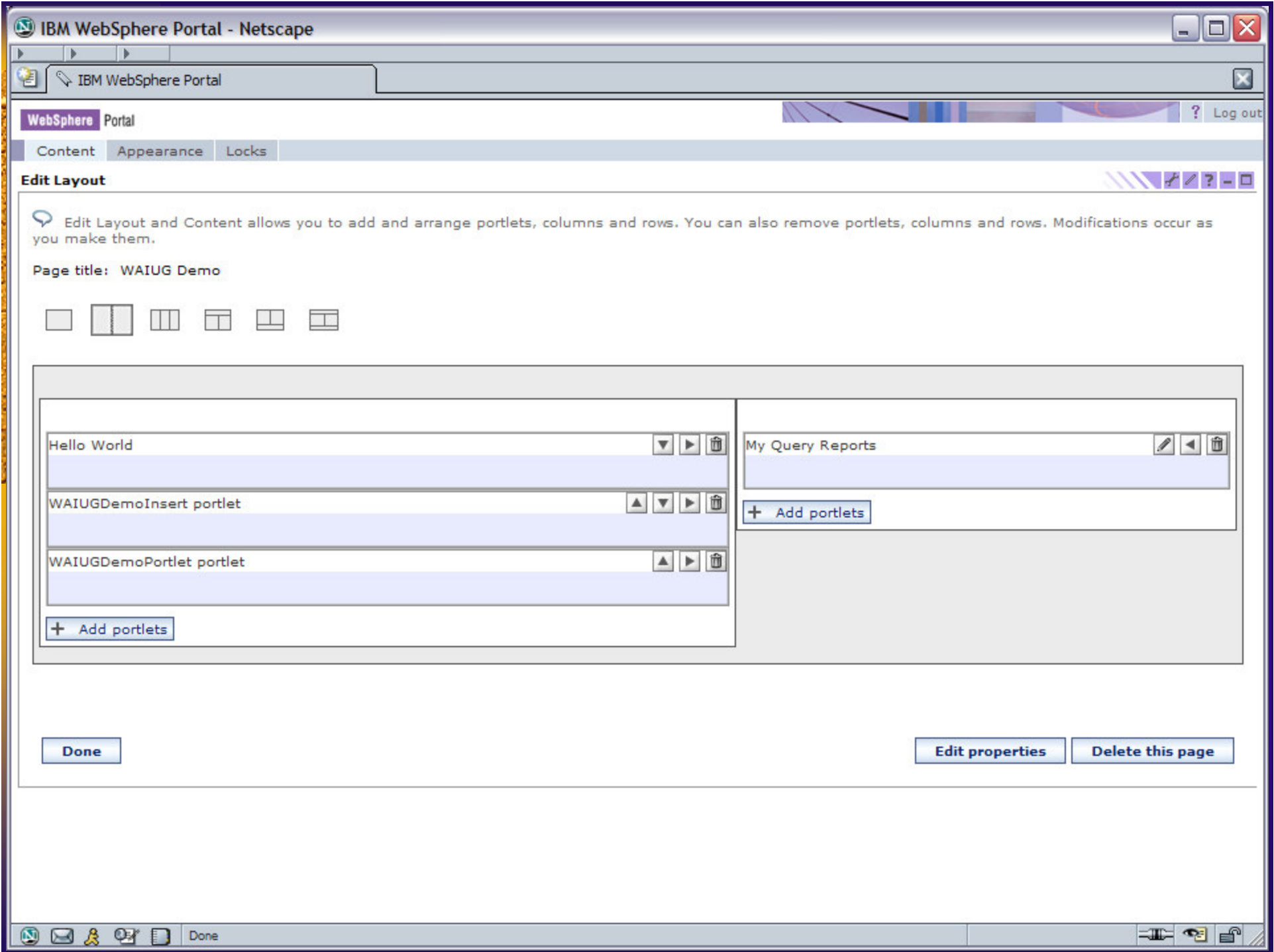
- Customer Calls
- Min Max Shipping
- Show Customers

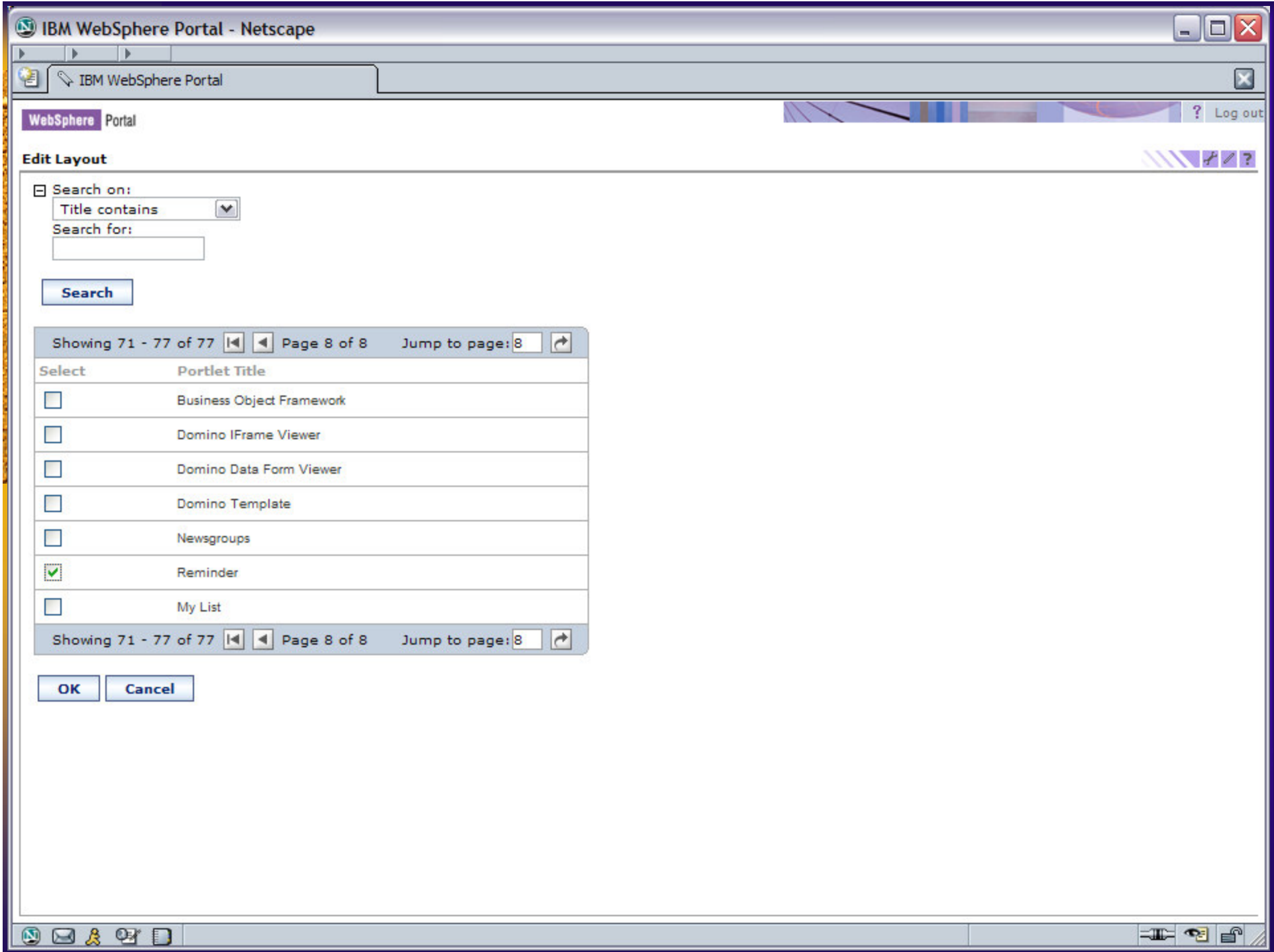
Update Remove Create

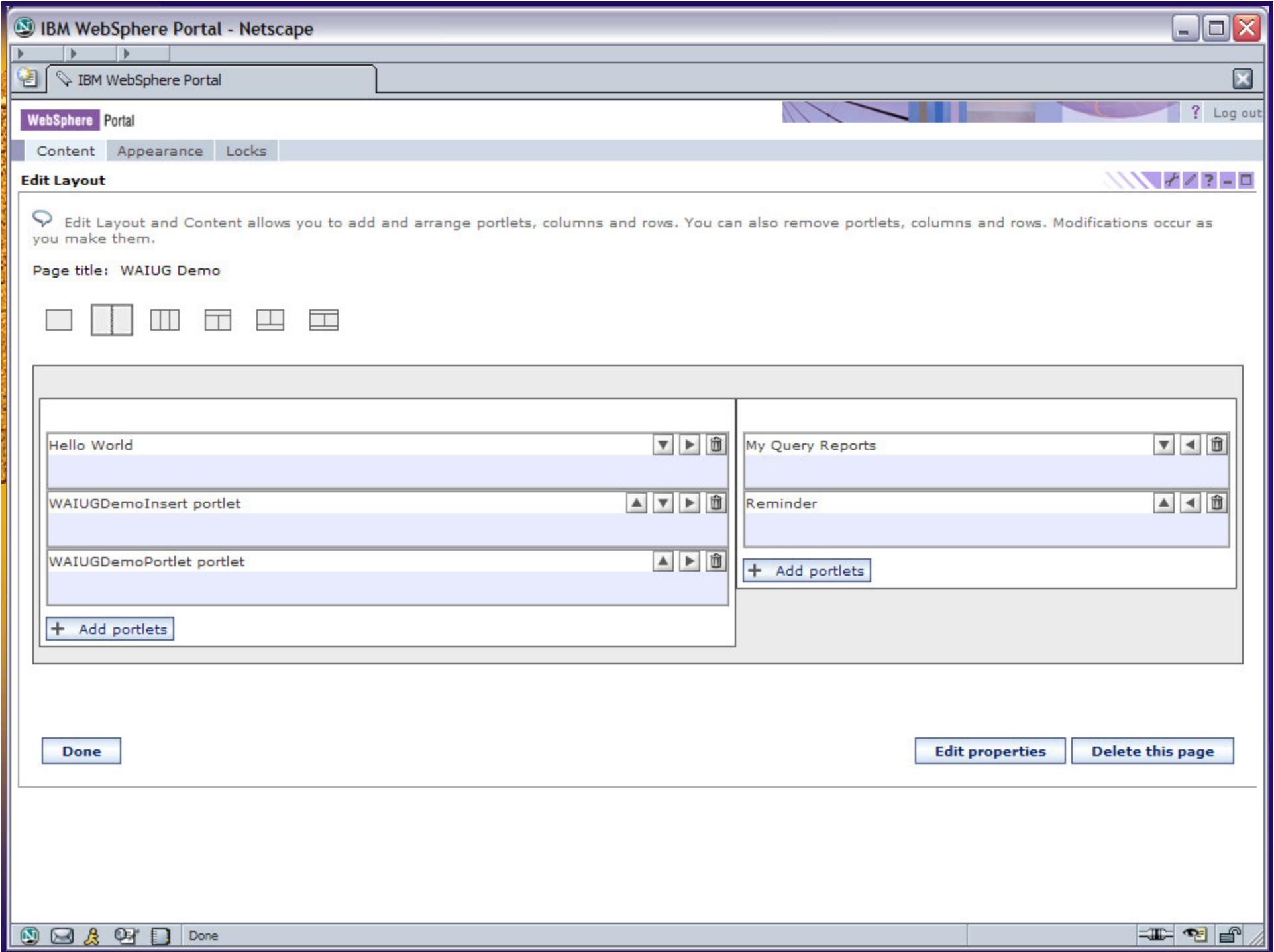
20 results per page

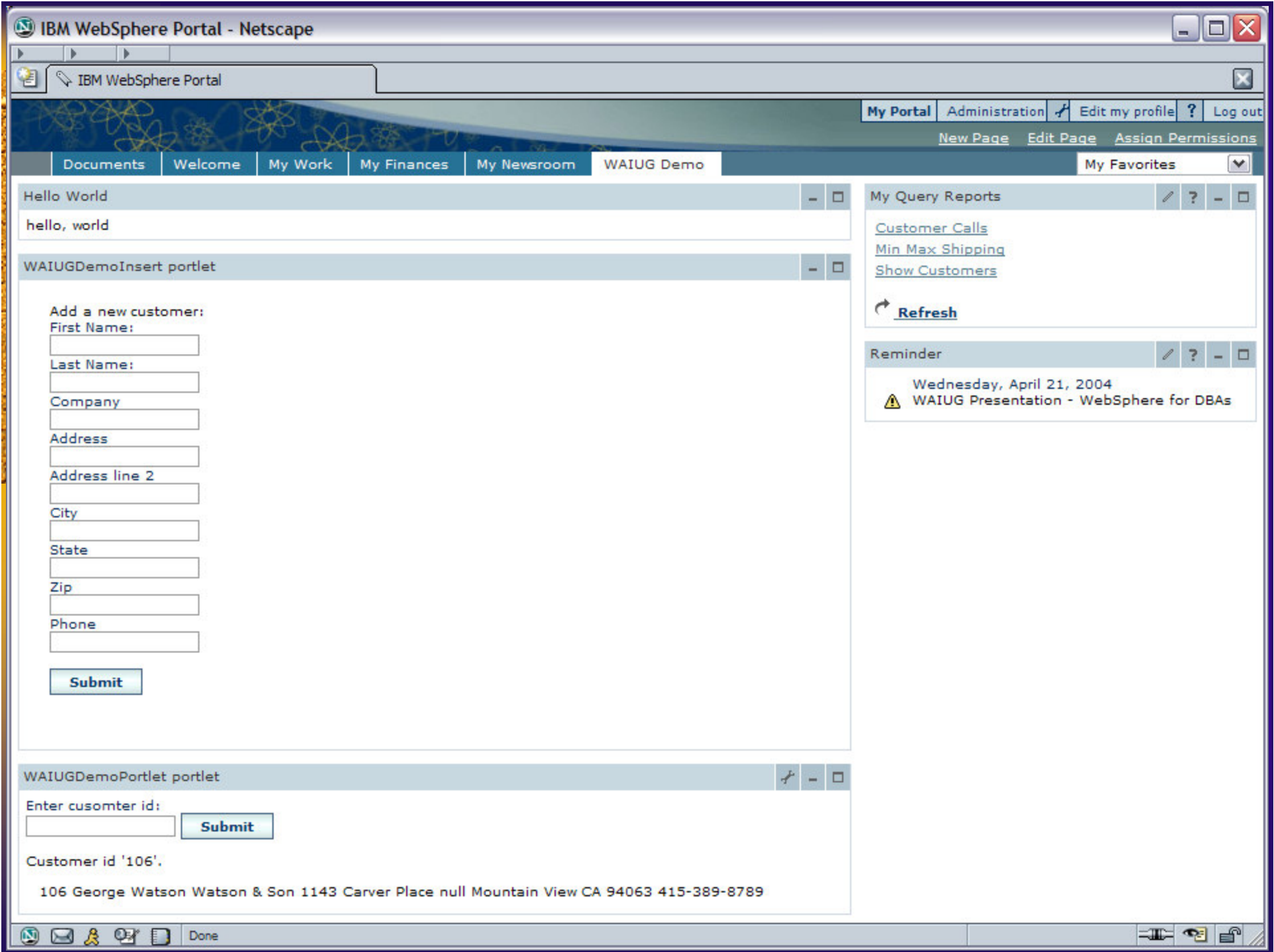
Finish Cancel











Hello World
hello, world

WAIUGDemoInsert portlet

Add a new customer:

First Name:

Last Name:

Company:

Address:

Address line 2:

City:

State:

Zip:

Phone:

WAIUGDemoPortlet portlet


Enter cusomter id:

Customer id '106'.
106 George Watson Watson & Son 1143 Carver Place null Mountain View CA 94063 415-389-8789

My Query Reports

[Customer Calls](#)
[Min Max Shipping](#)
[Show Customers](#)

Reminder

Wednesday, April 21, 2004
 WAIUG Presentation - WebSphere for DBAs



References

- ◆ [Using Informix Dynamic Server with WebSphere](#), SG24-6948-00
Redbook, published 27 June 2003
- ◆ *An Introduction to Web Application Development with IBM WebSphere Studio: WebSphere Certification Study Guide*, ISBN: 1-931182-11-6



Links

- ◆ <http://www.ibm.com/websphere>
- ◆ <http://www.ibm.com/developerworks/websphere/>
- ◆ <http://www.redbooks.ibm.com/>
- ◆ <http://www.eclipse.org>



Questions?

Mike Chaney

ChainLink Networking Solutions, Inc.

703-430-5752

mikec@chainlink.com

<http://www.chainlink.com>