



# **DATA MANAGEMENT SYSTEM (DMS)**

**SETUP, CONFIGURATION AND MANAGEMENT  
(iSeries 520 Server)**

**VERSION 3.0**

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# INTRODUCTION

## Purpose

This document describes how to setup, configure and deploy the Data Management System (DMS) application on an iSeries 520 Server. It also covers deploying updates to the application as well as steps to follow in resolving specific types of errors.

## Scope

The scope of this document includes:-

- Creating database tables and populating security data.
- Creating Data source on application server.
- Deploying application on application server.
- Testing the application
- Installing updates to the DMS application
- Resolving errors

## Definitions, Acronyms, Abbreviations

STATIN	-	Statistical Institute of Jamaica
DMS	-	Data Management System
EAR	-	Enterprise Application Archive file
SQL	-	Structured Query Language
WAS	-	WebSphere Application Server

## Prerequisites

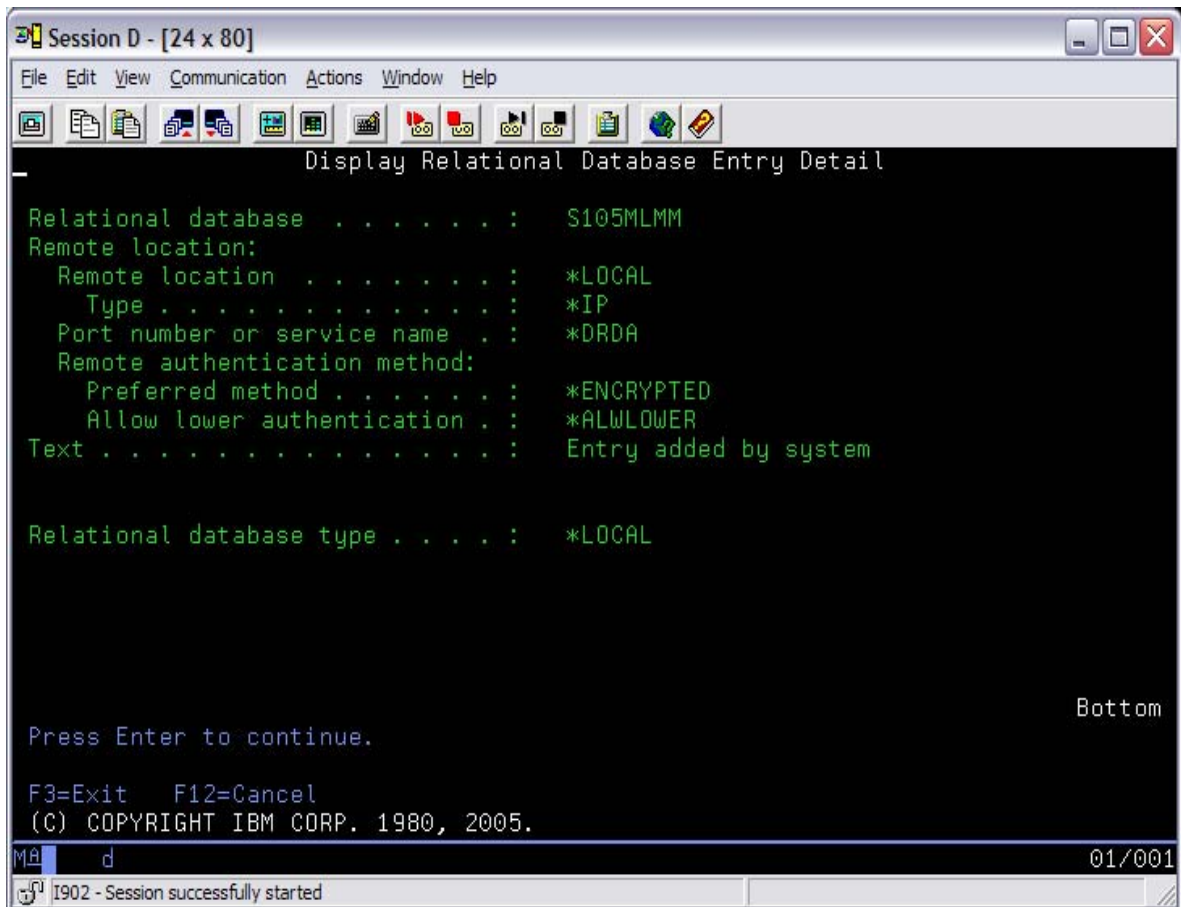
- IBM iSeries Navigator software
- Login account to iSeries
- Mapped drive path on local pc to the folder /QIBM on iSeries server
- ODBC connection to DMSTEST and DMSPROD schema on iSeries

## 1.0 DATABASE CREATION AND CONFIGURATION

### 1.1 Database Creation

It is important to specify a relational database name on the iSeries to allow networks that have relational databases of the same name to uniquely identify each in a Distributed Relational Database Architecture environment.

1. To check if your iSeries already have a relational database entry, type the command **DSPRDBDIRE** on the command line and press **Enter**.
2. You should see a screen as below, showing your <iSeries name> defined as the Relational database name.



3. If you do not have an entry defined as shown above, use the **ADDRDBDIRE** command to create a new entry.
  - a. Type **ADDRDBDIRE** on the command line and press F4.
  - b. Fill in the following fields:-
    - Relational database ..... <your iSeries name> (S10C441B)
    - Remote location ..... \*LOCAL
    - Type..... \*IP
4. Press **Enter**.

## 1.2 User Creation

1. Sign on to the iSeries with a userid with Security officer privileges.
2. On the command line, type the command **CRTUSRPRF** and press **F4**
3. You will see the create user profile screen displayed.
4. Fill in the basic parameters below.
  - User profile.....<Username>
  - Password.....<password>
  - User Class.....\*User
5. Press **Enter**.

### Authority

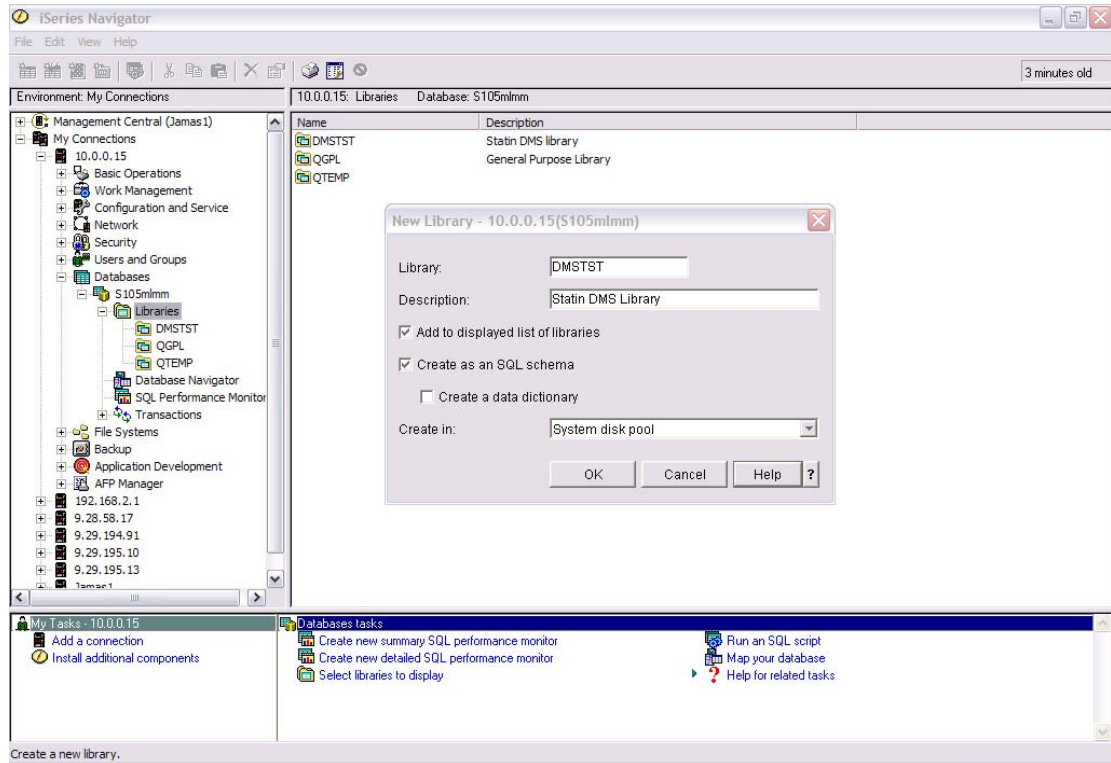
To ensure the user profile created has all authorities to the schema/library and the objects in the schema/library. Use the Grant Object Authority (GRTOBJAUT) command:-

```
GRTOBJAUT OBJ(<schema/library name>) OBJTYPE(*LIB)
USER(<username>) AUT(*ALL )
```

```
GRTOBJAUT OBJ(<schema/library name>/*ALL) OBJTYPE(*ALL)
USER(<username>) AUT(*ALL)
```

## 1.3 Schema and Tables Creation

1. Connect to the database from iSeries Navigator.
2. Create schema <SCHEMANAME> in the DB2/400 database. Right click on the Schema/Library to create new schema. Provide schema name.



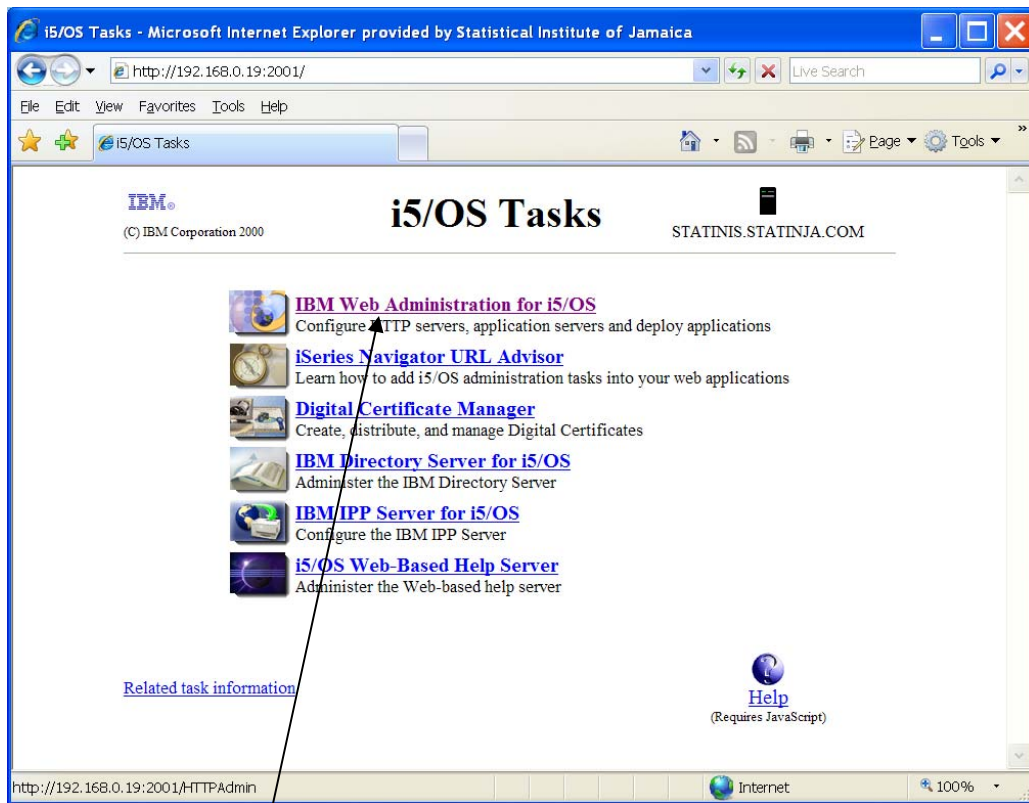
3. Open SQL query editor.
4. To work in the <SCHEMANAME> created, use following command  
set current schema <SCHEMANAME>
5. Run SQL statements from following files, which are given as part of release.
  - a. Admin (Create).sql – This SQL will create tables used for security module.
  - b. Media (Create).sql - This SQL will create tables used for media clipping module.
6. If you are re-creating tables, then you may want to first drop existing tables and then re-create those. To drop tables use following scripts.
  - a. Admin (Drop).sql – SQLs in this file will drop tables used for security module.
  - b. Media (Drop).sql - SQLs in this file drop tables used for media clipping module.
7. Once security tables have been created, then need to load those security tables. To load security data, execute SQLs provided in "Security Data.txt" file. To maintain referential integrity execute sqls in the given order only.
8. Use iSeries Navigator to grant access to newly created user, to access schema and created tables.

## 2.0 CREATING A NEW WEBSPHERE APPLICATION SERVER

1. Start IE Browser
2. Enter <http://192.168.0.19:2001/> in the browser address bar then press enter.
3. Enter the username and password
4. Click OK to continue



5. The iSeries i5/OS Tasks web page will appear.



6. Select **IBM Web Administrator for i5/OS** link.





The IBM Web Administrator for i5 page will appear. In this page, you can create, configure, manage and start or stop your web and application servers.

The screenshot shows the IBM Web Administration for i5 interface. The browser title is "HTTP Server Administration on 192 - Microsoft Internet Explorer provided by Statistical Institute of Jamaica". The URL is "http://192.168.0.19:2001/HTTPAdmin". The page title is "Manage WebSphere Application Server - V6.1.0.17 Express". The profile is "WAS61TEST" and the server is "WAS61TEST". The product install path is "/QIBM/ProdData/WebSphere/AppServer/V61/Express".

The main content area contains the following instructions:

- Create Additional Virtual Host**: The default virtual host "default\_host" was created for this application server. However, you can specify additional virtual hosts for more control over what URI's can run which applications.
- Install New Application**: After creating the server and virtual host you can install your applications.
- Create Data Source**: Then, define the resources the application server will use to access data for your applications.

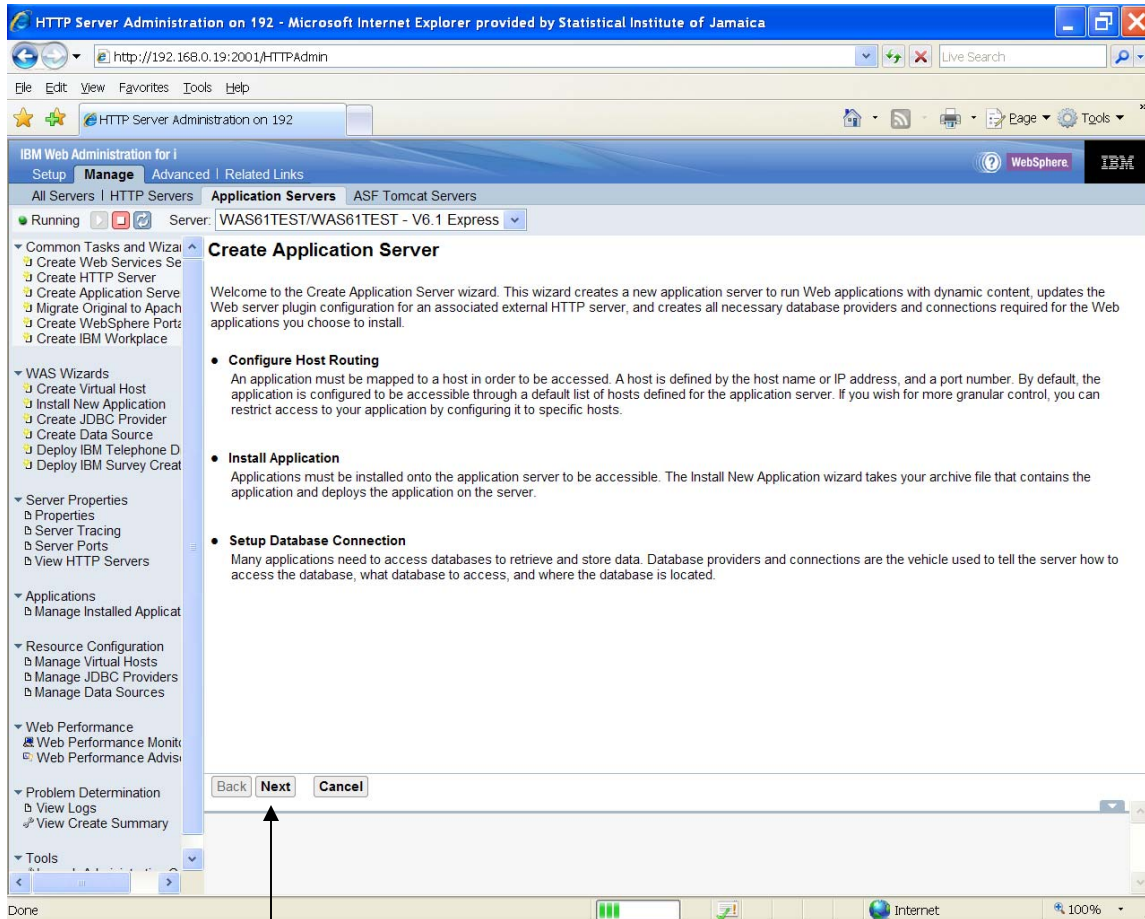
The configuration table shows the current configuration for the profile "WAS61TEST" and server "WAS61TEST":

Current Configuration	Profile: "WAS61TEST"	Server: "WAS61TEST"
<b>Manage Virtual Hosts</b> <ul style="list-style-type: none"><li>default_host</li><li>admin_host</li></ul>	<b>Manage Installed Applications</b> <ul style="list-style-type: none"><li>DMSEar</li><li>DefaultApplication</li><li>query</li><li>ivtApp</li></ul>	<b>Manage Data Sources</b> <ul style="list-style-type: none"><li>DefaultJBTTimerDataSource</li><li>Default Datasource</li><li>DB2 UDB doer iSeries (Toolbox) DataSources</li></ul>

7. Click **Create Application Server**



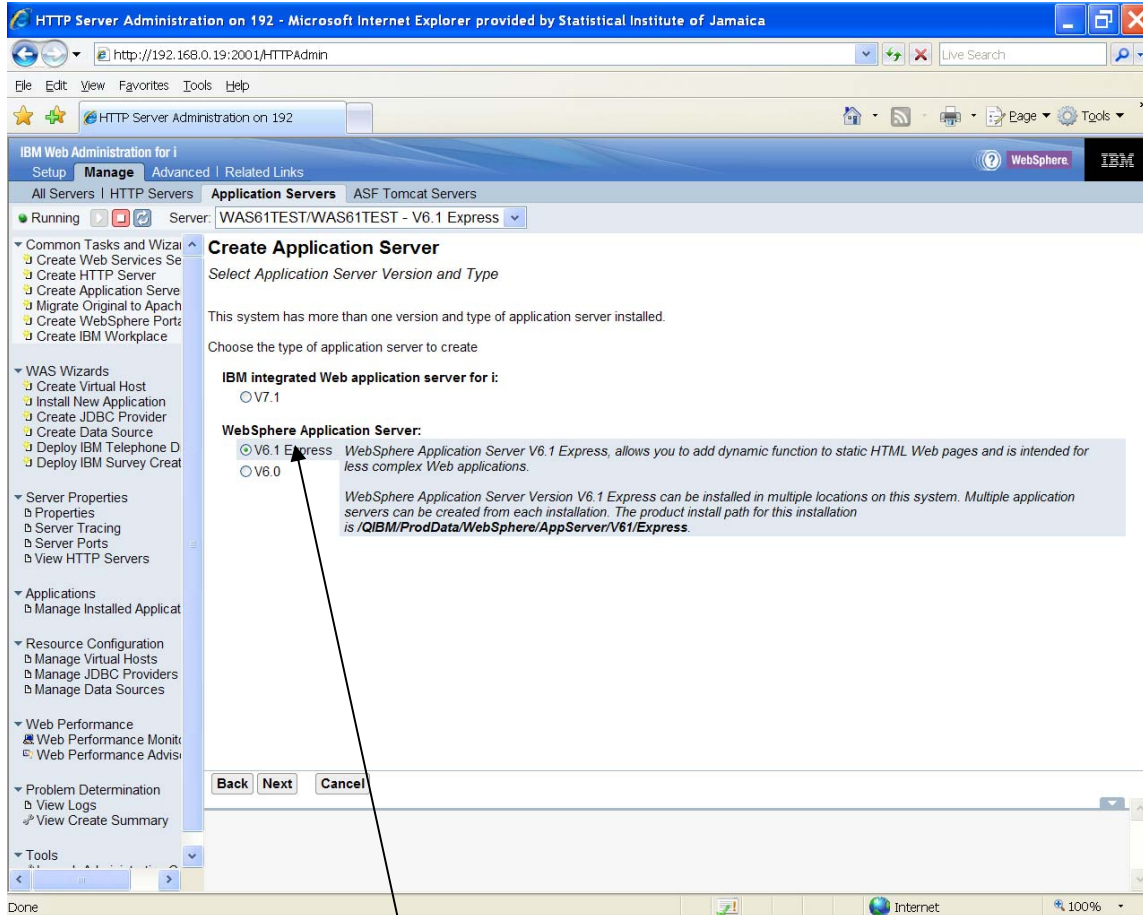
The wizard will guide you through creating your new server.



8. Click the **Next** button to continue.



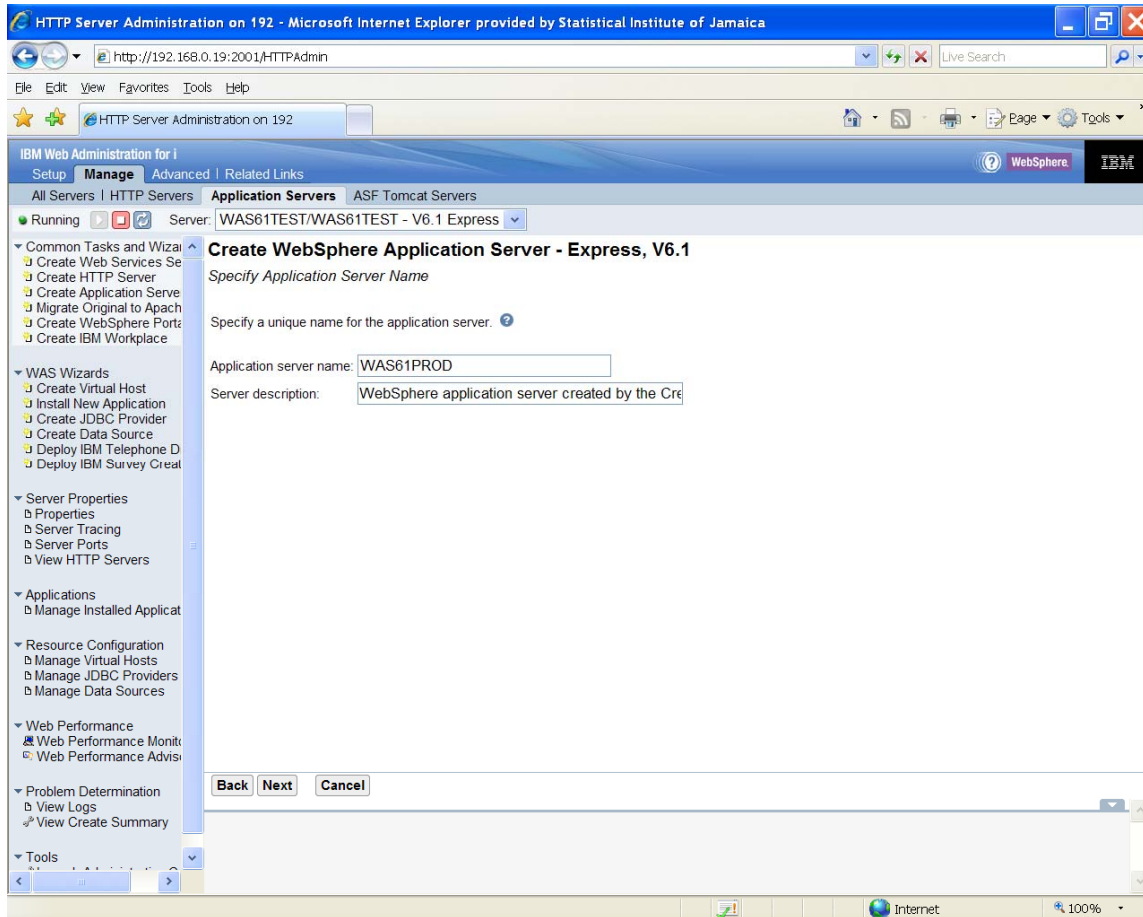
This page will start the process in creating the application server. In this exercise, we do not have v7.1 as displayed on the screen. We are migrating from V6.0 to V6.1 Express.



9. Select the **V6.1 Express** radio button.
10. Click **Next** to continue.



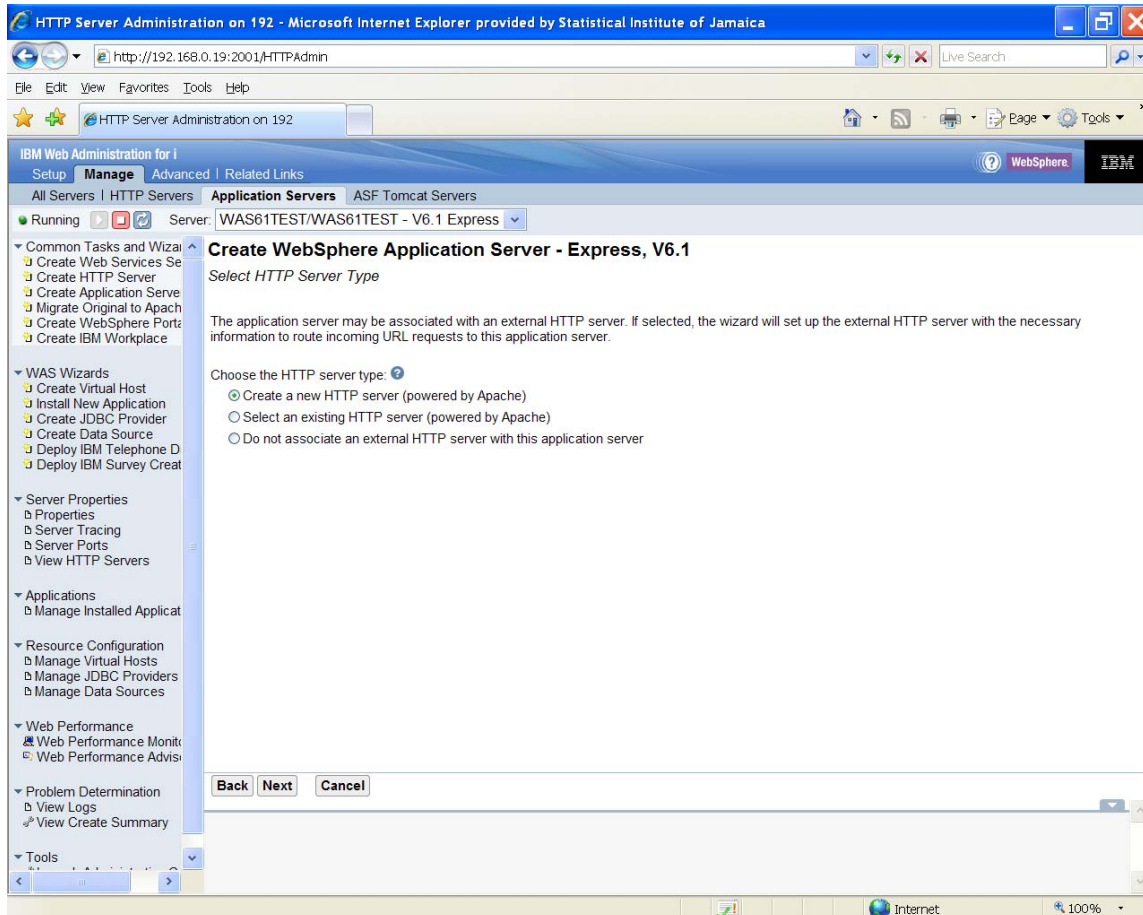
In this exercise, WAS61PROD is being created in preparation for the migration from v6.0. The server was given the name WAS61PROD. WAS61 is used to identify the WebSphere version being used and PROD identifies the type of environment being created (in this case production).



11. Enter the name of the application server
12. Provide a description (optional)
13. Click **Next** to continue.



You are required to **select your HTTP server type**. In this exercise, we will create a new HTTP server for our Production environment.



14. Select **Create a new HTTP server (powered by Apache)**

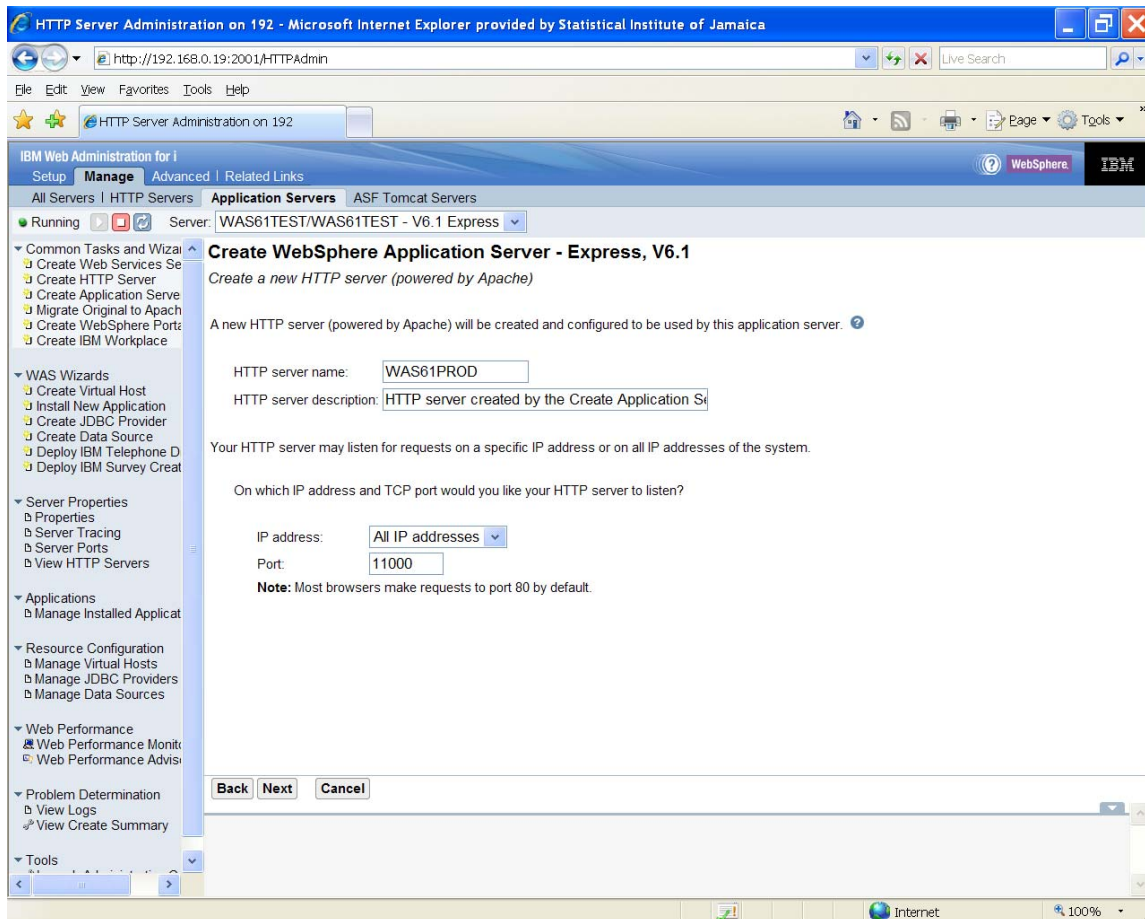
15. Click **Next** to continue



You are required to:

- Give the server a Name (This should be unique)
- Define the IP address it must listen on (For added security, you can limit the list.)
- Define the Port the application must listen on. (This should be unique)

Use iSeries Navigator to look at all the active open connections to determine which port ranges can be defined. Please bear in mind that applications that are not started may conflict with the port you choose.



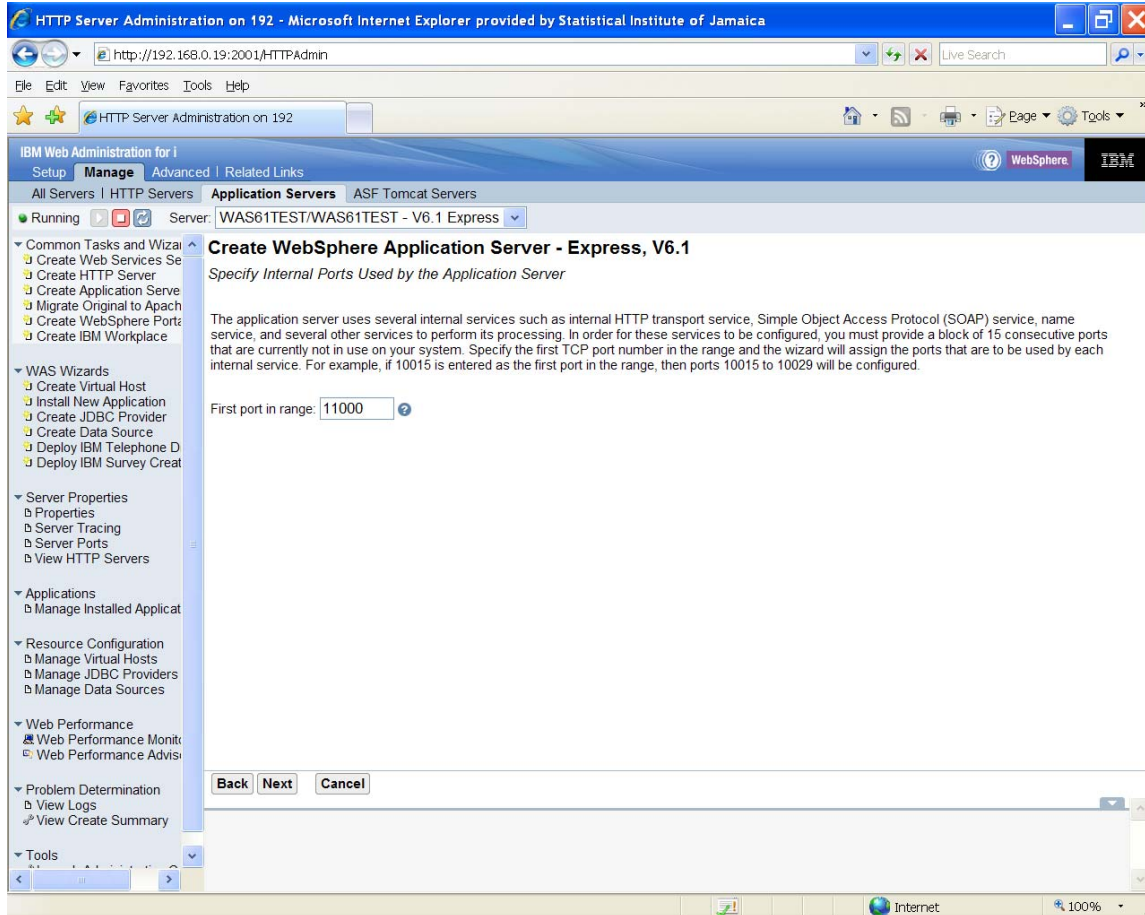
16. Enter the following:

HTTP server name: WAS61PROD  
IP address: All IP addresses  
Port: 11000

17. Click **Next** to continue



You are required to **Specify Internal Ports Used by the Application Server**. Since 11000 is the port that will be used, this is re-entered here to “force” the server to start assigning ports from this number.



18. Enter “11000”
19. Click **Next** to continue



You are required to **Select Sample Applications**. Keep the default.

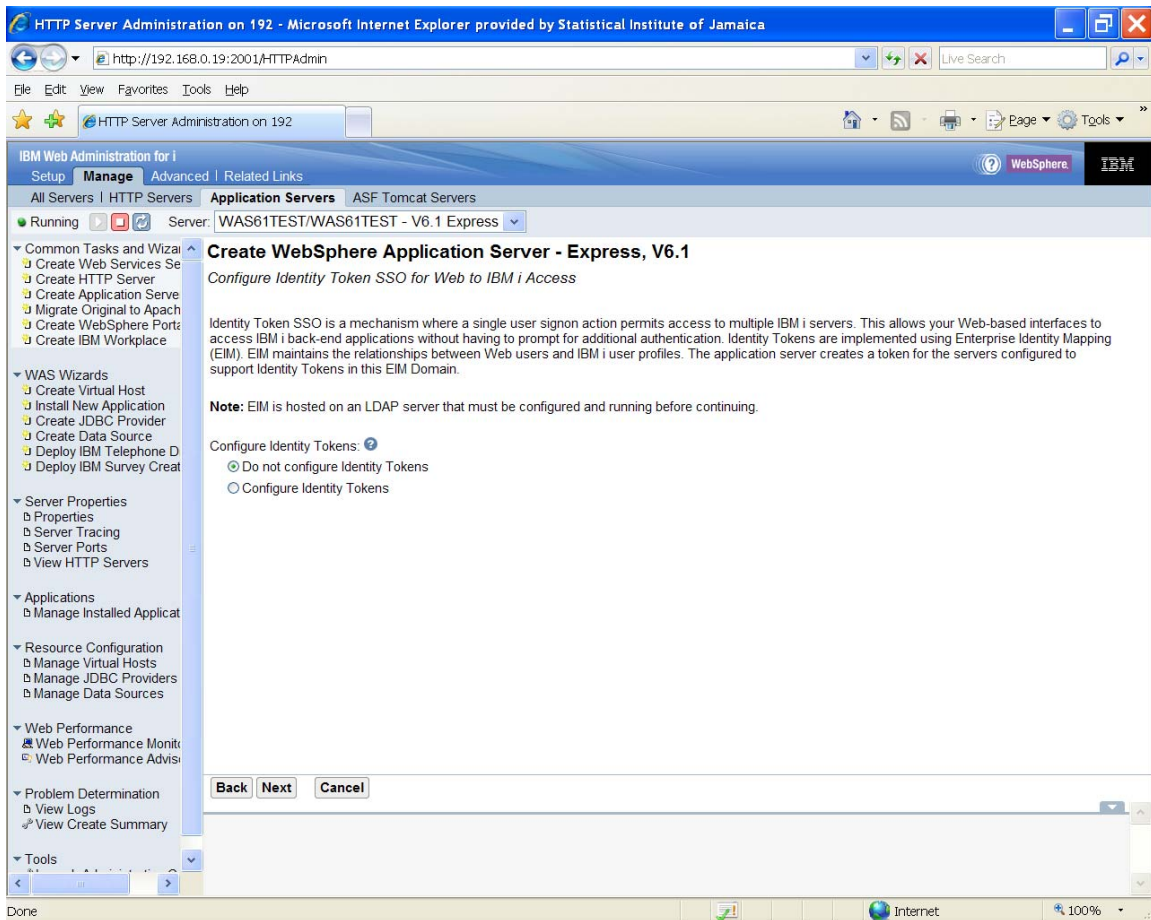
The screenshot shows the IBM Web Administration console in Microsoft Internet Explorer. The browser title is "HTTP Server Administration on 192 - Microsoft Internet Explorer provided by Statistical Institute of Jamaica". The address bar shows "http://192.168.0.19:2001/HTTPAdmin". The console interface includes a navigation menu on the left with categories like "Common Tasks and Wizards", "WAS Wizards", "Server Properties", "Applications", "Resource Configuration", "Web Performance", "Problem Determination", and "Tools". The main content area is titled "Create WebSphere Application Server - Express, V6.1" and shows the "Select Sample Applications" step. Below the title, there is a text box explaining that sample applications can be optionally installed. A section titled "Select which sample applications to install:" contains three options: "Query" (checked), "Default Applications" (checked), and "Sample Applications" (unchecked). At the bottom of the wizard, there are "Back", "Next", and "Cancel" buttons.

20. Click **Next** to continue

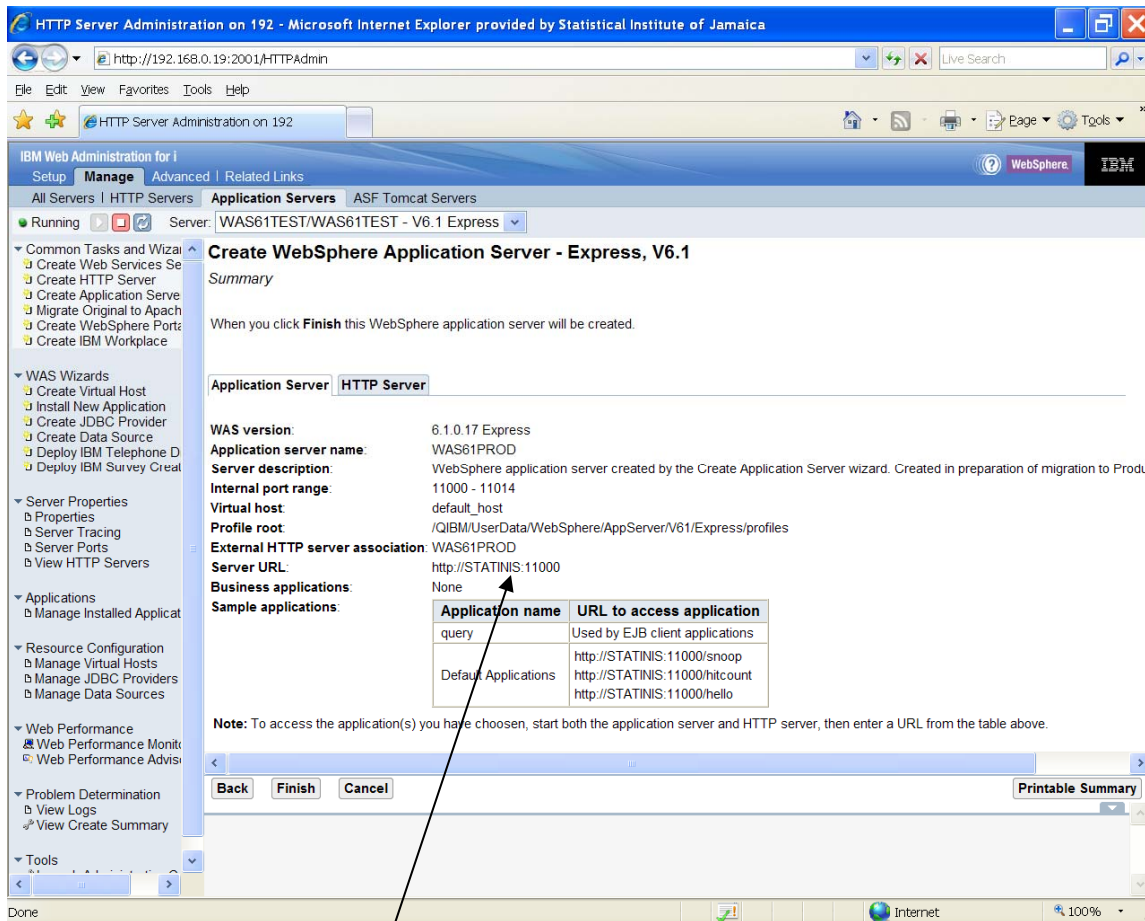




You are required to configure Identity Token for Web. Make sure **Do not configure Identity Tokens** is selected.

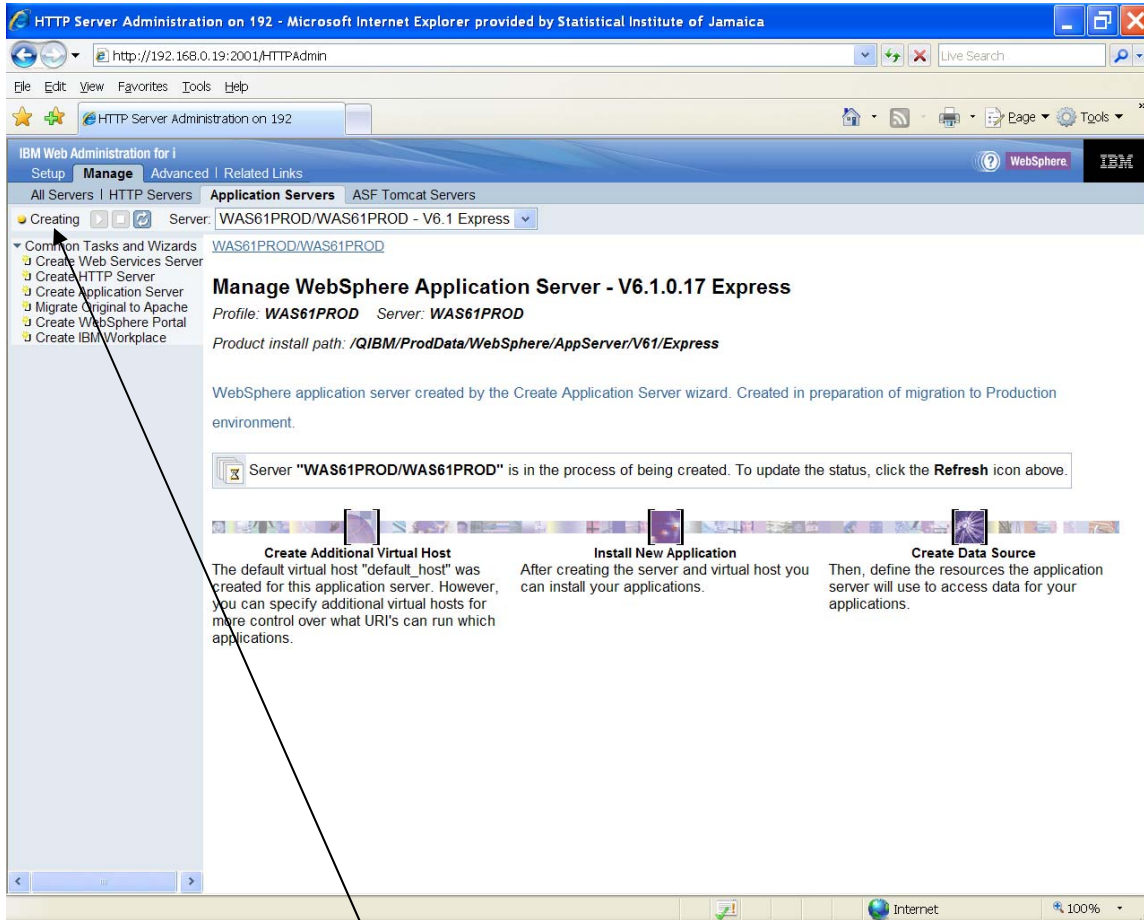


21. Click **Next** to continue



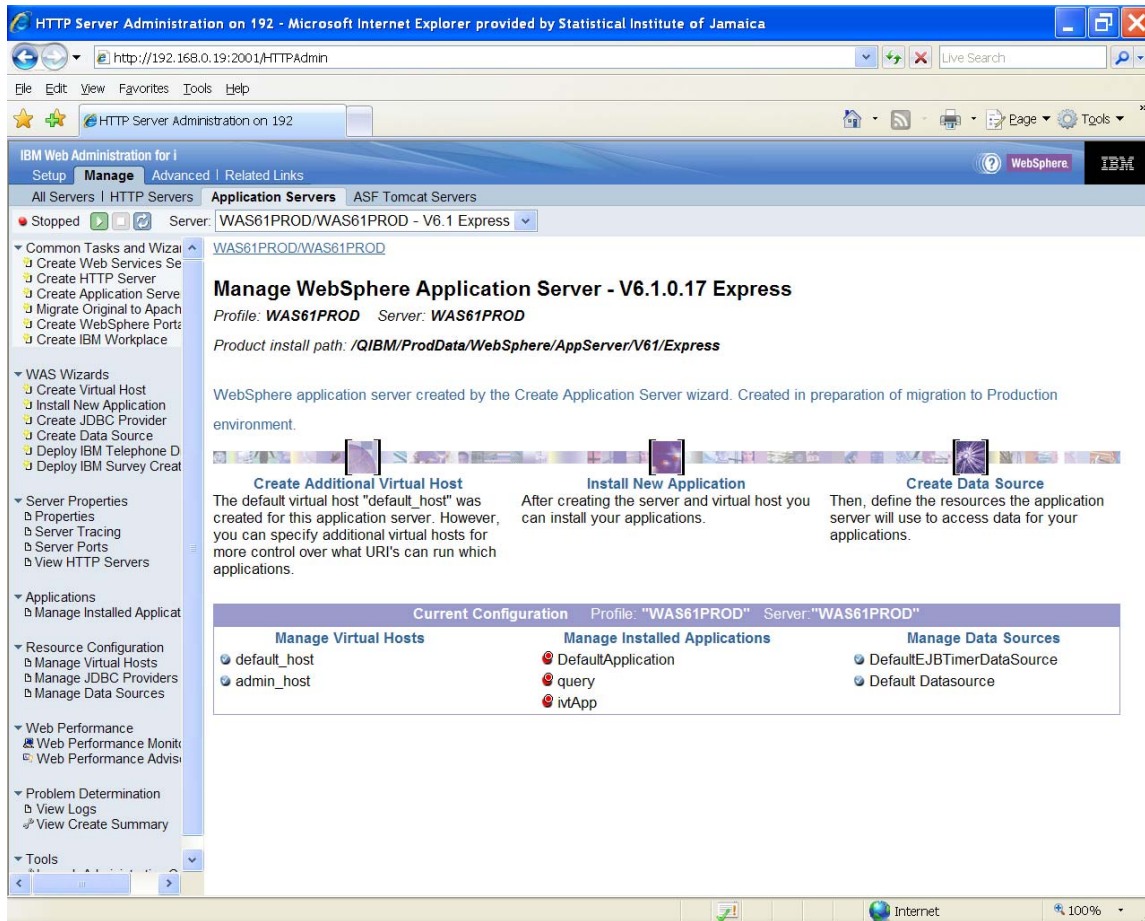
22. Look through the summary just to make sure all the correct options have been selected.

23. Click **Finish** to complete the process. This should take about 30-45 minutes to complete.



Use the display below to monitor the creation process.

On completion the following screen will be displayed.

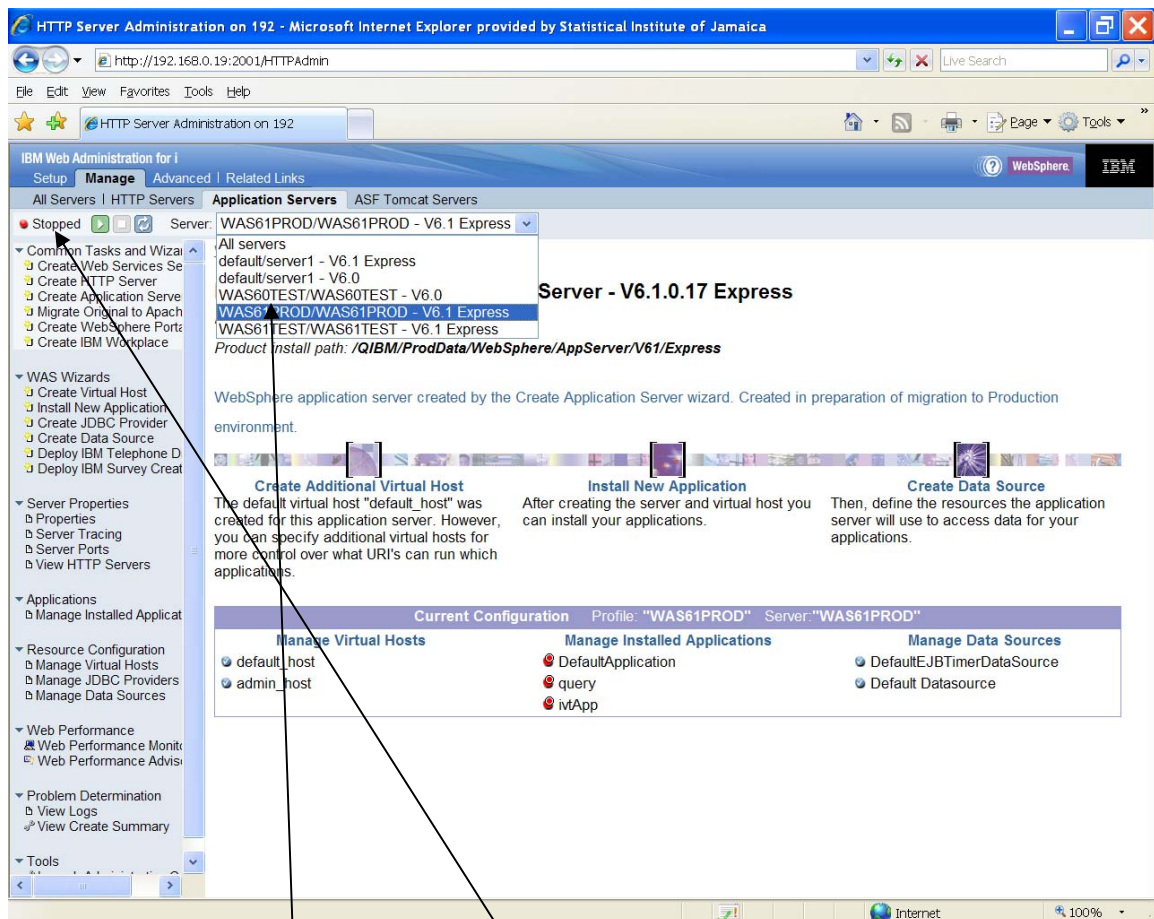



You can use this screen to manage the new application server.

## 3.0 STARTING AND STOPPING THE APPLICATION SERVER

Knowing how to start or stop the server is critical in managing the server, deploying updates and resolving errors. The sections below explain how to accomplish these two tasks.

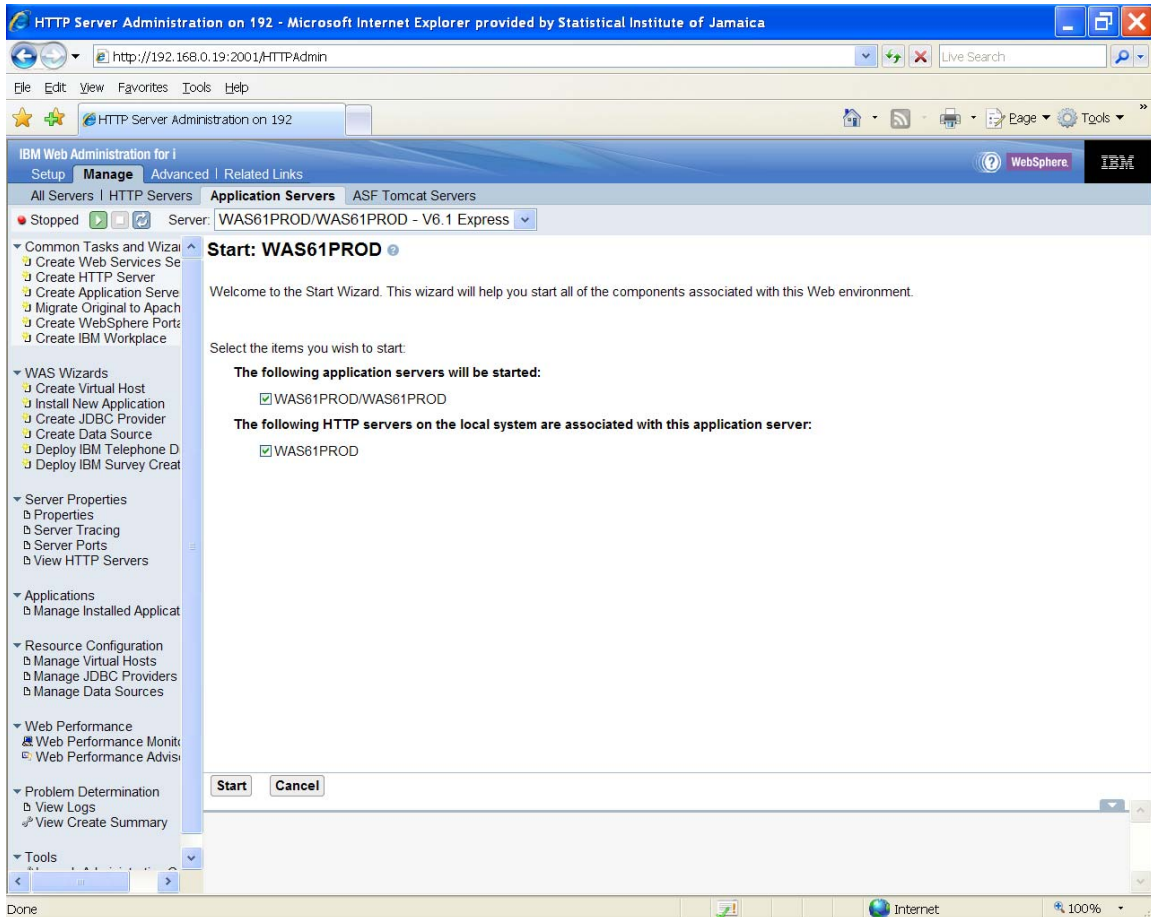
### 3.1 Starting the Application Server



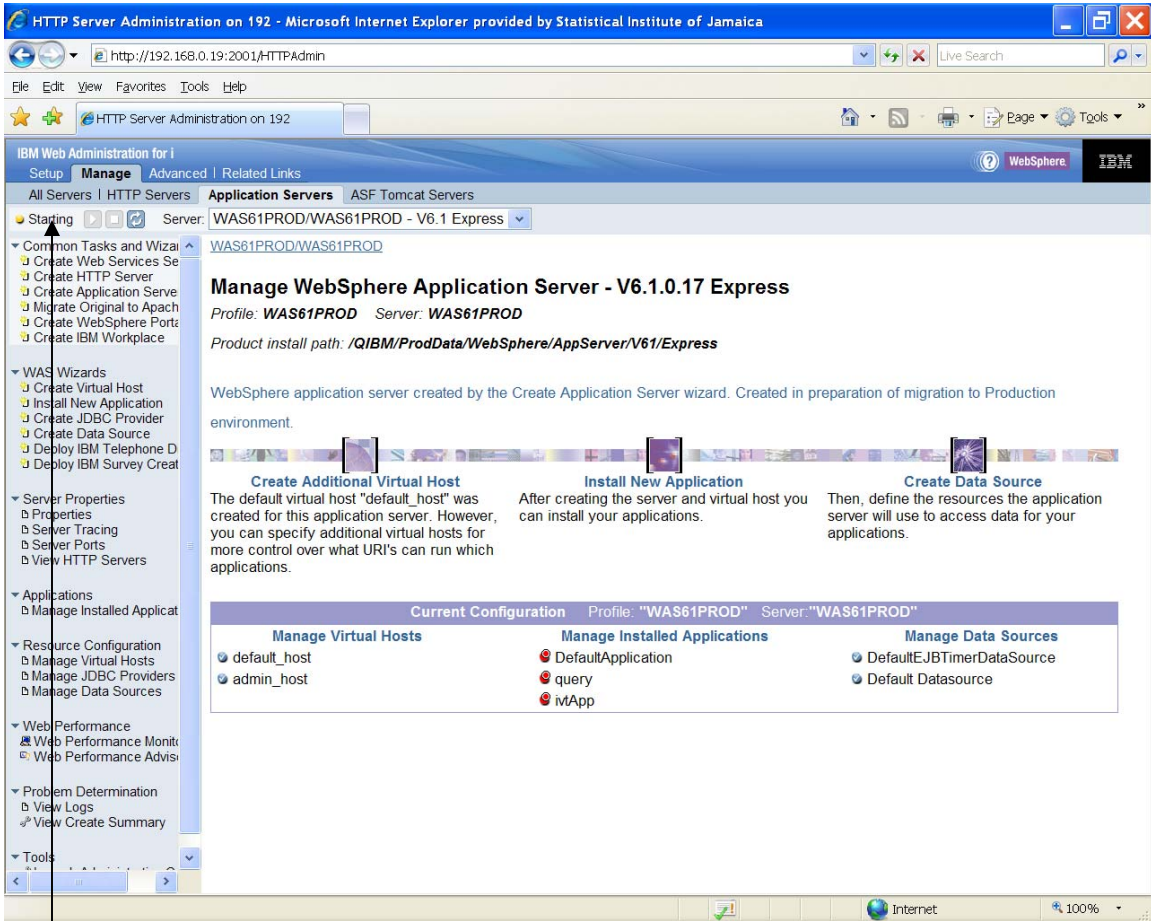
1. Select the new server in the drop-down box on the form
2. Click the **Start** button (the green icon ) to start the selected application server.



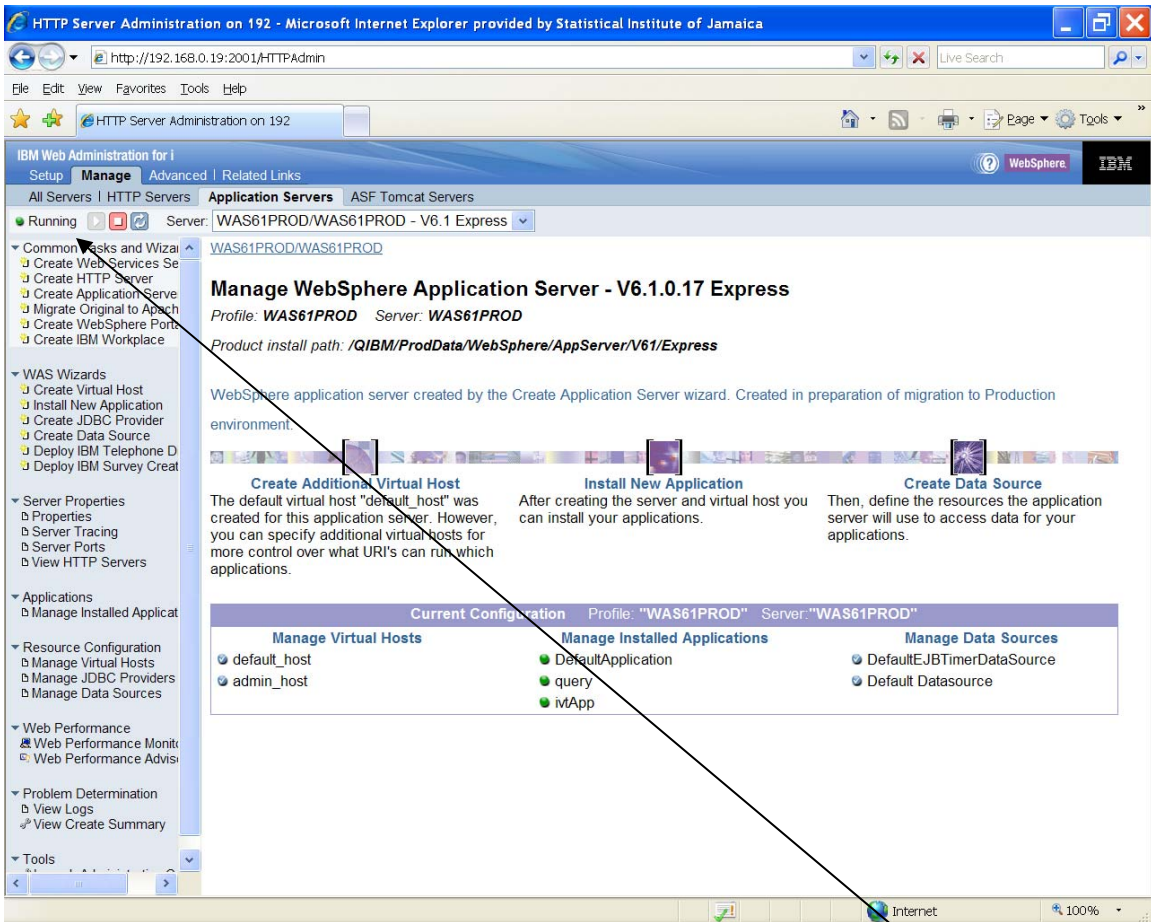
In the window below, you can start either the application server or the web server or both at the same time.




3. Click the **Start** button to continue.

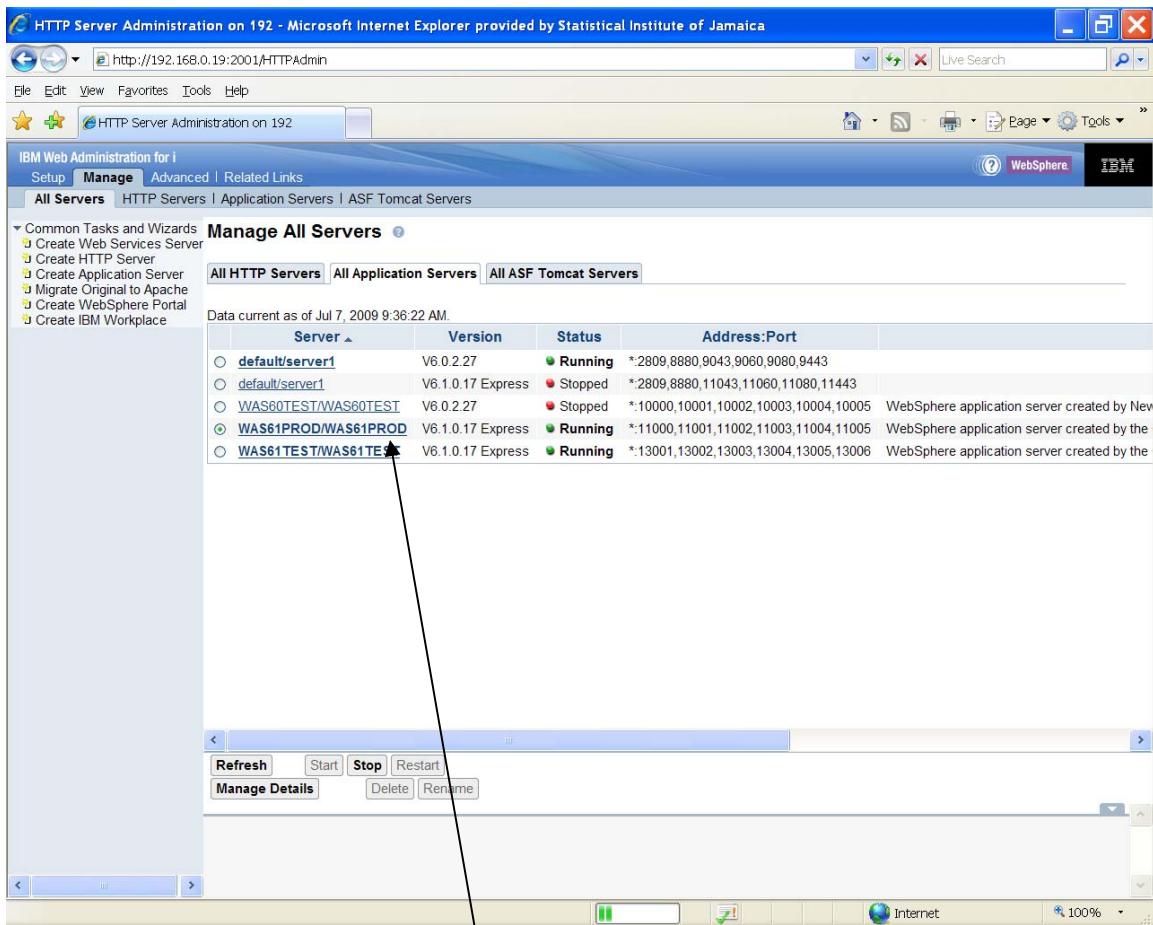


Monitor the screen to determine if the application server was started successfully. The page will refresh itself periodically.



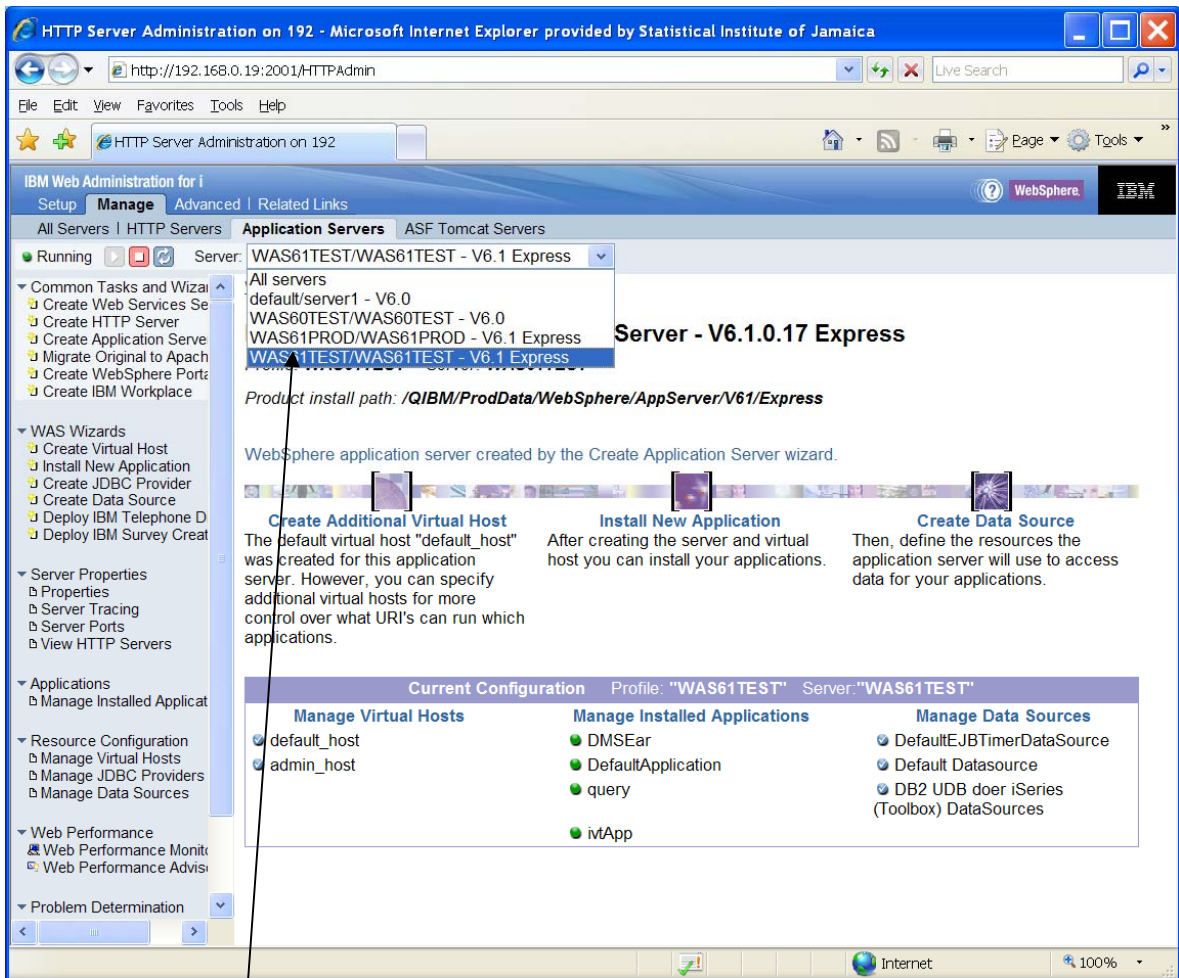
On successful completion the status of the server should indicate running  Running



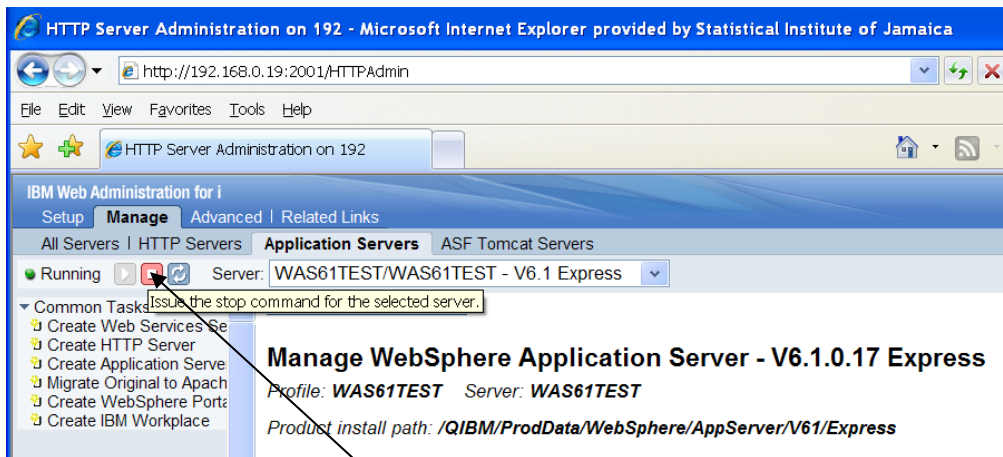


The **Manage all Servers** view will show that the new server is started and listening for requests on the server IP address and ports assigned.

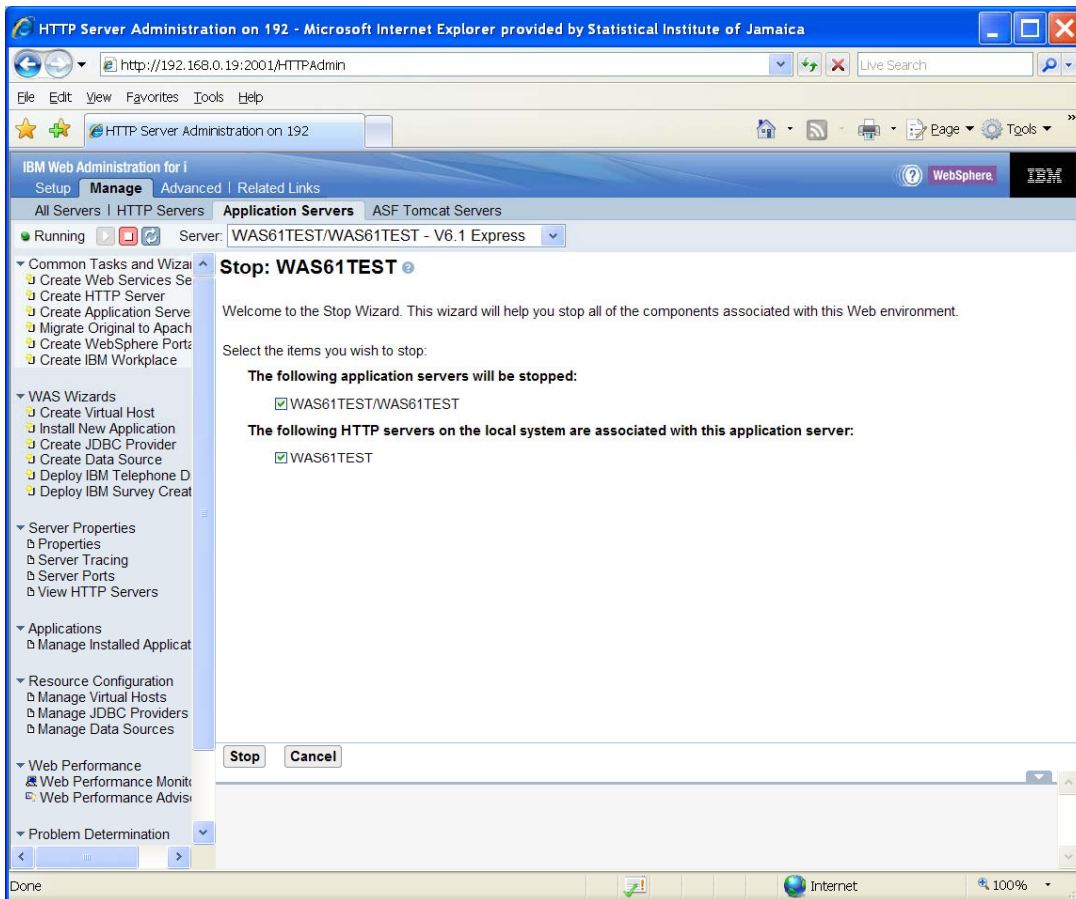
## 3.2 Stopping the Application Server



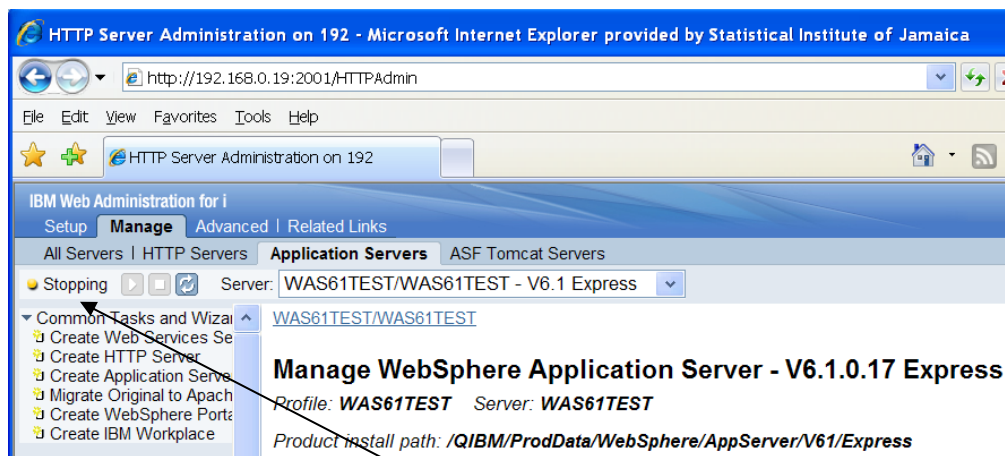
1. Select the server to stop from the drop-down list



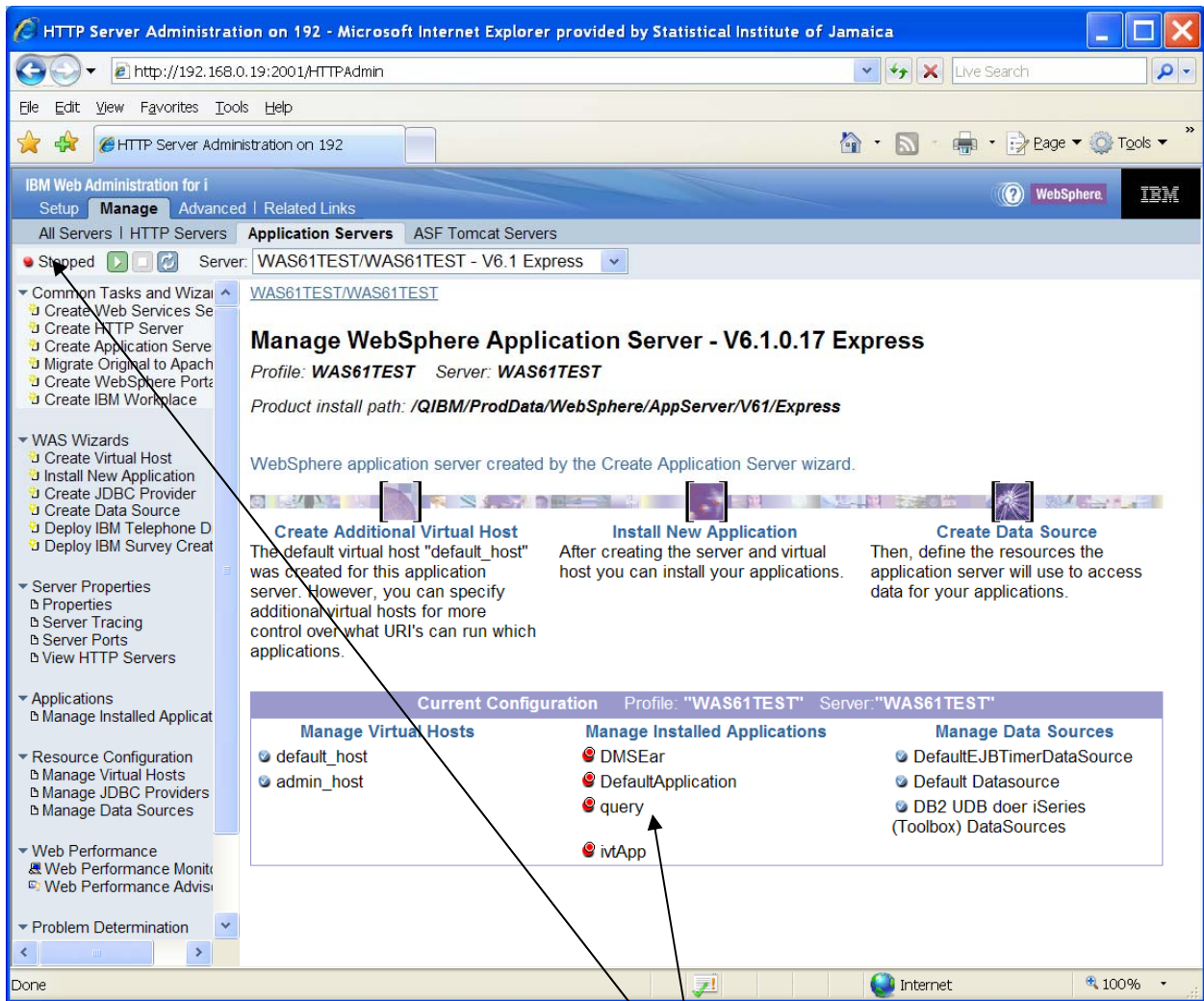
2. Click the stop icon  to stop the server.



3. Select the servers you wish to stop.  
You can stop the web server, the application server or both at the same.
4. Click the Stop button



The page will be updated to reflect that the server is being stopped.



When the server is stopped, the page will now show that it has been stopped.

## 4.0 DATASOURCE CREATION ON ISERIES SERVER

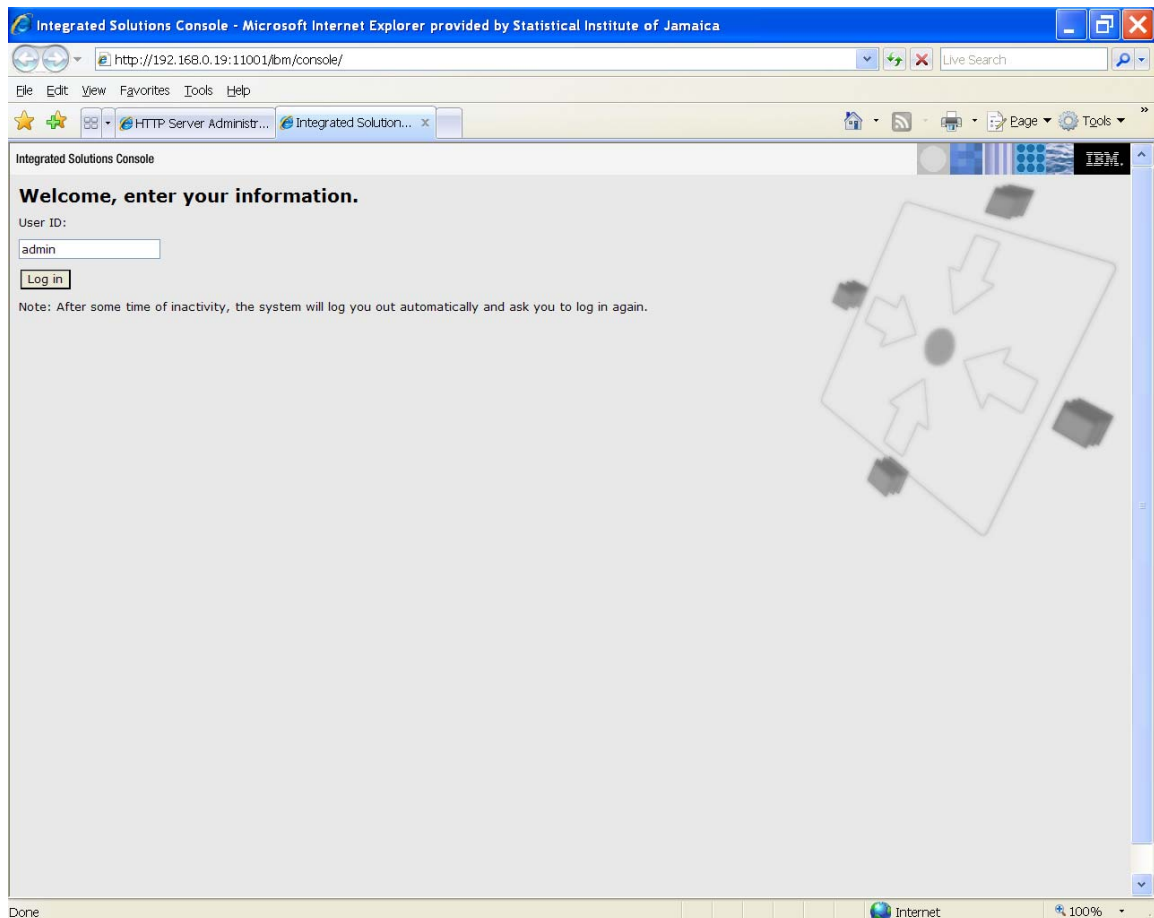
The following section describes how to define data source on the application server. This is to be done after the WebSphere Application Server 6.1 has been installed on the iSeries Server. The following steps are involved in defining data source.

- Defining J2C Authentication alias
- Defining JDBC Driver
- Creating and configuring Data Sources
- Testing the connection to the Data Source

First ensure that application server is running and you are logged in admin console of the same.

### 4.1 Accessing the Administrator Console

1. Start IE Browser
2. Enter <http://192.168.0.19:11001/ibm/console> in the browser address bar then press enter.
3. Enter a username
4. Click the **Log in** button to continue

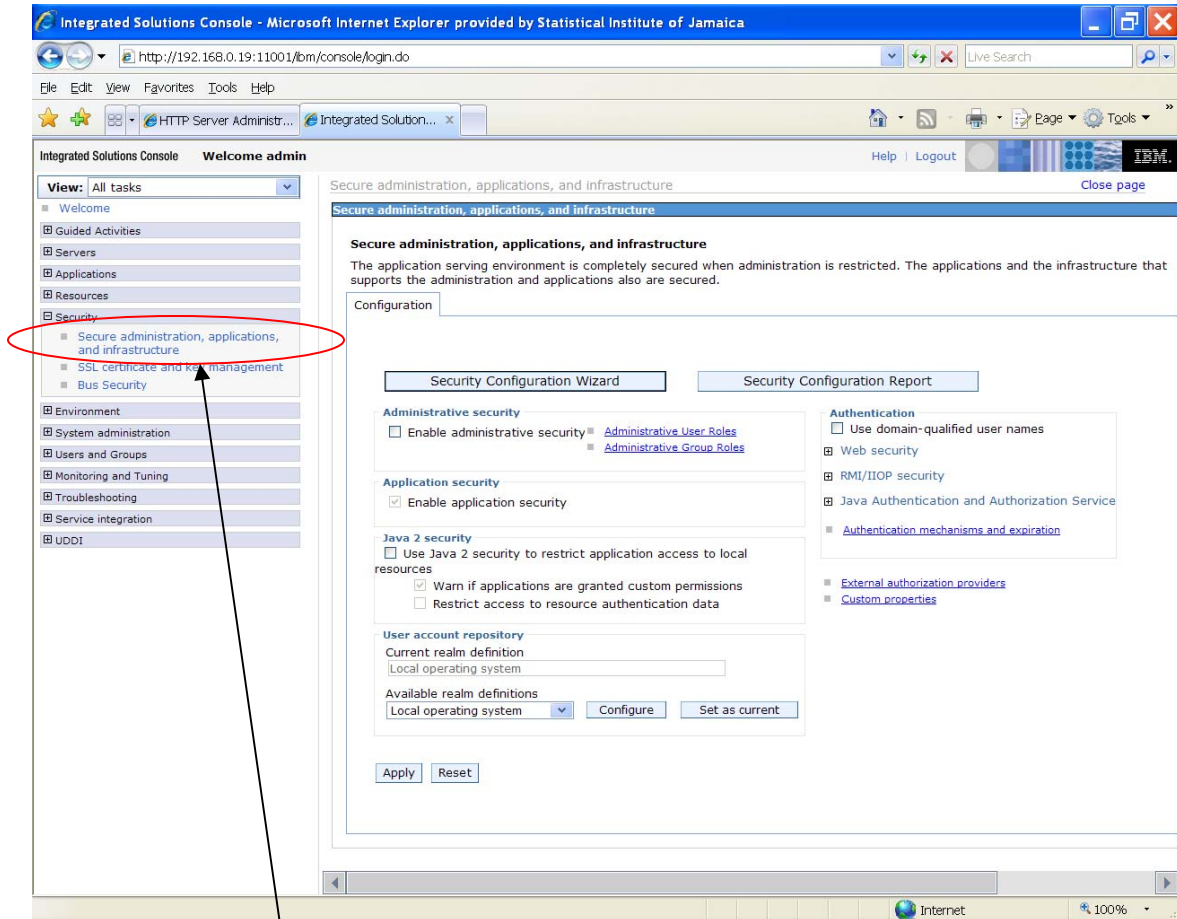


## 4.2 J2C Authentication Alias



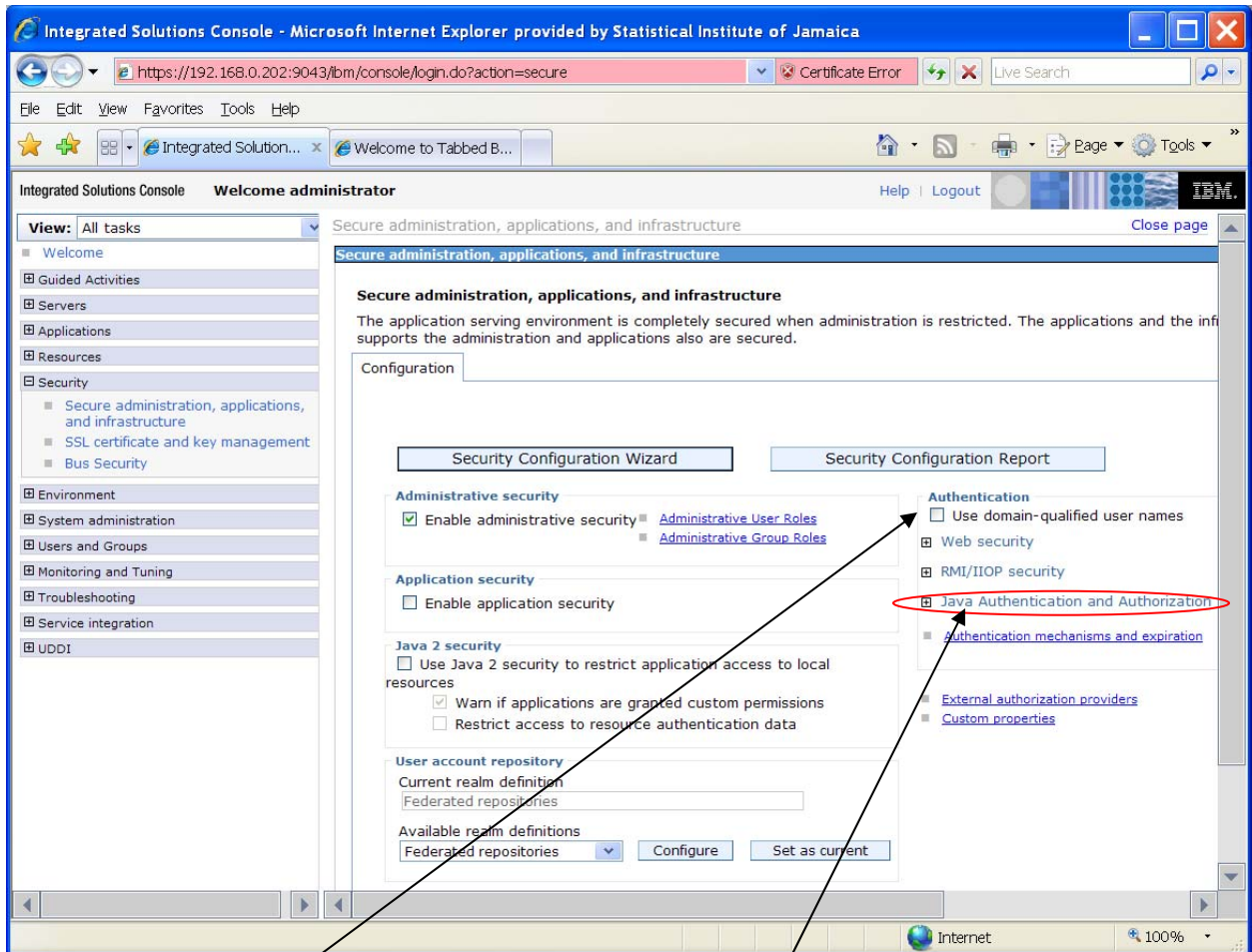
Database user and password is required while configuring the **Datasource**. An alias can be created for database user. This new alias will be then used while defining the actual data source.

Follow the following steps to create alias for database user.

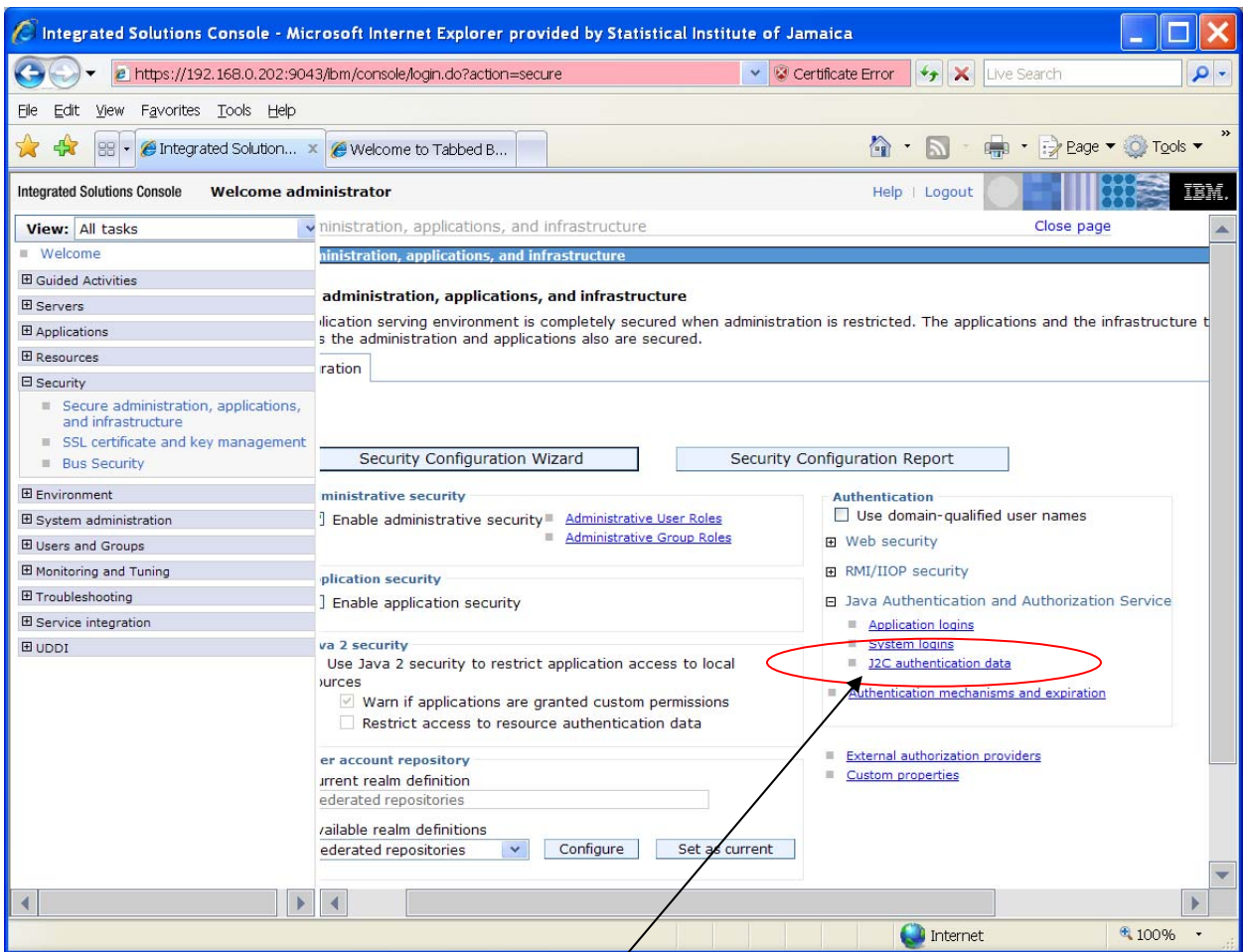


1. Expand **Security** option on the right hand side
2. Click on **Secure administration, applications, and infrastructure**.

Secure administration, applications, and infrastructure page.

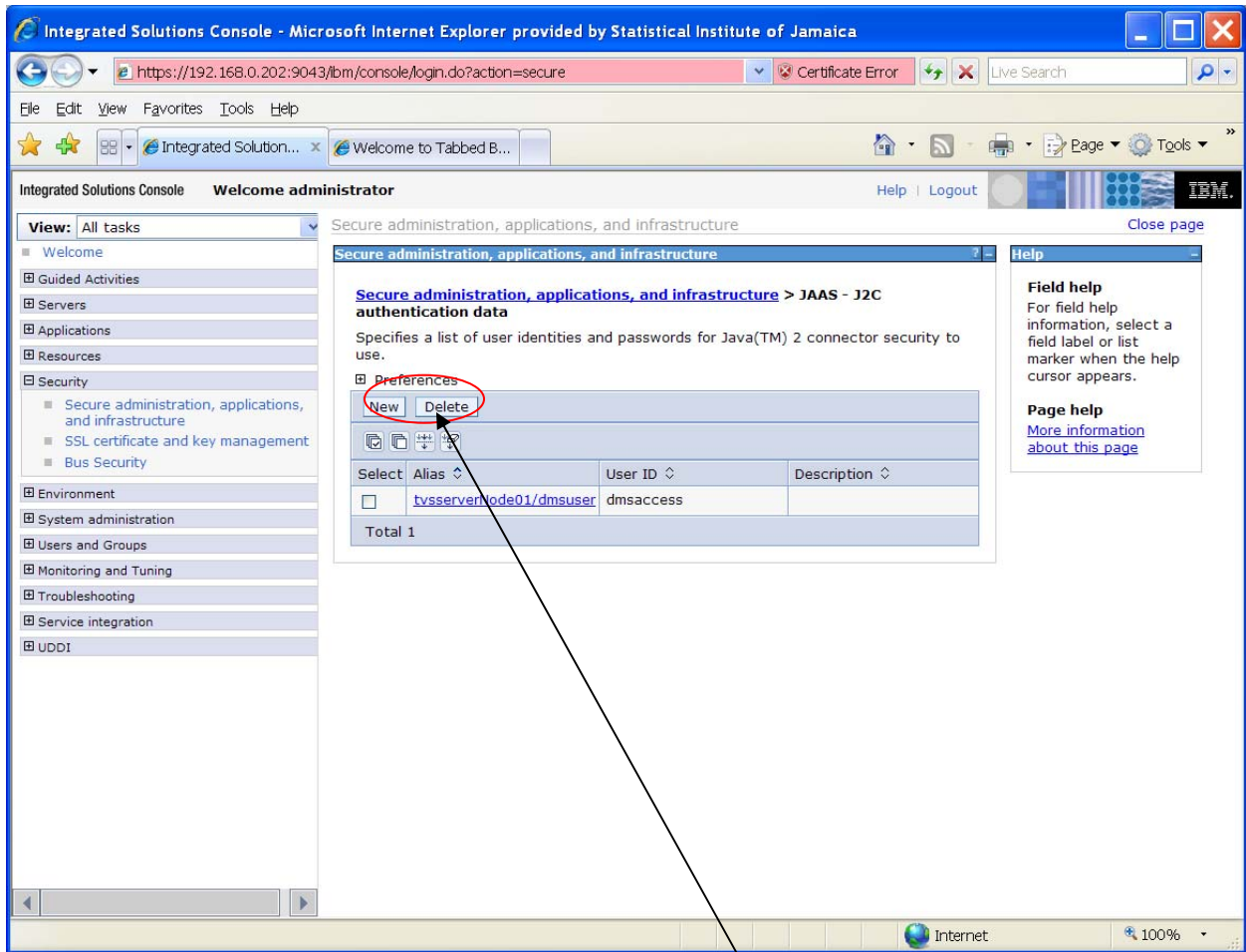


3. Under **Authentication** section, expand **Java Authentication and Authorization Service**

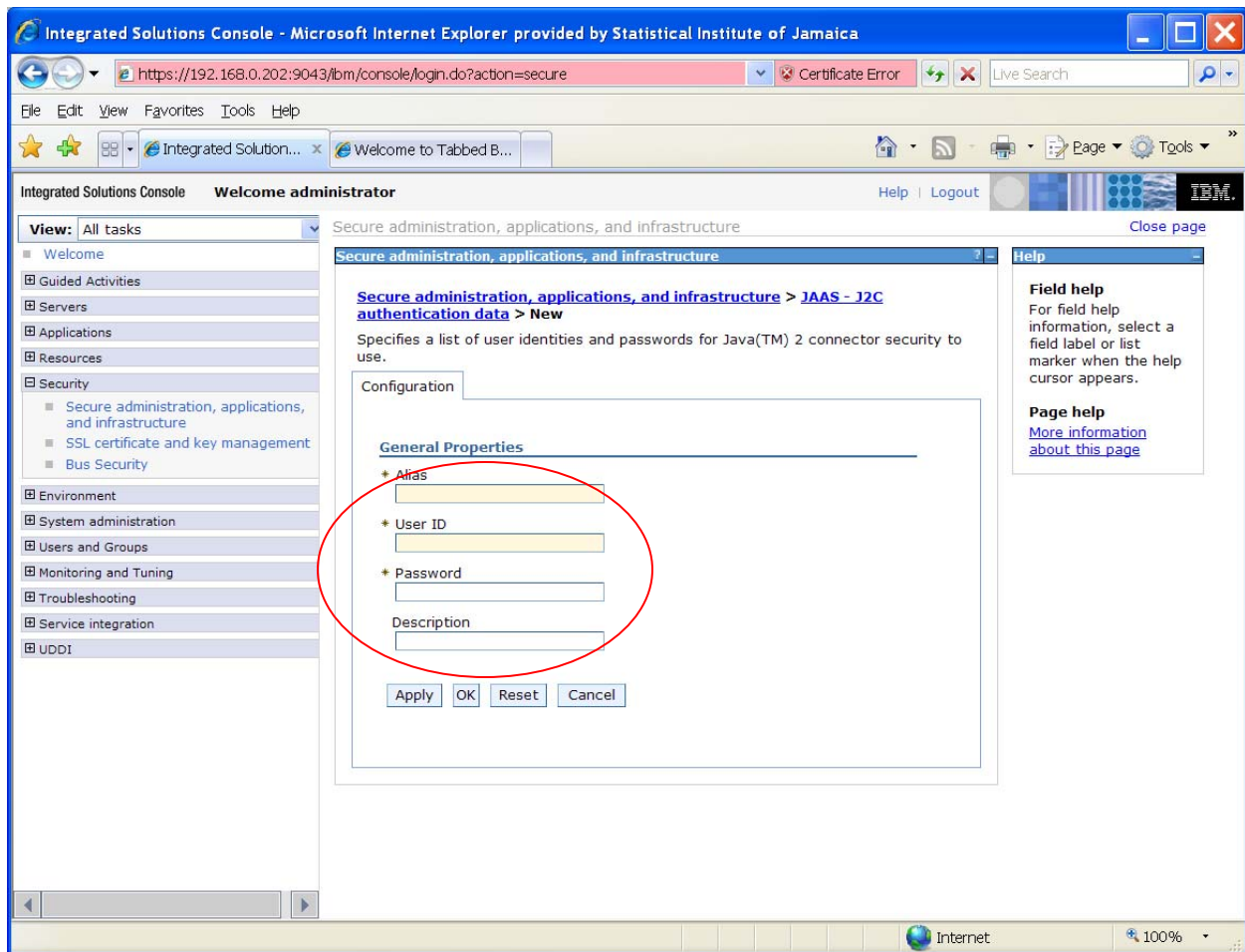


4. **Java Authentication and Authorization Service** section will expand. Here, click on **J2C authentication data** button

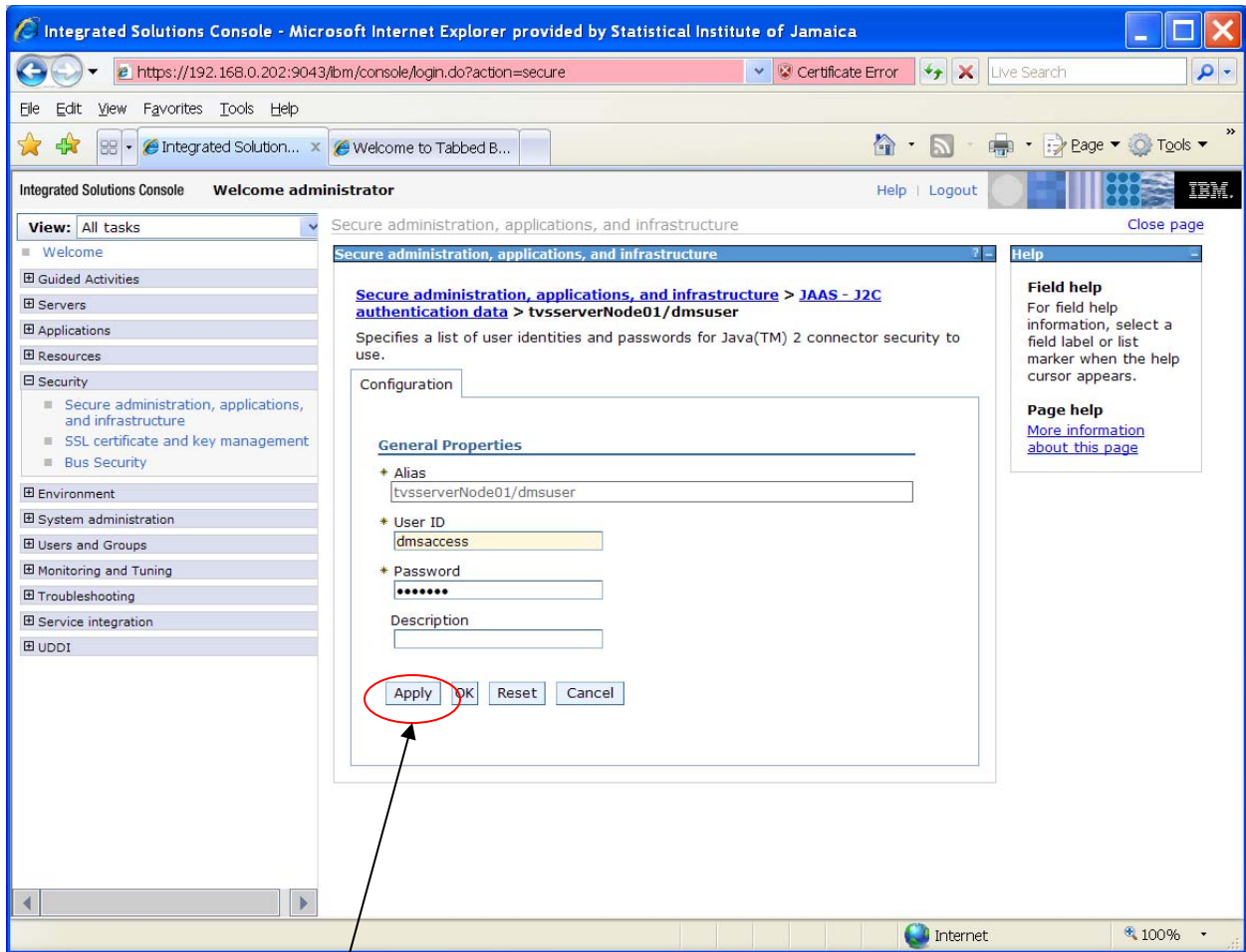




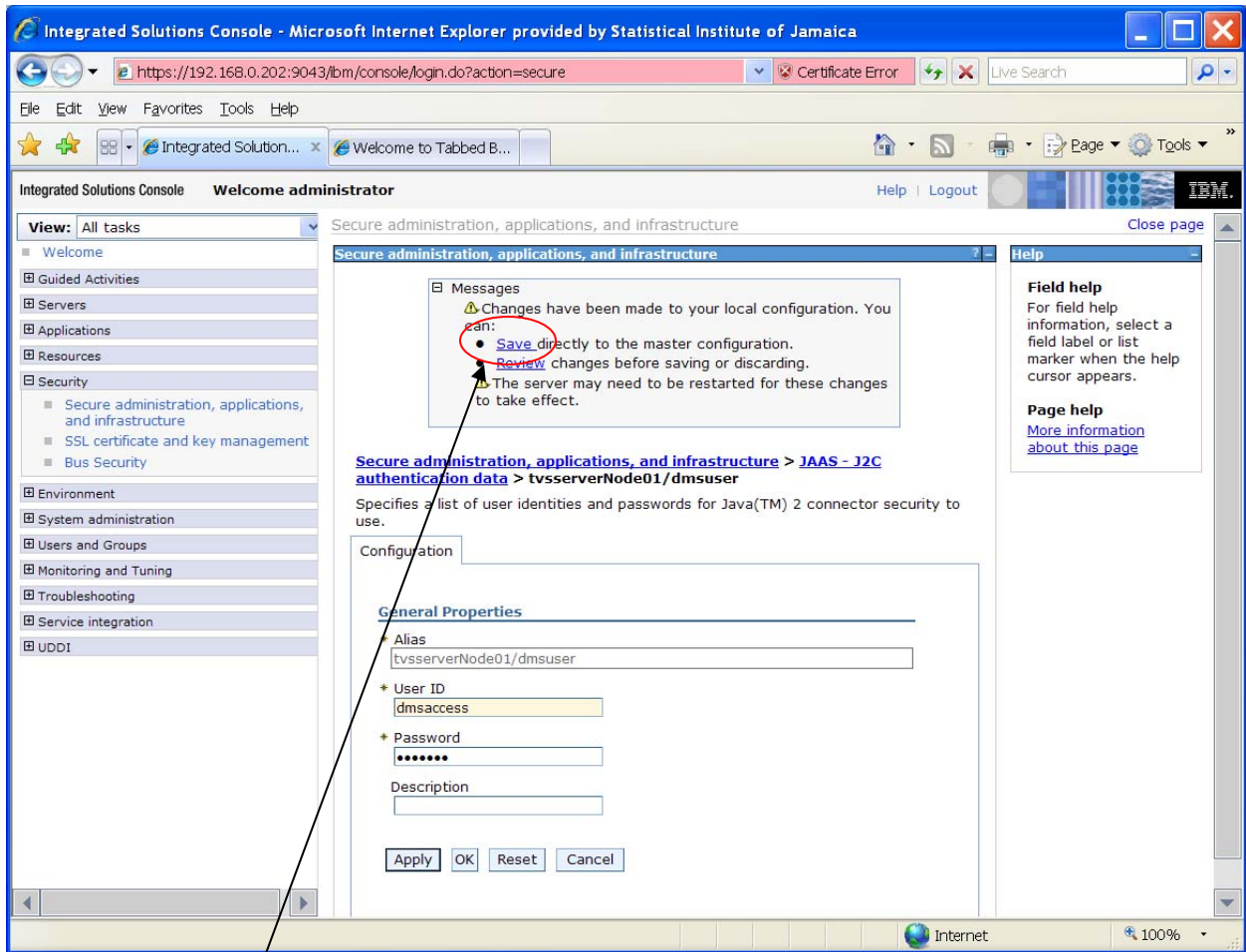
5. **J2C authentication data** page will open. Click on **New** button



6. Enter the following details while defining new entry.
  - a. Alias: Any user defined alias for database user.  
Alias: **dmsuser**
  - b. User Id: Database user (User should have access to all database objects).  
User ID = **dmsaccess**
  - c. Password: Password for database user.  
Password = **dmsaccess**



7. Click on the **Apply** button and the application will prompt to save entered details.



8. Click **Save** hyperlink (at the top of the page) to commit the changes.

## 4.3 Configuring the JDBC Driver

The screenshot shows the Integrated Solutions Console interface. The left-hand navigation pane is expanded to show the 'Resources' menu, with 'JDBC' and 'JDBC Providers' highlighted. The main content area displays the 'JDBC providers' configuration page, which includes a table of existing providers and a 'Help' sidebar.

Select	Name	Scope	Description
<input type="checkbox"/>	<a href="#">DB2 UDB for iSeries (Native XA)</a>	Node=STATINIS_WAS61PROD,Server=WAS61PROD	
<input type="checkbox"/>	<a href="#">DB2 UDB for iSeries (Native)</a>	Node=STATINIS_WAS61PROD,Server=WAS61PROD	
<input type="checkbox"/>	<a href="#">Derby JDBC Provider</a>	Node=STATINIS_WAS61PROD,Server=WAS61PROD	Derby embedded non-XA JDBC Provider

1. Expand the **Resources** menu
2. Expand **JDBC**
3. Click on **JDBC Providers** to add new JDBC Provider for DB2.

Integrated Solutions Console - Microsoft Internet Explorer provided by Statistical Institute of Jamaica

http://192.168.0.19:11001/lbm/console/login.do

Integrated Solutions Console Welcome admin

JDBC providers

**JDBC providers**

Use this page to edit properties of a JDBC provider. The JDBC provider object encapsulates the specific JDBC driver implementation class for access to the specific vendor database of your environment. Learn more about this task in a [guided activity](#). A guided activity provides a list of task steps and more general information about the topic.

Scope: Cell=**STATINIS\_WAS61PROD**, Node=**STATINIS\_WAS61PROD**, Server=**WAS61PROD**

Scope specifies the level at which the resource definition is visible. For detailed information on what scope is and how it works, see the [scope settings help](#)

Node=STATINIS\_WAS61PROD, Server=WAS61PROD

Preferences

New Delete

Select	Name	Scope	Description
<input type="checkbox"/>	<a href="#">DB2 UDB for iSeries (Native XA)</a>	Node=STATINIS_WAS61PROD,Server=WAS61PROD	
<input type="checkbox"/>	<a href="#">DB2 UDB for iSeries (Native)</a>	Node=STATINIS_WAS61PROD,Server=WAS61PROD	
<input type="checkbox"/>	<a href="#">Derby JDBC Provider</a>	Node=STATINIS_WAS61PROD,Server=WAS61PROD	Derby embedded non-XA JDBC Provider

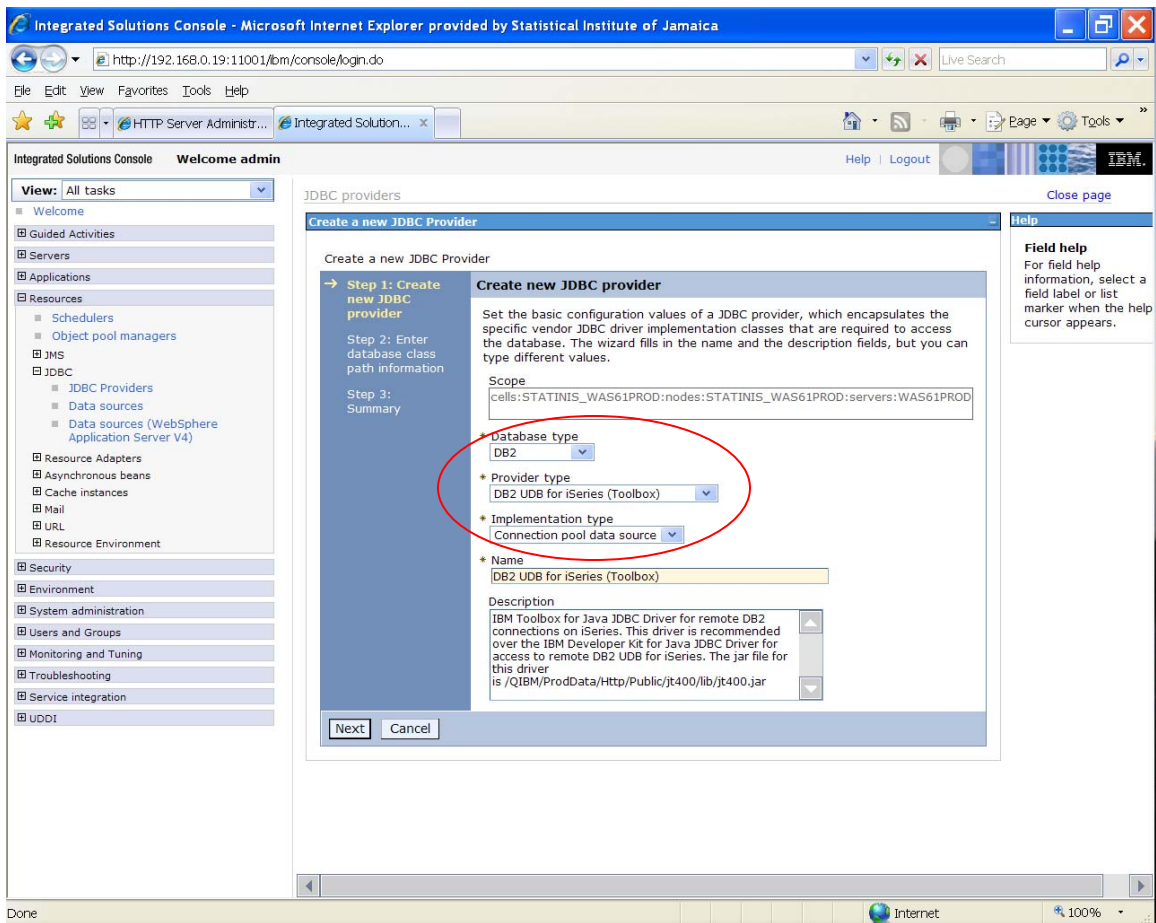
Total 3

Field help  
For field help information, select a field label or list marker when the help cursor appears.

Page help  
[More information about this page](#)

Command Assistance  
[View administrative scripting command for last action](#)

4. Click the Node drop-down box to select the node (Select Node & Server)
5. Click on **New** button to define JDBC Provider.



6. Select the following from the dropdown lists.
  - a. Database Type: **DB2**;
  - b. Provider Type: **DB2 UDB for iSeries (Toolbox)**
  - c. Implementation Type: **Connection Pool data source**
7. Then click on **Next** button to proceed to the next step.

Integrated Solutions Console - Microsoft Internet Explorer provided by Statistical Institute of Jamaica

http://192.168.0.19:11001/ibm/console/login.do

File Edit View Favorites Tools Help

Integrated Solutions Console Welcome admin Help | Logout

View: All tasks

- Welcome
- Guided Activities
- Servers
- Applications
- Resources
  - Schedulers
  - Object pool managers
  - JMS
  - JDBC
    - JDBC Providers
    - Data sources
    - Data sources (WebSphere Application Server V4)
  - Resource Adapters
  - Asynchronous beans
  - Cache instances
  - Mail
  - URL
  - Resource Environment
- Security
- Environment
- System administration
- Users and Groups
- Monitoring and Tuning
- Troubleshooting
- Service integration
- UDDI

JDBC providers

Create a new JDBC Provider

Create a new JDBC Provider

Step 1: Create new JDBC provider

→ Step 2: Enter database class path information

Step 3: Summary

**Enter database class path information**

Set the environment variables that represent the JDBC driver class files, which WebSphere(R) Application Server uses to define your JDBC provider. This wizard page displays the file names; you supply only the directory locations of the files. Use complete directory paths when you type the JDBC driver file locations. For example: /home/db2inst1/sqlib/java on Linux(TM). If a value is specified for you, you may click Next to accept the value.

Class path:

Directory location for "jt400.jar" which is saved as WebSphere variable

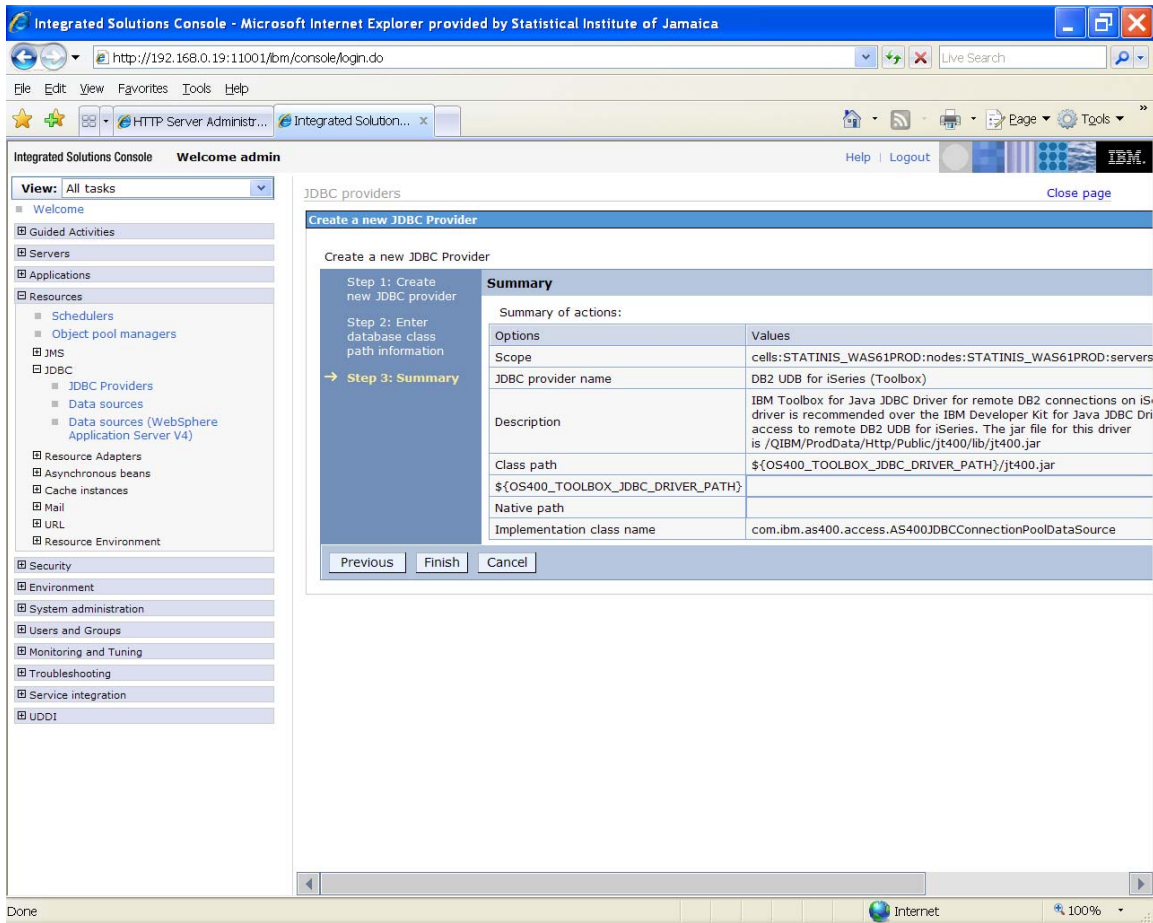
Previous Next Cancel

**Field help**  
For field help information, select a field label or list marker when the help cursor appears.

Done Internet 100%

8. Click on **Next**





9. Click **Finish** to end the configuration

10. Click **Save** to save the configuration

The screenshot shows the Integrated Solutions Console interface. On the left is a navigation tree with categories like Guided Activities, Servers, Applications, Resources, and Security. The main content area is titled 'JDBC providers' and contains a table of providers. A black arrow points to the 'DB2 UDB for iSeries (Toolbox)' entry in the table.

Select	Name	Scope	Description
<input type="checkbox"/>	<a href="#">DB2 UDB for iSeries (Native XA)</a>	Node=STATINIS_WAS61PROD,Server=WAS61PROD	
<input type="checkbox"/>	<a href="#">DB2 UDB for iSeries (Native)</a>	Node=STATINIS_WAS61PROD,Server=WAS61PROD	
<input type="checkbox"/>	<a href="#">DB2 UDB for iSeries (Toolbox)</a>	Node=STATINIS_WAS61PROD,Server=WAS61PROD	IBM Toolbox for Java JDBC Driver for remote DB2 connections on iSeries. This driver is recommended over the IBM Developer Kit for Java JDBC Driver for access to remote DB2 UDB for iSeries. The jar file for this driver is /QIBM/ProdData/Http/Public/jt400/lib/jt400.jar
<input type="checkbox"/>	<a href="#">Derby JDBC Provider</a>	Node=STATINIS_WAS61PROD,Server=WAS61PROD	Derby embedded non-XA JDBC Provider
Total 4			

You should now see “DB2 UDB for iSeries (Toolbox)” in the list.

## 4.4 Data source

Once JDBC provider is defined the next step is defining data source. Following steps illustrates how to create data source.

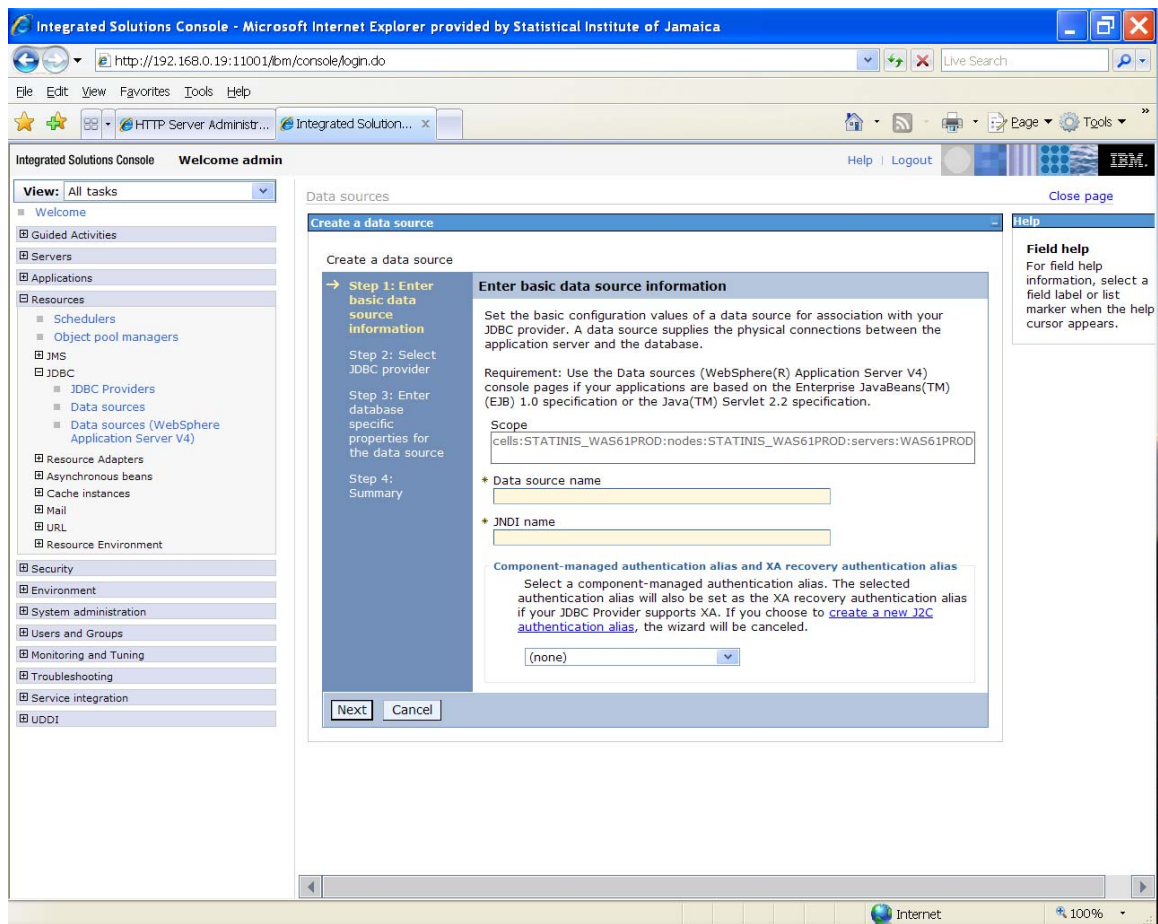
1. Expand **Resource**
2. Expand **JDBC**
3. click **Data Sources**

The screenshot shows the Integrated Solutions Console interface. The left navigation pane is expanded to show 'Resources' and 'Data sources'. The main content area displays the 'Data sources' page, which includes a table of existing data sources. A red circle highlights the 'New' button in the 'Preferences' section, and an arrow points from the 'New' button to the 'Scope' dropdown menu.

Select	Name	JNDI name	Scope	Provider	Description	Category
<input type="checkbox"/>	<a href="#">Default Datasource</a>	DefaultDatasource	Node=STATINIS_WAS61PROD,Server=WAS61PROD	Derby JDBC Provider	Datasource for the WebSphere Default Application	

1. Select scope (Node and Server)
2. Click on **New** button to add new data sources.

1.



3. Enter following properties.
  - a. Data source name = **DB2 UDB doer iSeries (Toolbox) DataSources**
  - b. Jndi name = **jdbc/dms\_dev**
  - c. Authentication alias (select name form list)  
server name/user alias = **STATINIS\_WAS61PROD/dmsuser**

Integrated Solutions Console - Microsoft Internet Explorer provided by Statistical Institute of Jamaica

http://192.168.0.19:11001/ibm/console/login.do

View: All tasks

Welcome admin

Help | Logout

Close page

**Create a data source**

Create a data source

**Step 1: Enter basic data source information**

Step 2: Select JDBC provider

Step 3: Enter database specific properties for the data source

Step 4: Summary

**Enter basic data source information**

Set the basic configuration values of a data source for association with your JDBC provider. A data source supplies the physical connections between the application server and the database.

Requirement: Use the Data sources (WebSphere(R) Application Server V4) console pages if your applications are based on the Enterprise JavaBeans(TM) (EJB) 1.0 specification or the Java(TM) Servlet 2.2 specification.

Scope  
cells:STATINIS\_WAS61PROD:nodes:STATINIS\_WAS61PROD:servers:WAS61PROD

\* Data source name  
DB2 UDB doer iSeries (Toolbox) DataSources

\* JNDI name  
jdbc/dms\_dev

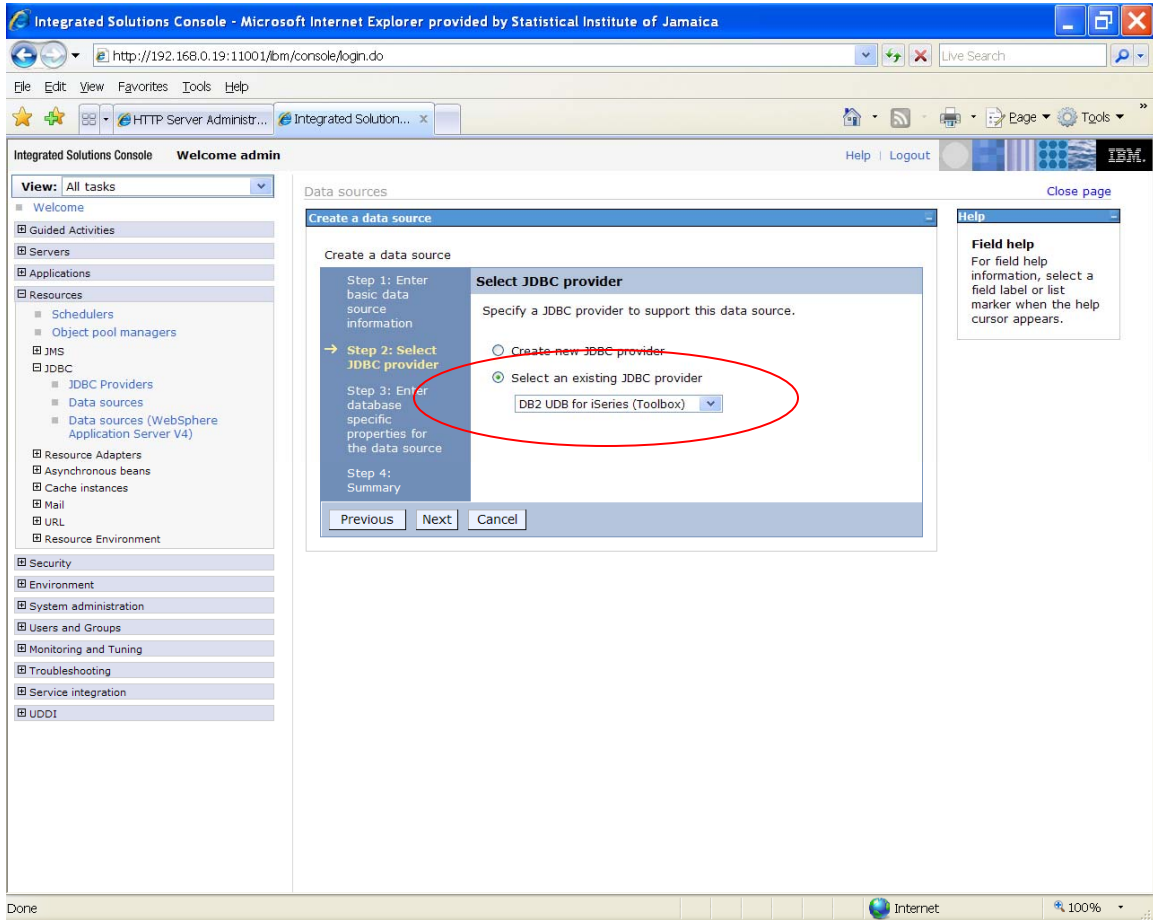
Component-managed authentication alias and XA recovery authentication alias  
Select a component-managed authentication alias. The selected authentication alias will also be set as the XA recovery authentication alias if your JDBC Provider supports XA. If you choose to [create a new J2C authentication alias](#), the wizard will be canceled.

STATINIS\_WAS61PROD/dmsuser

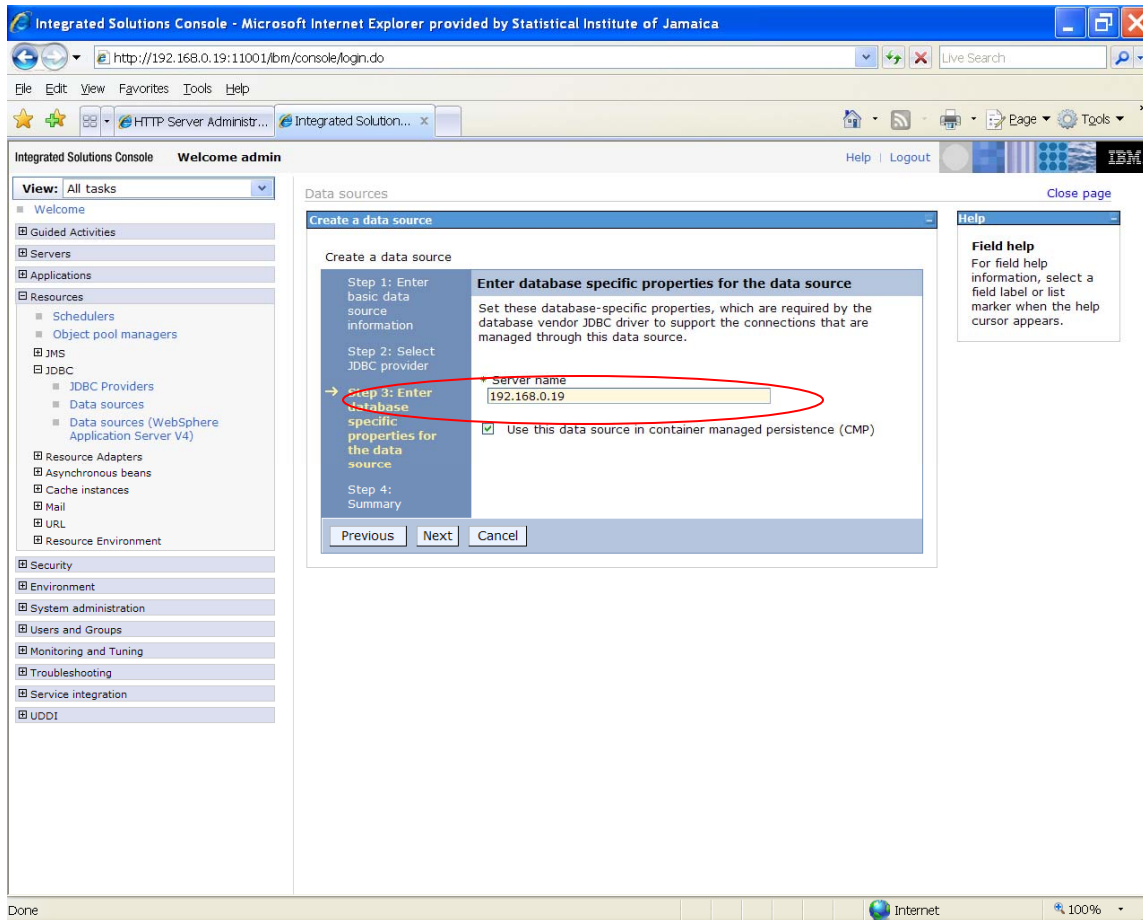
Next Cancel

Field help  
For field help information, select a field label or list marker when the help cursor appears.

4. Click **Next**



1. Click the option **Select an existing JDBC provider**
2. Select from the menu **DB2 UDB for iSeries (Toolbox)**
3. Click **Next**



4. Enter the Server IP Address = **192.168.0.19**  
(This is the IP Address of the iSeries server where the DB2 database resides.)
5. Click **Next**

The screenshot shows the 'Integrated Solutions Console' in a Microsoft Internet Explorer browser. The page title is 'Welcome admin'. The left sidebar contains a navigation tree with categories like 'Guided Activities', 'Servers', 'Applications', 'Resources', 'Security', 'Environment', 'System administration', 'Users and Groups', 'Monitoring and Tuning', 'Troubleshooting', 'Service integration', and 'UDDI'. The main content area is titled 'Data sources' and shows a wizard for 'Create a data source'. The wizard is currently on 'Step 4: Summary'. The summary table is as follows:

Options	Values
Scope	cells:STATINIS_WAS61PROD:nodes:STATINIS_WAS61PROD:servers:WAS61PROD
Data source name	DB2 UDB doer iSeries (Toolbox) DataSources
JNDI name	= jdbc/dms_dev
Component-managed authentication alias	STATINIS_WAS61PROD/dmsuser
Select an existing JDBC provider	DB2 UDB for iSeries (Toolbox)
Implementation class name	com.ibm.as400.access.AS400JDBCConnectionPoolDataSource
Server name	192.168.0.19
Use this data source in container managed persistence (CMP)	true

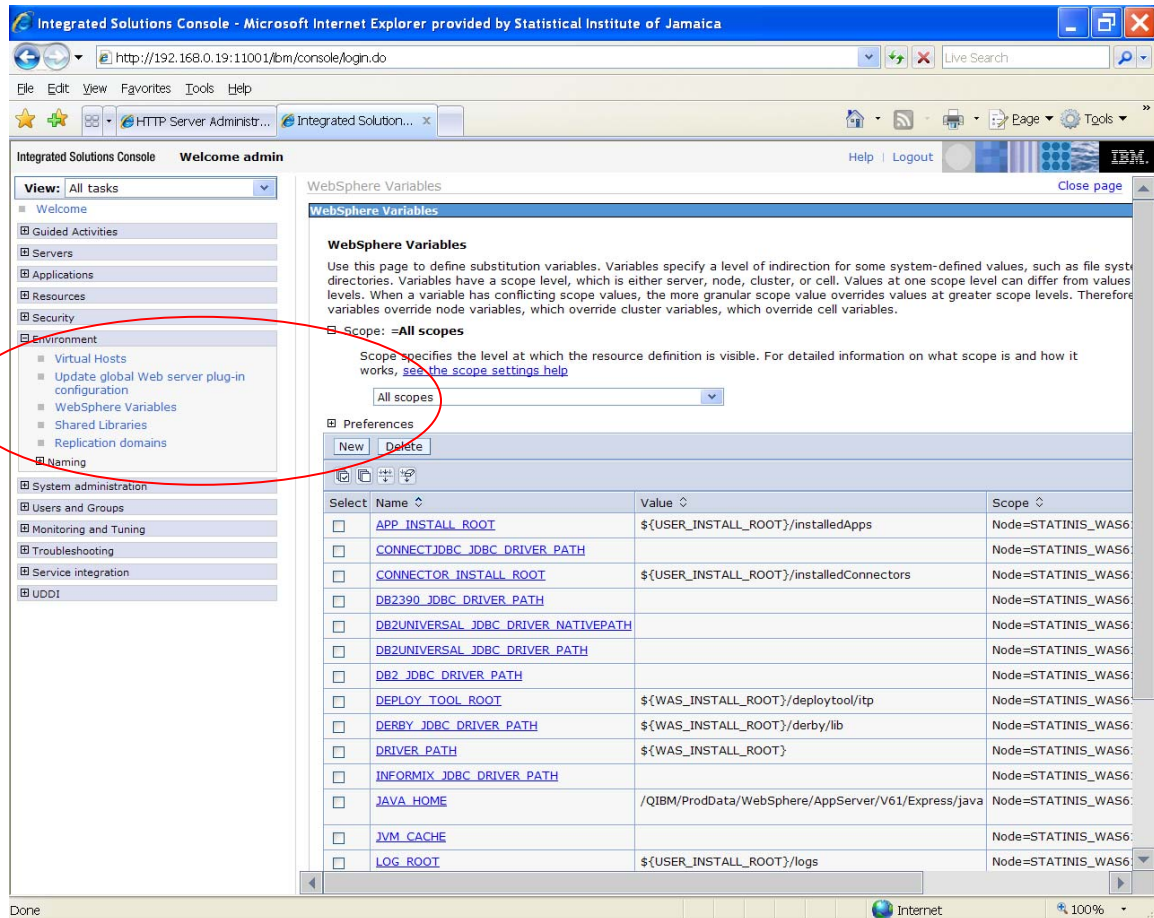
At the bottom of the wizard, there are three buttons: 'Previous', 'Finish', and 'Cancel'. The 'Finish' button is highlighted in blue. The browser's status bar at the bottom shows 'Done' and 'Internet'.

6. Click **Finish** to end configuration setup
7. Click **Save** to save the configuration



## 4.5 Configure JDBC Driver Path

### 4.5.1 Configure OS400 TOOLBOX JDBC DRIVER PATH



The screenshot shows the Integrated Solutions Console interface. The left-hand navigation pane has the 'Environment' menu item circled in red. The main content area displays the 'WebSphere Variables' configuration page. A table lists various system-defined variables, with the 'CONNECTJDBC\_JDBC\_DRIVER\_PATH' variable highlighted. The table columns are 'Name', 'Value', and 'Scope'.

Select	Name	Value	Scope
<input type="checkbox"/>	APP_INSTALL_ROOT	\${USER_INSTALL_ROOT}/installedApps	Node=STATINIS_WAS6
<input type="checkbox"/>	CONNECTJDBC_JDBC_DRIVER_PATH		Node=STATINIS_WAS6
<input type="checkbox"/>	CONNECTOR_INSTALL_ROOT	\${USER_INSTALL_ROOT}/installedConnectors	Node=STATINIS_WAS6
<input type="checkbox"/>	DB2390_JDBC_DRIVER_PATH		Node=STATINIS_WAS6
<input type="checkbox"/>	DB2UNIVERSAL_JDBC_DRIVER_NATIVEPATH		Node=STATINIS_WAS6
<input type="checkbox"/>	DB2UNIVERSAL_JDBC_DRIVER_PATH		Node=STATINIS_WAS6
<input type="checkbox"/>	DB2_JDBC_DRIVER_PATH		Node=STATINIS_WAS6
<input type="checkbox"/>	DEPLOY_TOOL_ROOT	\${WAS_INSTALL_ROOT}/deploytool/itp	Node=STATINIS_WAS6
<input type="checkbox"/>	DERBY_JDBC_DRIVER_PATH	\${WAS_INSTALL_ROOT}/derby/lib	Node=STATINIS_WAS6
<input type="checkbox"/>	DRIVER_PATH	\${WAS_INSTALL_ROOT}	Node=STATINIS_WAS6
<input type="checkbox"/>	INFORMIX_JDBC_DRIVER_PATH		Node=STATINIS_WAS6
<input type="checkbox"/>	JAVA_HOME	/QIBM/ProdData/WebSphere/AppServer/V61/Express/java	Node=STATINIS_WAS6
<input type="checkbox"/>	JVM_CACHE		Node=STATINIS_WAS6
<input type="checkbox"/>	LOG_ROOT	\${USER_INSTALL_ROOT}/logs	Node=STATINIS_WAS6

1. Expand **Environment**
2. Click on **WebSphere variables**

Integrated Solutions Console - Microsoft Internet Explorer provided by Statistical Institute of Jamaica

http://192.168.0.19:11001/bm/console/login.do

File Edit View Favorites Tools Help

Integrated Solutions Console Welcome admin Help | Logout

View: All tasks

WebSphere Variables

WebSphere Variables

Use this page to define substitution variables. Variables specify a level of indirection for some system-defined values, such as file system level, which is either server, node, cluster, or cell. Values at one scope level can differ from values at other levels. When a variable has a scope value overrides values at greater scope levels. Therefore, server variables override node variables, which override cluster variables.

Scope: =All scopes

Scope specifies the level at which the resource definition is visible. For detailed information on what scope is and how it works, see the WebSphere Variables help topic.

All scopes

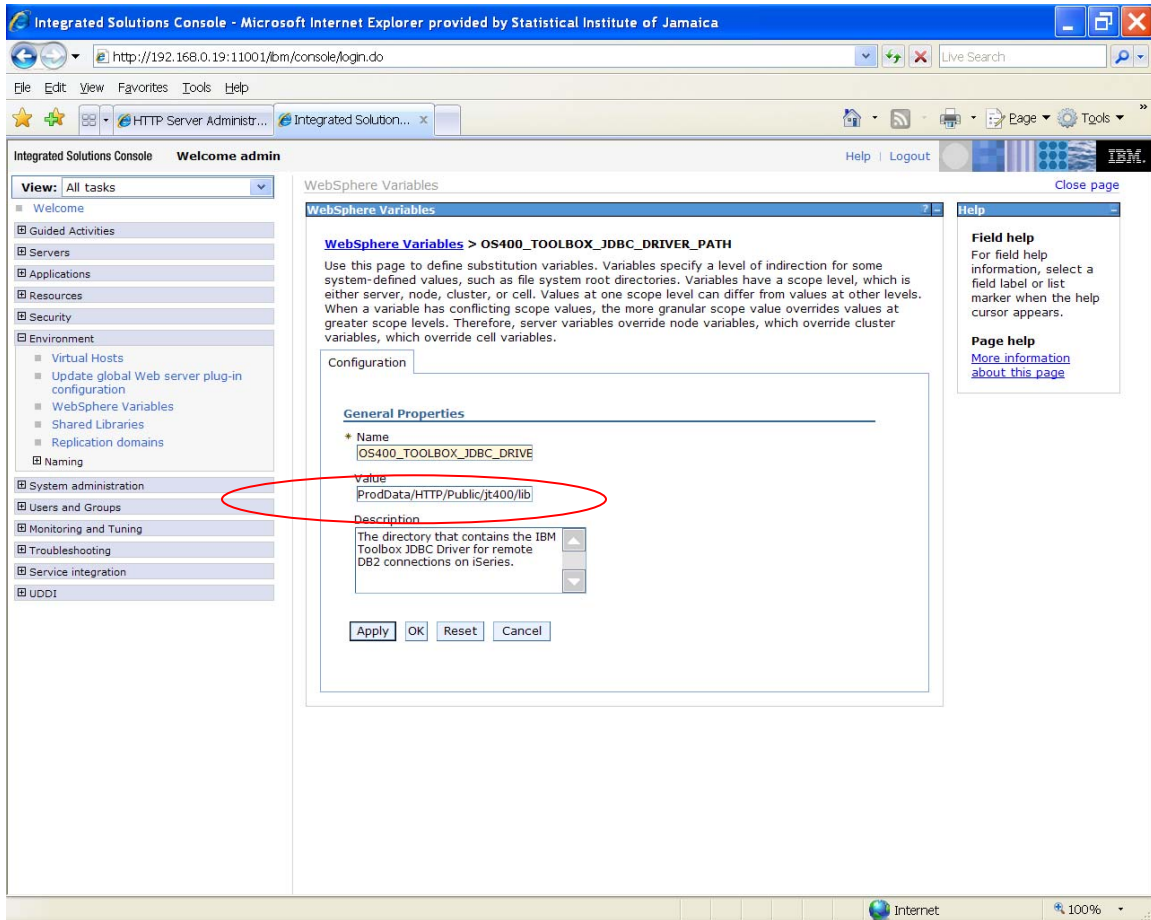
Preferences

New Delete

Select	Name	Value	Scope
<input type="checkbox"/>	OS400_TOOLBOX_JDBC_DRIVER_PATH		Node=ST
<input type="checkbox"/>	SERVER_LOG_ROOT	\${LOG_ROOT}/WAS61PROD	Node=ST
<input type="checkbox"/>	SERVER_LOG_ROOT	\${LOG_ROOT}Content frame ROD	Node=ST
<input type="checkbox"/>	SYBASE_JDBC_DRIVER_PATH		Node=ST
<input type="checkbox"/>	UNIVERSAL_JDBC_DRIVER_PATH	\${WAS_INSTALL_ROOT}/universalDriver/lib	Node=ST
<input type="checkbox"/>	USER_INSTALL_ROOT	/QIBM/UserData/WebSphere/AppServer/V61/Express/profiles/WAS61PROD	Node=ST
<input type="checkbox"/>	User-defined_JDBC_DRIVER_PATH		Node=ST
<input type="checkbox"/>	WAS_CELL_NAME	STATINIS_WAS61PROD	Cell=ST
<input type="checkbox"/>	WAS_ETC_DIR	\${USER_INSTALL_ROOT}/etc	Node=ST
<input type="checkbox"/>	WAS_INSTALL_LIBRARY	QWAS61A	Node=ST
<input type="checkbox"/>	WAS_INSTALL_ROOT	/QIBM/ProdData/WebSphere/AppServer/V61/Express	Node=ST
<input type="checkbox"/>	WAS_LIBS_DIR	\${WAS_INSTALL_ROOT}/lib	Node=ST
<input type="checkbox"/>	WAS_PROPS_DIR	\${USER_INSTALL_ROOT}/properties	Node=ST
<input type="checkbox"/>	WAS_SERVER_NAME	WAS61PROD	Node=ST
<input type="checkbox"/>	WAS_SERVER_NAME	IHS_WAS61PROD	Node=ST

http://192.168.0.19:11001/bm/console/variableSubstitutionEntryCollection.do?EditAction=true&refId=VariableSubstitutor

3. Click on **OS400 TOOLBOX JDBC DRIVER PATH**



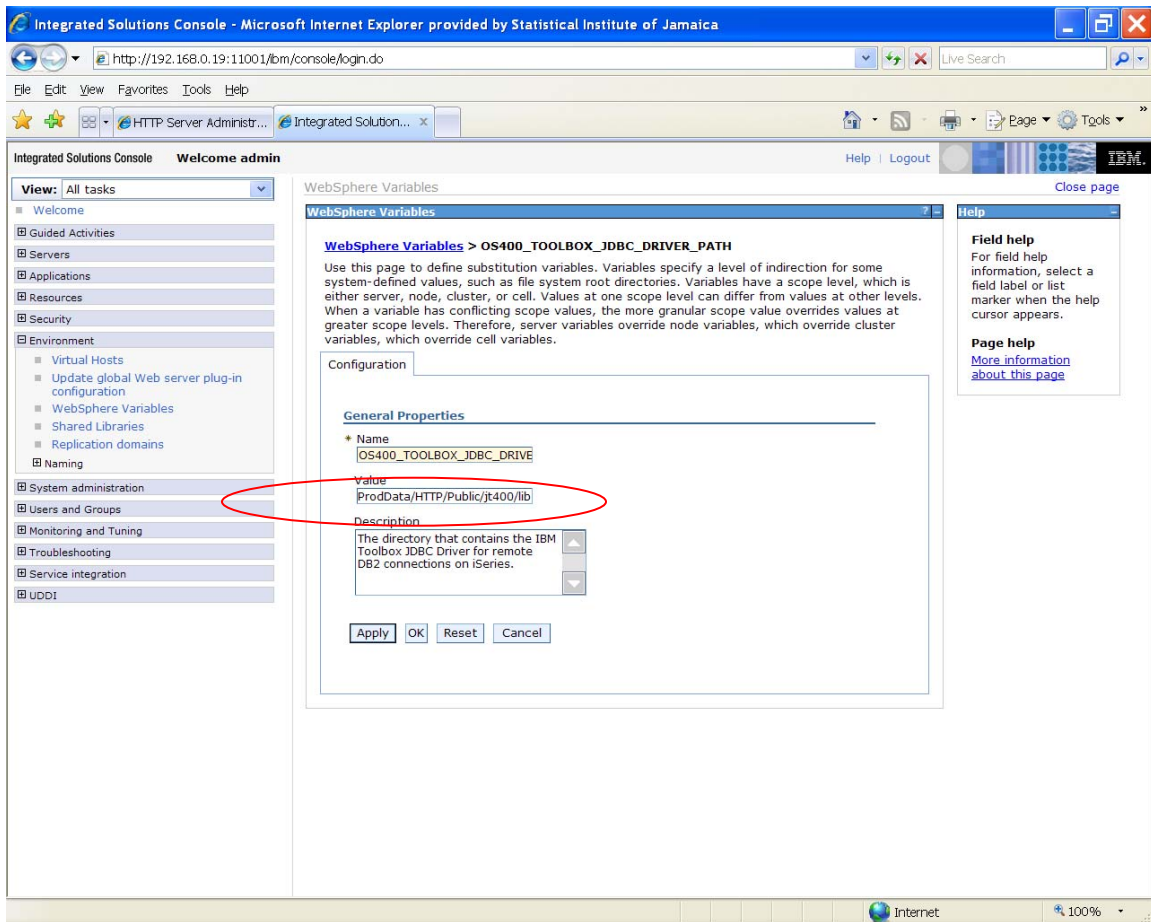
4. Type in the absolute path to the JDBC Driver path on the iSeries server.  
Path: **/QIBM/ProdData/HTTP/Public/jt400/lib**
5. Click **Apply** to apply the configuration
6. Click **Save** to save the configuration

## 4.5.2 Configure OS400 NATIVE JDBC DRIVER PATH

The screenshot shows the Integrated Solutions Console interface. The main content area displays a table of preferences under the 'All scopes' filter. The table has columns for 'Select', 'Name', 'Value', and 'Scope'. The entry 'OS400\_NATIVE\_JDBC\_DRIVER\_PATH' is circled in red.

Select	Name	Value	Scope
<input type="checkbox"/>	APP_INSTALL_ROOT	\${USER_INSTALL_ROOT}/installedApps	Node=STATINIS_WAS6
<input type="checkbox"/>	CONNECTJDBC_JDBC_DRIVER_PATH		Node=STATINIS_WAS6
<input type="checkbox"/>	CONNECTOR_INSTALL_ROOT	\${USER_INSTALL_ROOT}/installedConnectors	Node=STATINIS_WAS6
<input type="checkbox"/>	DB2390_JDBC_DRIVER_PATH		Node=STATINIS_WAS6
<input type="checkbox"/>	DB2UNIVERSAL_JDBC_DRIVER_NATIVEPATH		Node=STATINIS_WAS6
<input type="checkbox"/>	DB2UNIVERSAL_JDBC_DRIVER_PATH		Node=STATINIS_WAS6
<input type="checkbox"/>	DB2_JDBC_DRIVER_PATH		Node=STATINIS_WAS6
<input type="checkbox"/>	DEPLOY_TOOL_ROOT	\${WAS_INSTALL_ROOT}/deploytool/itp	Node=STATINIS_WAS6
<input type="checkbox"/>	DERBY_JDBC_DRIVER_PATH	\${WAS_INSTALL_ROOT}/derby/lib	Node=STATINIS_WAS6
<input type="checkbox"/>	DRIVER_PATH	\${WAS_INSTALL_ROOT}	Node=STATINIS_WAS6
<input type="checkbox"/>	INFORMIX_JDBC_DRIVER_PATH		Node=STATINIS_WAS6
<input type="checkbox"/>	JAVA_HOME	/QIBM/ProdData/WebSphere/AppServer/V61/Express/java	Node=STATINIS_WAS6
<input type="checkbox"/>	JVM_CACHE		Node=STATINIS_WAS6
<input type="checkbox"/>	LOG_ROOT	\${USER_INSTALL_ROOT}/logs	Node=STATINIS_WAS6
<input type="checkbox"/>	MICROSOFT_JDBC_DRIVER_NATIVEPATH		Node=STATINIS_WAS6
<input type="checkbox"/>	MICROSOFT_JDBC_DRIVER_PATH		Node=STATINIS_WAS6
<input type="checkbox"/>	MQ_INSTALL_ROOT	\${WAS_INSTALL_ROOT}/lib/WMQ	Node=STATINIS_WAS6
<input type="checkbox"/>	MSSQLSERVER_JDBC_DRIVER_PATH		Node=STATINIS_WAS6
<input type="checkbox"/>	ORACLE_JDBC_DRIVER_PATH		Node=STATINIS_WAS6
<input type="checkbox"/>	OS400_NATIVE_JDBC_DRIVER_PATH		Node=STATINIS_WAS6

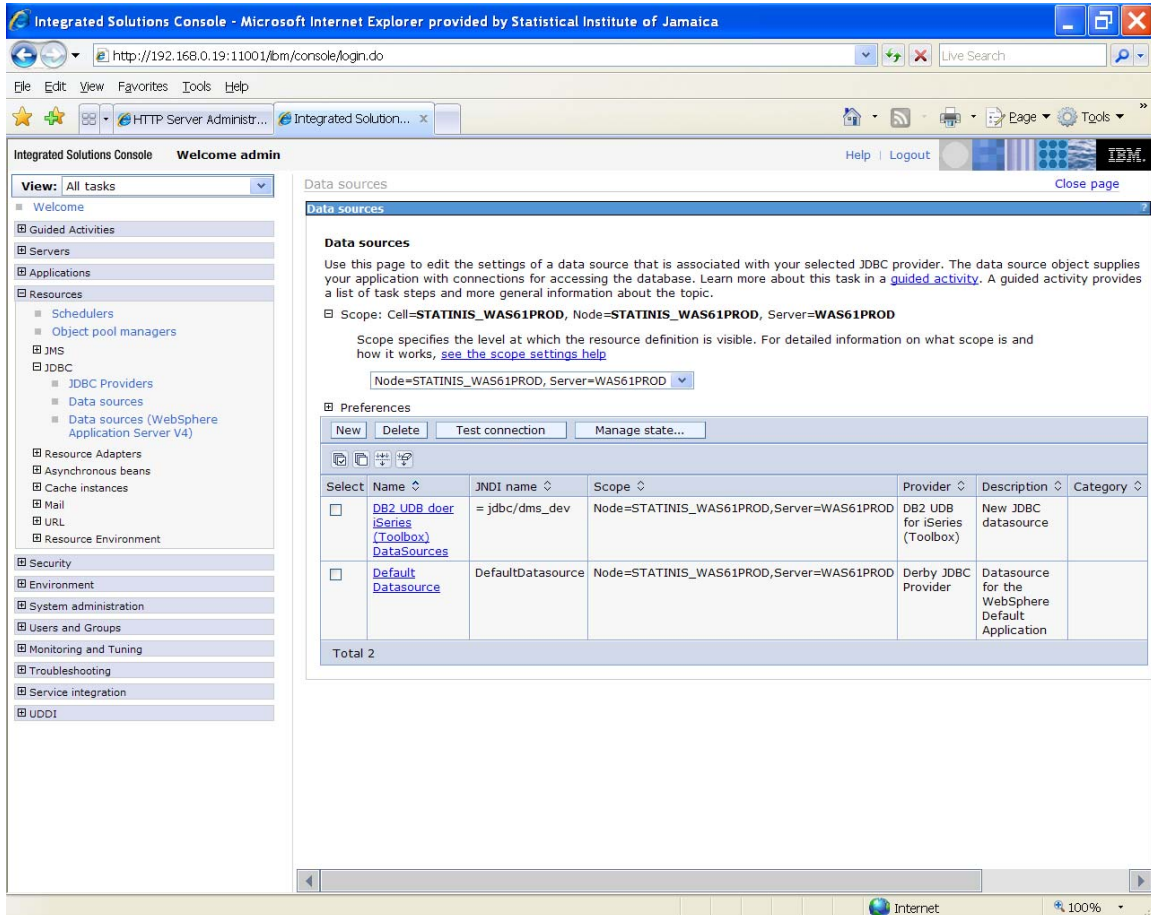
1. Click on **OS400 NATIVE JDBC DRIVER PATH**



2. Type in the absolute path to the JDBC Driver path on the iSeries server.  
Path: **/QIBM/UserData/Java400/ext**
3. Click **Apply** to apply the configuration
4. Click **Save** to save the configuration

## 4.6 Test the Connection

After creating the data source, the next step is to test the connection just to make sure that it was created properly and it is working.

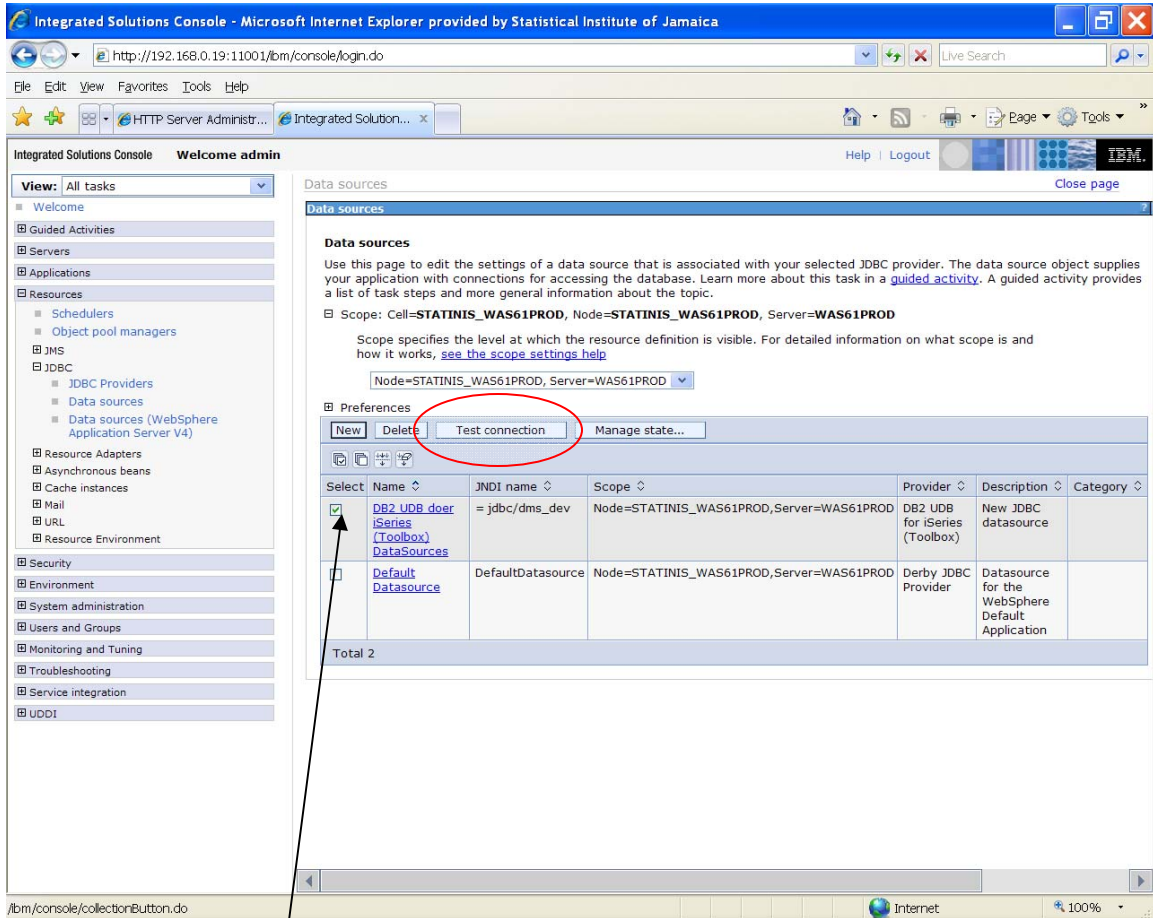


The screenshot shows the Integrated Solutions Console interface. The left sidebar contains a navigation tree with categories like Welcome, Guided Activities, Servers, Applications, Resources, JMS, JDBC, Resource Adapters, Security, Environment, System administration, Users and Groups, Monitoring and Tuning, Troubleshooting, Service integration, and UDDI. The main content area is titled 'Data sources' and includes a 'Test connection' button. Below the button is a table of data sources.

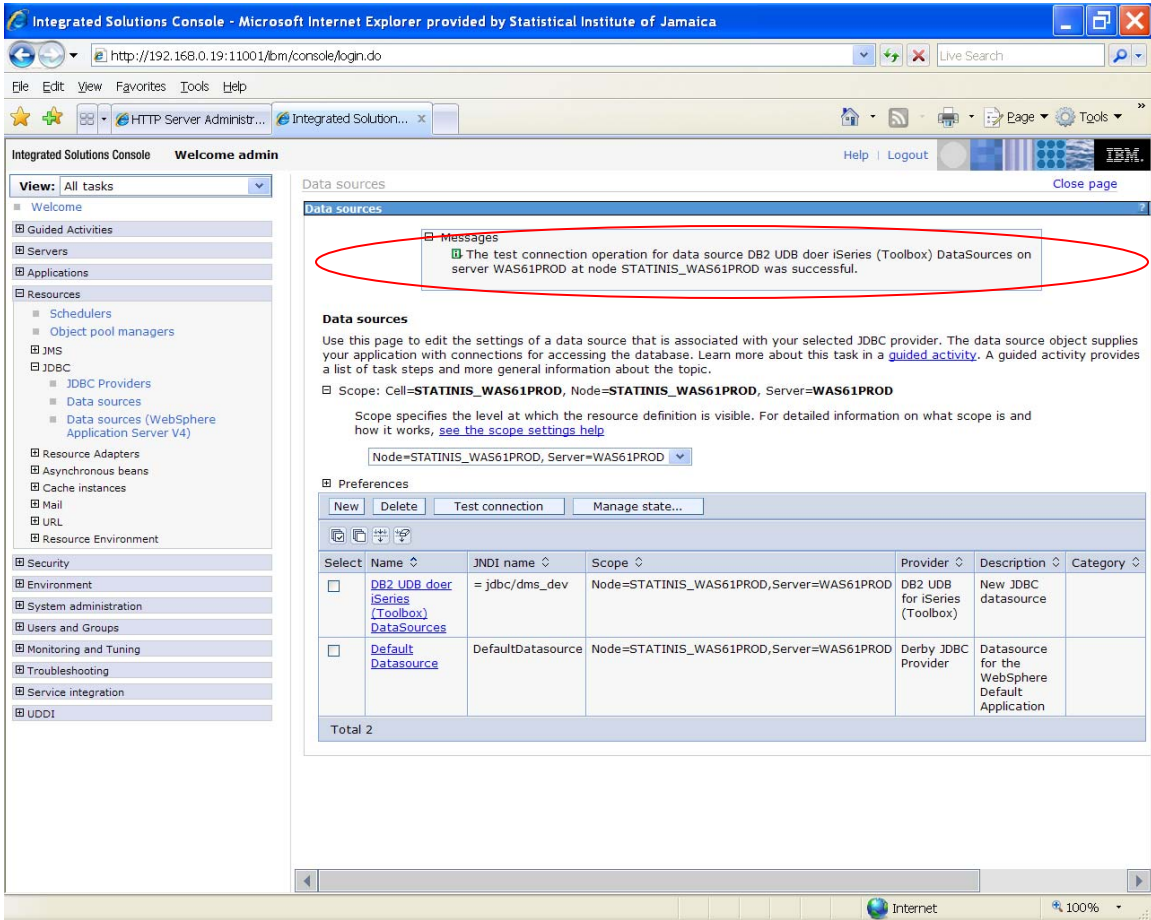
Select	Name	JNDI name	Scope	Provider	Description	Category
<input type="checkbox"/>	<a href="#">DB2 UDB dpcer</a> <small>iSeries (Toolbox) DataSources</small>	= jdbc/dms_dev	Node=STATINIS_WAS61PROD,Server=WAS61PROD	DB2 UDB for iSeries (Toolbox)	New JDBC datasource	
<input type="checkbox"/>	<a href="#">Default Datasource</a>	DefaultDatasource	Node=STATINIS_WAS61PROD,Server=WAS61PROD	Derby JDBC Provider	Datasource for the WebSphere Default Application	

Total 2

1. Expand **Resources**
2. Expand **JDBC**
3. Click on **Data Sources**



4. Tick the “DB2 UDB doer iSeries (Toolbox) DataSources” driver
5. Click the **Test Connection** button



A successful connection will return the message above.



## 5.0 DEPLOYING THE DMS EAR

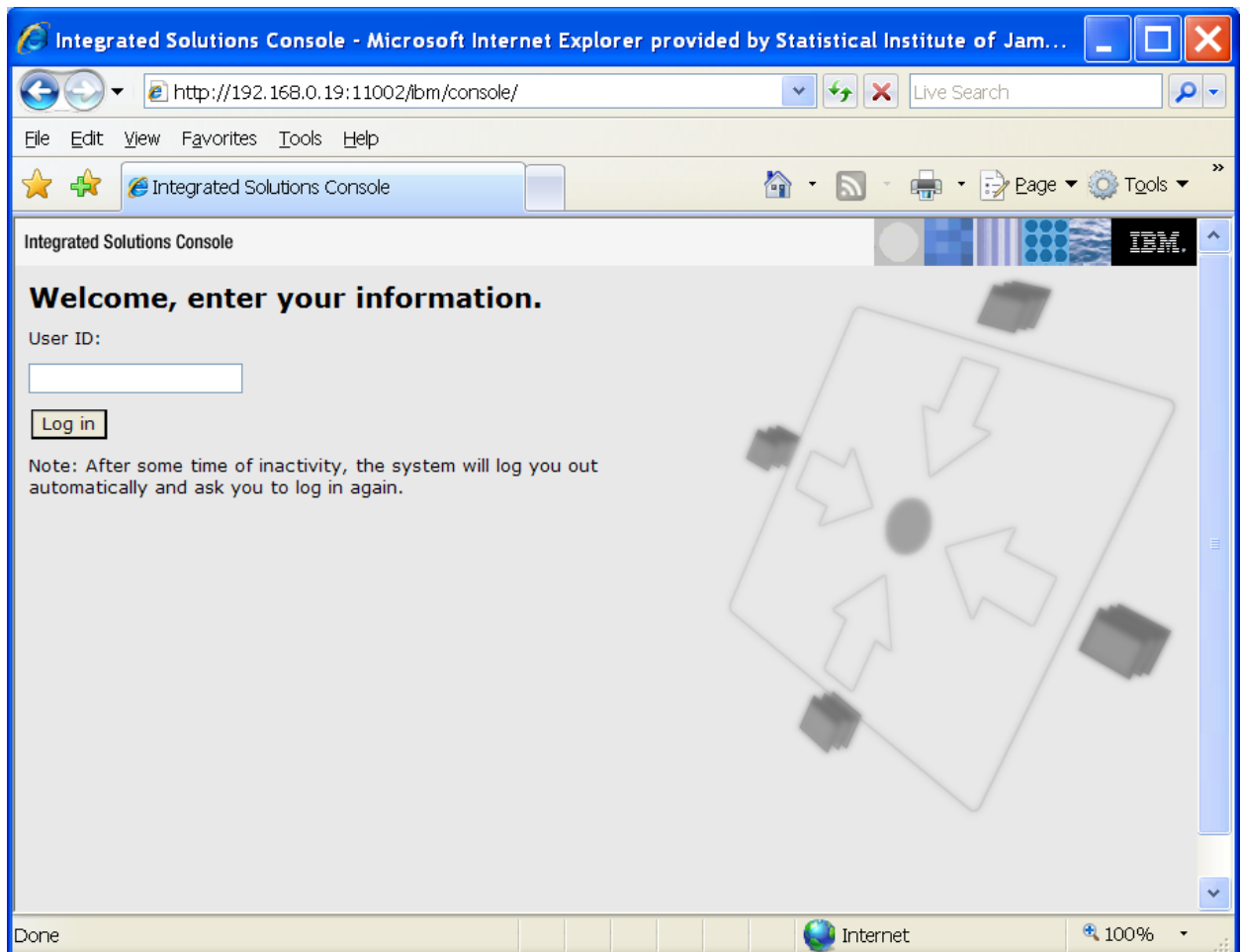
This section describes the steps to deploy EAR file on the application server.

### Overview

EAR can be deployed on the application server in two (2) scenarios viz., while installing application for the first time and while installing subsequent patches/releases.

### Prerequisite

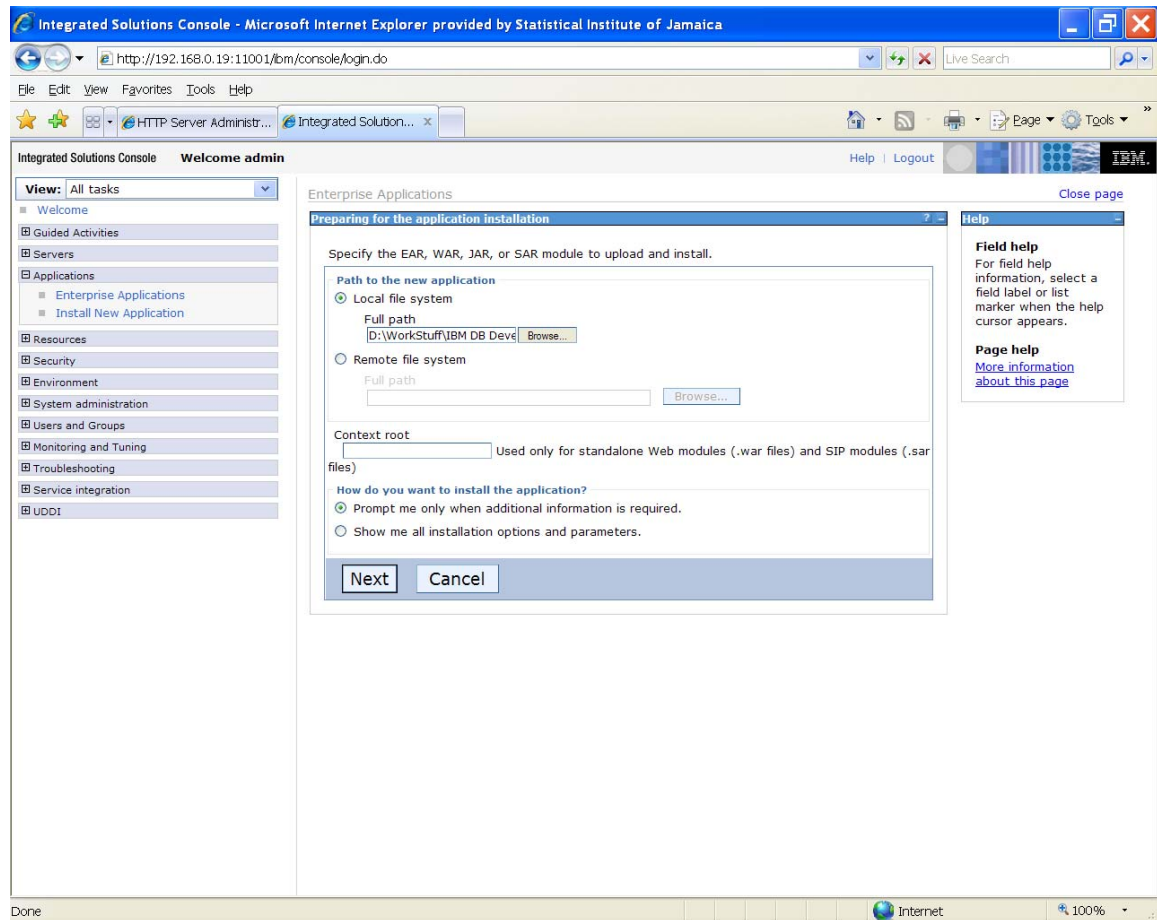
Access to the Administrator console at <https://192.168.0.19:11002/ibm/console>



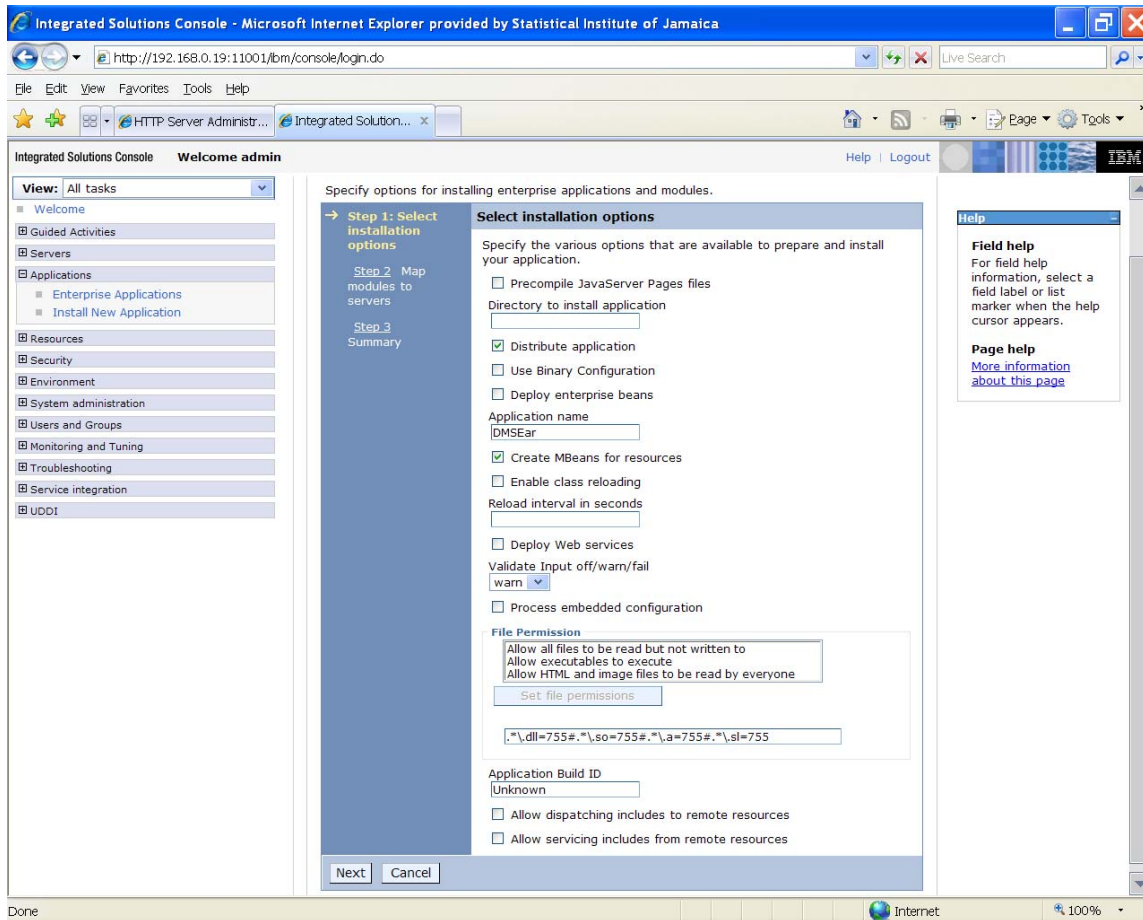
## 5.1 Deploying the Application

The following steps explain how to install application for the first time.

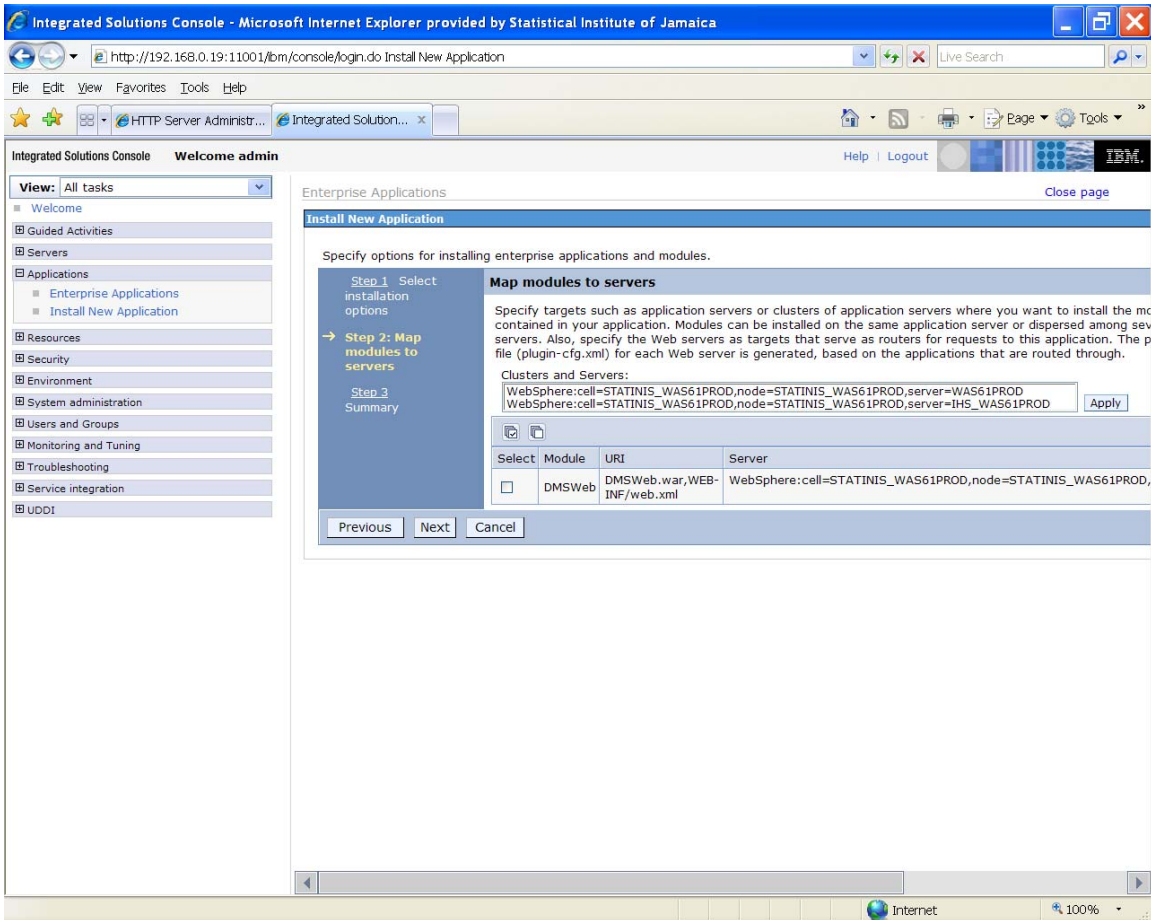
1. Login to the Administrator Console (**Section 4.1**)



2. Expand **Applications**
3. Click on **Install New Application**.
4. Select the location of the DMS EAR file to deploy.
5. Click **Next**



6. Click **Next** to continue.



7. Click **Next** to continue.

Integrated Solutions Console - Microsoft Internet Explorer provided by Statistical Institute of Jamaica

http://192.168.0.19:11001/ibm/console/login.do Install New Application

File Edit View Favorites Tools Help

Integrated Solutions Console **Welcome admin** Help | Logout

**View:** All tasks

- Welcome
- Guided Activities
- Servers
- Applications
  - Enterprise Applications
  - Install New Application
- Resources
- Security
- Environment
- System administration
- Users and Groups
- Monitoring and Tuning
- Troubleshooting
- Service integration
- UDDI

Step 2 Map modules to servers

→ Step 3: Summary

Summary of installation options

Options	Values
Precompile JavaServer Pages files	No
Directory to install application	
Distribute application	Yes
Use Binary Configuration	No
Deploy enterprise beans	No
Application name	DMSEar
Create MBeans for resources	Yes
Enable class reloading	No
Reload interval in seconds	
Deploy Web services	No
Validate Input off/warn/fail	warn
Process embedded configuration	No
File Permission	.*\,dll=755#.*\,so=755#.*\,a=755#.*\,sl=755
Application Build ID	Unknown
Allow dispatching includes to remote resources	No
Allow servicing includes from remote resources	No
Cell/Node/Server	<a href="#">Click here</a>

⚠ No application modules were mapped to Web servers. The plug-in configuration file (plugin-cfg.xml) for each Web server is generated based on the application modules which are mapped to it, therefore no Web server will route requests to this application. To change this option, select the Map modules to servers step.

Previous Finish Cancel

**Help**

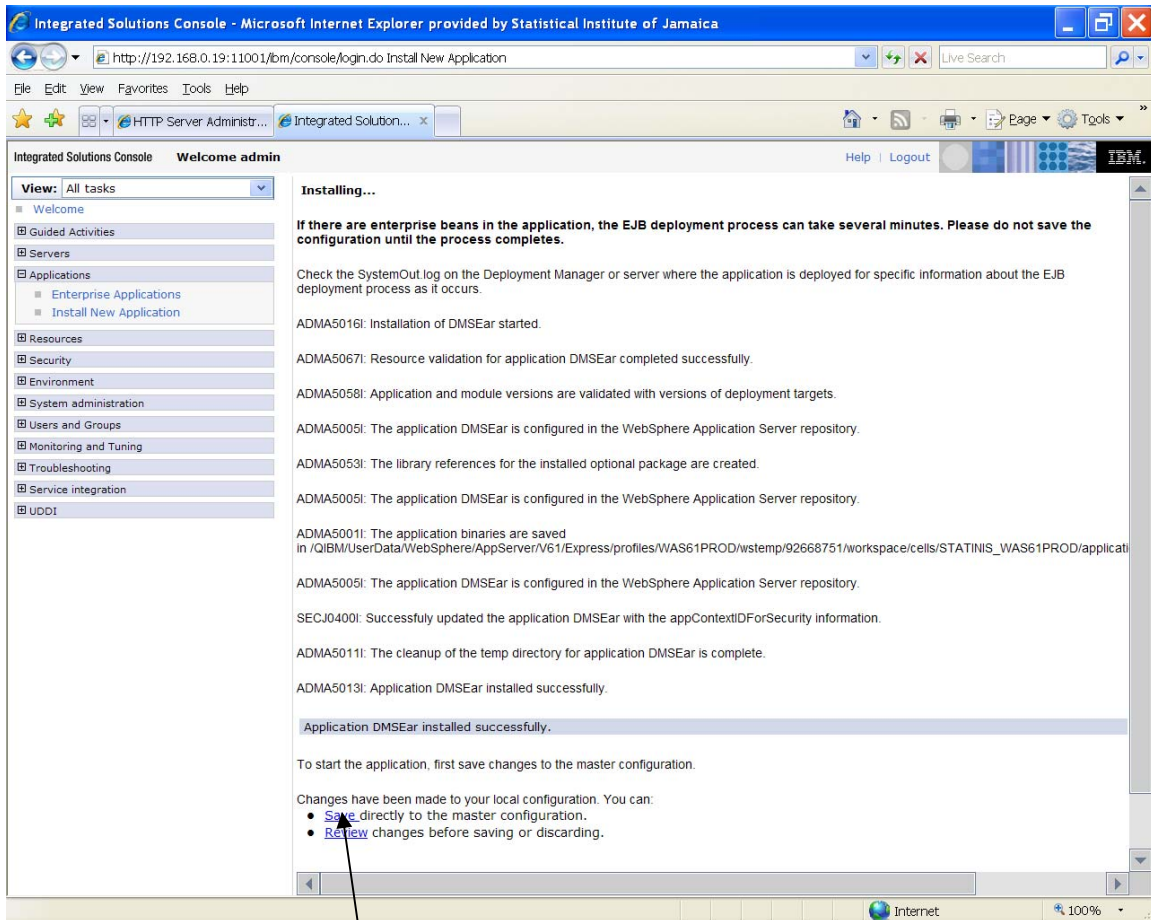
**Field help**  
For field help information, select a field label or list marker when the help cursor appears.

**Page help**  
[More information about this page](#)

**Command Assistance**  
[View administrative scripting command for last action](#)

Internet 100%

8. Click the **Finish** button.



9. Click on “[Save to Master Configuration](#)” hyperlink.

## 5.2 Configure Source Database and Library

The screenshot shows the Integrated Solutions Console interface. The left sidebar contains a navigation tree with the following structure:

- View: All tasks
- Welcome
- Guided Activities
- Servers
- Applications
- Resources
  - Schedulers
  - Object pool managers
  - JMS
  - JDBC
    - JDBC Providers
    - Data sources
    - Data sources (WebSphere Application Server V4)
  - Resource Adapters
  - Asynchronous beans
  - Cache instances
  - Mail
  - URL
  - Resource Environment
- Security
- Environment
- System administration
- Users and Groups
- Monitoring and Tuning
- Troubleshooting
- Service integration
- UDDI

The main content area is titled 'Data sources' and contains the following text:

**Data sources**

Use this page to edit the settings of a data source that is associated with your selected JDBC provider. The data source object supplies your application with connections for accessing the database. Learn more about this task in a [guided activity](#). A guided activity provides a list of task steps and more general information about the topic.

Scope: =All scopes

Scope specifies the level at which the resource definition is visible. For detailed information on what scope is and how it works, [see the scope settings help](#).

All scopes

Preferences

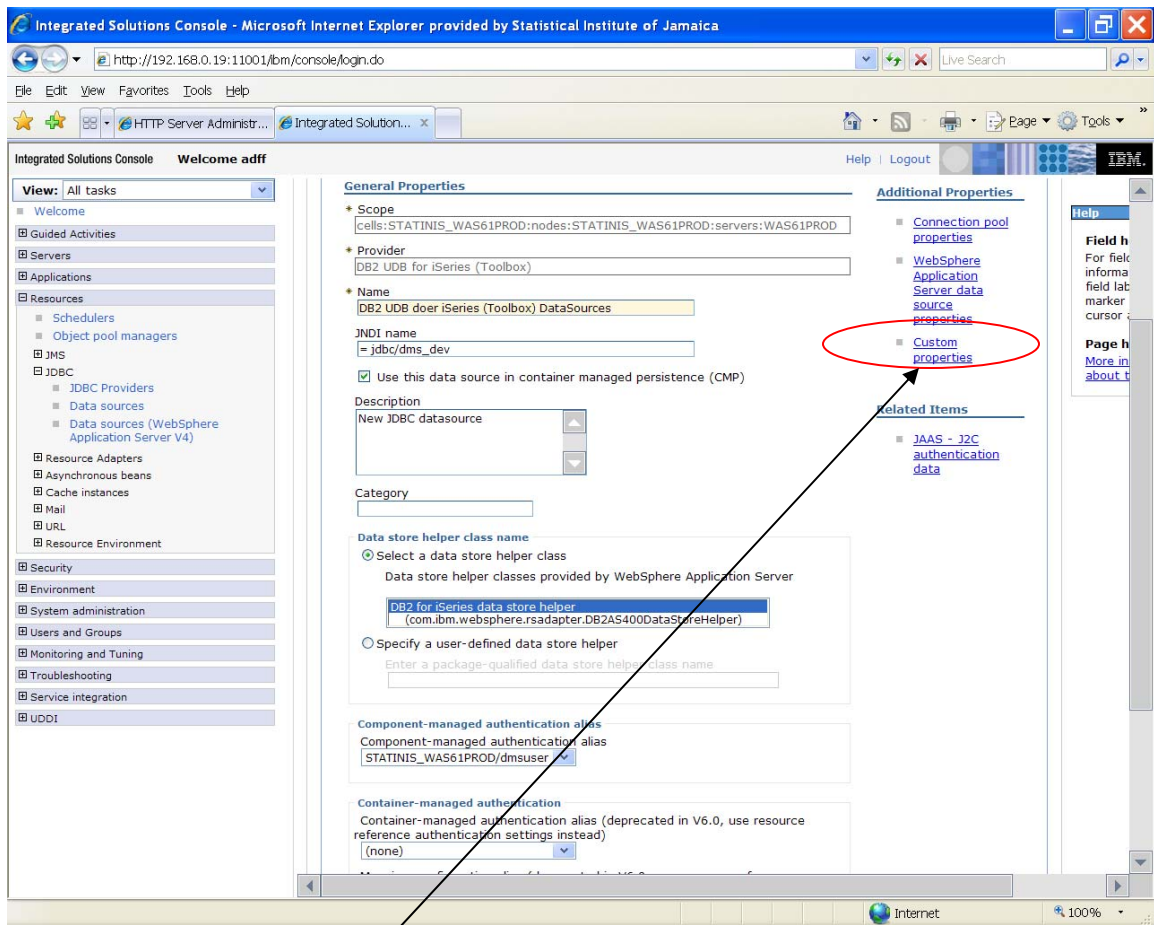
New Delete Test connection Manage state...

Select	Name	JNDI name	Scope	Provider	Description	Category
<input type="checkbox"/>	<a href="#">DB2 UDB doer iSeries (Toolbox) DataSource</a>	= jdbc/dms_dev	Node=STATINIS_WAS61PROD,Server=WAS61PROD	DB2 UDB for iSeries (Toolbox)	New JDBC datasource	
<input type="checkbox"/>	<a href="#">Default Datasource</a>	DefaultDatasource	Node=STATINIS_WAS61PROD,Server=WAS61PROD	Derby JDBC Provider	Datasource for the WebSphere Default Application	

Total 2

An arrow points from the first entry in the table to the list of steps below.

1. Expand **Resources**
2. Expand **JDBC**.
3. Click on **Data Sources**
4. Click on **DB2 UDB doer iSeries (Toolbox) Datasource**



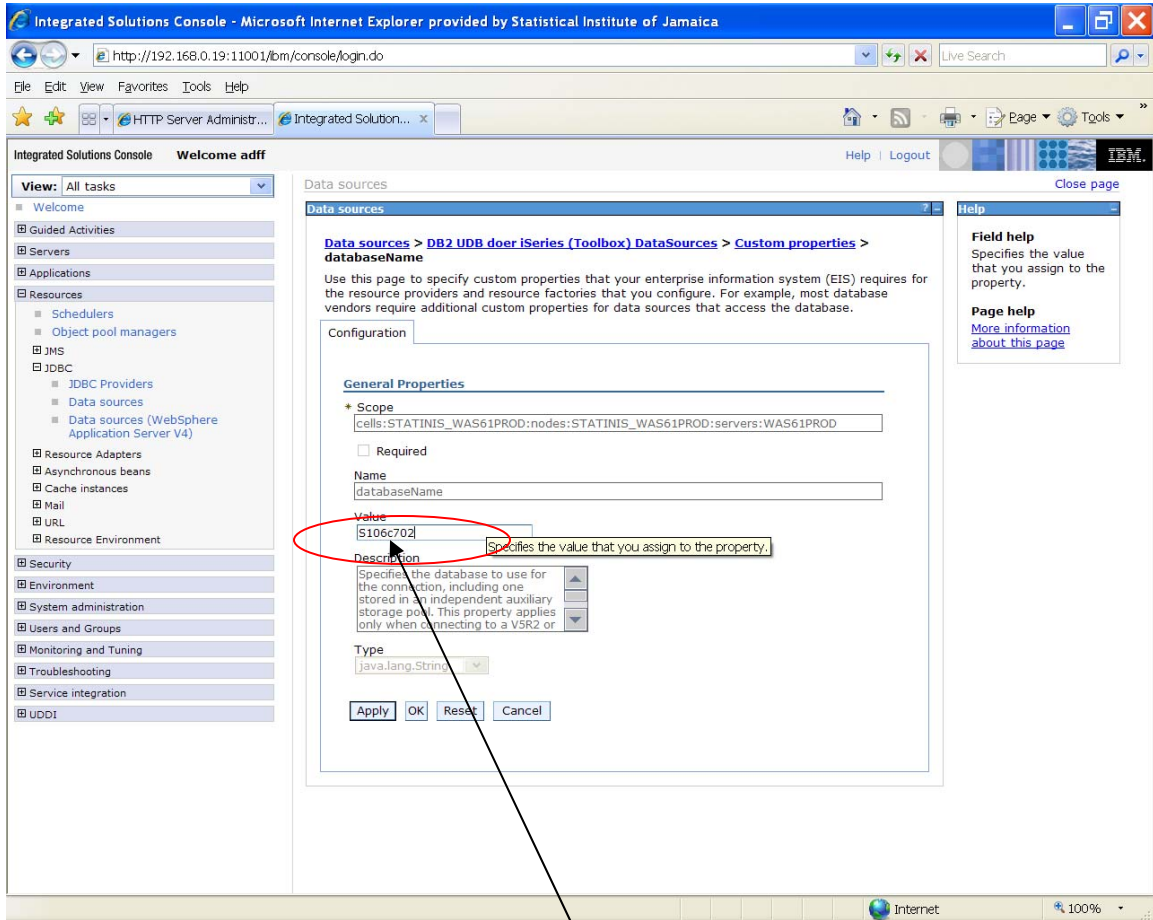
5. Click on **Custom Properties**



The screenshot shows the IBM Integrated Solutions Console interface. On the left is a navigation tree with categories like Welcome, Guided Activities, Servers, Applications, Resources, Security, Environment, System administration, Users and Groups, Monitoring and Tuning, Troubleshooting, Service integration, and UDDI. The main area displays a table of properties for a data source. The 'databaseName' property is circled in red, and an arrow points to it from the instruction below.

Property Name	Value	Description	Default Value
<input type="checkbox"/> bigDecimal	true	Indicates whether a big decimal value is returned.	false
<input type="checkbox"/> dataCompression	true	Indicates whether data compression is used.	false
<input type="checkbox"/> dataSourceName		The Data Source name property. This property is used to name an underlying Data Source when connection pooling is used.	false
<input type="checkbox"/> dataTruncation	true	Specifies whether truncation of character data should cause warnings and exceptions to be generated (true) or if the data should just be silently truncated (false) if the data is used for a query of the database. If data is being inserted or updated into the database and needs to be truncated, an exception will always be thrown. The default is true, data truncation of character fields should be honored.	false
<input checked="" type="checkbox"/> databaseName		Specifies the database to use for the connection, including one stored in an independent auxiliary storage pool. This property applies only when connecting to a V5R2 or later version of OS/400. In V5R1 and earlier this property is ignored. When you specify a database name, the name must exist in the relational database directory on the server.	false
<input type="checkbox"/> dateFormat		Allows modification of how dates will be formatted. The possible values are : julian, mdy, dmy, ymd, usa, iso, eur, jis.	false
<input type="checkbox"/> dateSeparator		Allows modification of what the date separator will be. This is only valid in combination with some of the dateFormat values (per system rules). The possible values are: / - . _ b	false
<input type="checkbox"/> decimalSeparator		Allows modification of what the decimal separator should be. The possible values are: ',' '.'	false
<input type="checkbox"/> description		The description of the Data Source.	false
<input type="checkbox"/> driver	teehex	Specify the JDBC driver.	false

6. Scroll down until you find the row item name **databaseName**. Click on it



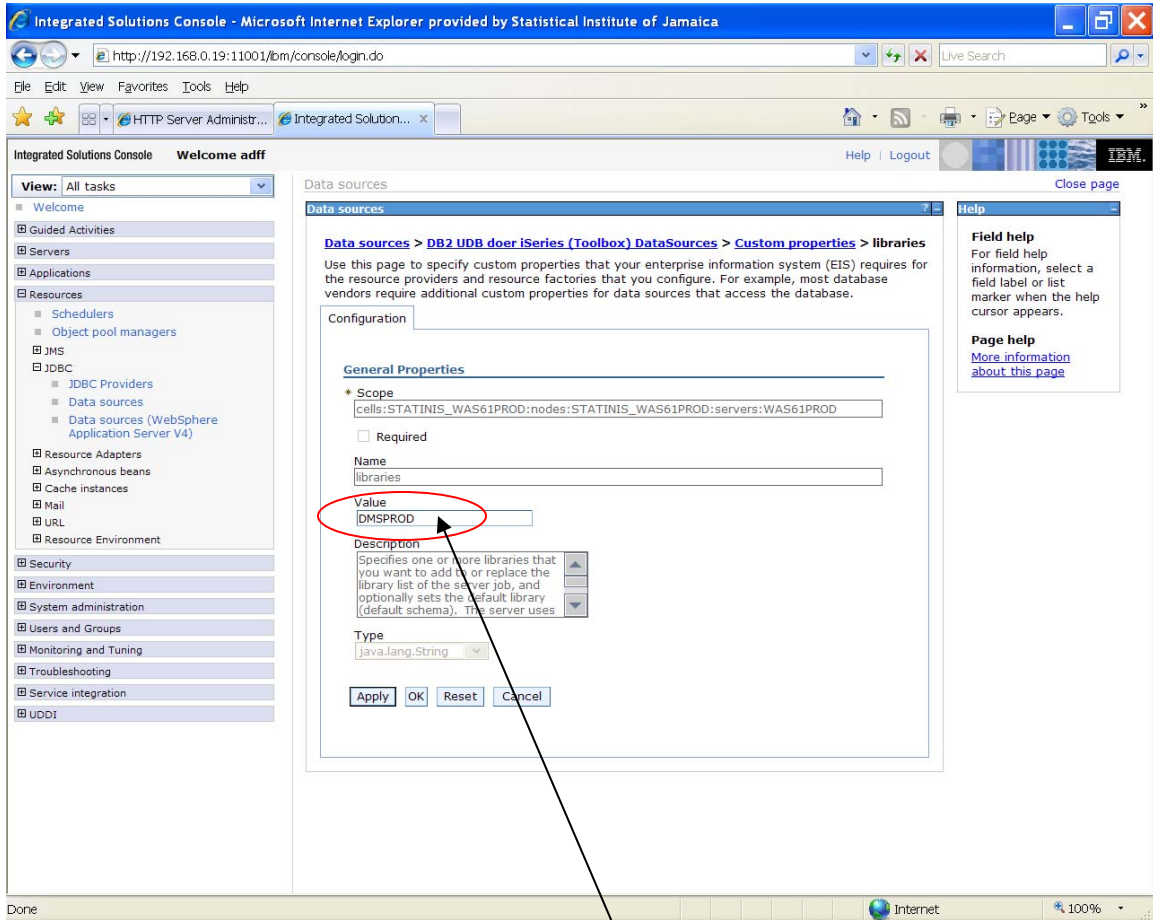
7. Enter the serial # of the DB2 database i.e. **S106c702** exactly as written.
8. Click **Apply**
9. Click **Save**.

The screenshot shows the Integrated Solutions Console interface. On the left is a navigation tree with categories like Welcome, Guided Activities, Servers, Applications, Resources, Security, Environment, System administration, Users and Groups, Monitoring and Tuning, Troubleshooting, Service integration, and UDDI. The main area displays a table with the following data:

Property Name	Value	Description	Default Value
<input type="checkbox"/> <a href="#">fullOpen</a>	false	<a href="#">extended metadata from the server.</a> Specifies whether the server fully opens a file for each query. By default the server optimizes open requests.	false
<input type="checkbox"/> <a href="#">lazyClose</a>	false	Indicates whether to delay closing cursors until subsequent requests.	false
<input type="checkbox"/> <a href="#">libraries</a>		Specifies one or more libraries that you want to add to or replace the library list of the server job, and optionally sets the default library (default schema). The server uses specified libraries to resolve unqualified stored procedure names, and stored procedures use them to resolve unqualified names. To specify multiple libraries, use commas or spaces to separate individual entries. You can use *LIBL as a placeholder for the current library list of the server job using the following rules: 1) When the first entry is *LIBL, the specified libraries are added to the current library list of the server job. 2) When you do not use *LIBL, the specified libraries replace the current library list of the server job. Setting of the default schema depends on whether you use 'sql' or 'system' for the naming property. For 'sql' naming the following rules apply... 1) The first entry (unless it is *LIBL) becomes the default schema 2) When the first entry is *LIBL, the second entry becomes the default schema. 3) When you do not set this property or when it contains only *LIBL, the user profile becomes the default schema. For 'system' naming the following rules apply... 1) The server uses the specified libraries to search for unqualified names. 2) When you do not set this property or when it contains only *LIBL, the server uses the current library list of the server job to search for unqualified names.	false

On the right side, there is a 'Help' panel with 'Field help' and 'Page help' sections.

10. Scroll down until you find the row item name **libraries**. Click on it.



11. Enter the name of the database schema you want the application to point to.  
In this setup we are pointing the application to **DMSPROD**
12. Click **Apply**
13. Click **Save**

## 5.3 Configuring Required DMS Application Folders

The DMS application uses several folders to store configuration files as well as application data. These folders are critical in the startup of the application as well as saving information generated in the application. Some of the folders are created during the deployment of the application while the rest must be manually created. In this section, we will be focusing on the folders that have to be created manually.

The location and path of these folders are to be stored on the iSeries server. They are to be placed under the /QIBM folder in any folder of choice. The folder paths can be configured as the situation demands. It is important to note the path to these folders because they will be used in manually configuring the DMS Application Startup files later on.

In this exercise, we will be using the folder path for the Production environment. Using Windows Explorer you can create the following folders or copy them from a backup.

Path	Description
/QIBM/PROD61	Folder location for the data created by the DMS application in the production environment.
/QIBM/PROD61/DMSLOGS	Stores the log files generated daily. File is used to identify and track errors produced by the application.
/QIBM/PROD61/FSLWS	
/QIBM/PROD61/FSLWS/C87ZipStore	Used to store compressed Trade files downloaded from the Data Delivery Web Service hosted at Fiscal Services Ltd.
/QIBM/PROD61/FSLWS/KeyStore	It also stored the configuration file statinprod.keystore used to connect to the service
/QIBM/PROD61/statinproddata2	Stores data files for uploading for all modules of the DMS Application. It stores files for CREU, Trade and Demography. (Surveys and Media Clippings applications do not have files in need of uploading into the application.)
<b>The ellipse (...) will be used to represent the path “/QIBM/PROD61/statinproddata2”</b>	
.../trade/error/ .../trade/loaded/ .../trade/source/	Stores uncompressed XML data files used to upload data into the Trade Module. The loaded folder holds files that have been successful loaded.
.../creu/refresh/ .../creu/error/ .../creu/loaded/ .../creu/prospectforms/ .../creu/source/	
.../Demography/birth/error/ .../Demography/birth/loaded/ .../Demography/birth/source/	
.../Demography/death/error/ .../Demography/death/loaded/ .../Demography/death/source/	
.../Demography/divorce/error/ .../Demography/divorce/loaded/ .../Demography/divorce/source/	

.../Demography/marriage/error/ .../Demography/marriage/loaded/ .../Demography/marriage/source/	
.../Demography/movement/error/ .../Demography/movement/loaded/ .../Demography/movement/source/	
.../gct/error/ .../gct/loaded/ .../gct/source/	

## 5.4 Configure DMS Application System Files

When the application is deployed, the configuration files are updated automatically. However, the difference in the developers' environment and STATIN iSeries' environment will render the application inoperable. This difference is primarily due to the file path location of the configuration files.

One approach in getting around this is to make a backup copy of all configuration files in the production environment before deploying the new or updated release of the DMS. This is followed by manually copying each file from the backup overwriting the new release.

If there are changes to the configuration files that must be made, the release instructions will state which file is to be changed and the changes that are to be implemented. This can be used to configure the local configuration files with the new changes.

### CLASSES FOLDER

Item	Description
<b>Filename</b>	<a href="#">log4j.properties</a>
<b>Path</b>	QIBM\UserData\WebSphere\AppServer\V61\Express\profiles\WAS61PROD\installedApps\STATINIS_WAS61PROD\DMSEar.ear\DMSWeb.war\WEB-INF\classes
<b>Purpose</b>	Configures the name and file location of the DMS Application log file
<b>Changes</b>	1. Update the path to reflect "/QIBM/PROD61/DMSLOGS" e.g. log4j.appender.r.File=/QIBM/PROD61/DMSLogs/DMSLog.log
<b>Filename</b>	<a href="#">sddws-client.properties</a>
<b>Path</b>	QIBM\UserData\WebSphere\AppServer\V61\Express\profiles\WAS61PROD\installedApps\STATINIS_WAS61PROD\DMSEar.ear\DMSWeb.war\WEB-INF\classes
<b>Purpose</b>	Configures the file path where to store the downloaded XML files and the location of the keystore file used to access the Data Delivery Web Service.
<b>Update</b>	1. ZipStore Location: Update the path to reflect "/QIBM/PROD61/FSLWS/C87ZipStore" e.g. c87_zip_store_folder=/QIBM/PROD61/FSLWS/C87ZipStore  2. KeyStore Location: Update the path to reflect "/QIBM/PROD61/FsIWS/Keystore/statinprod.keystore" e.g. client_keystore=/QIBM/PROD61/FsIWS/Keystore/statinprod.keystore

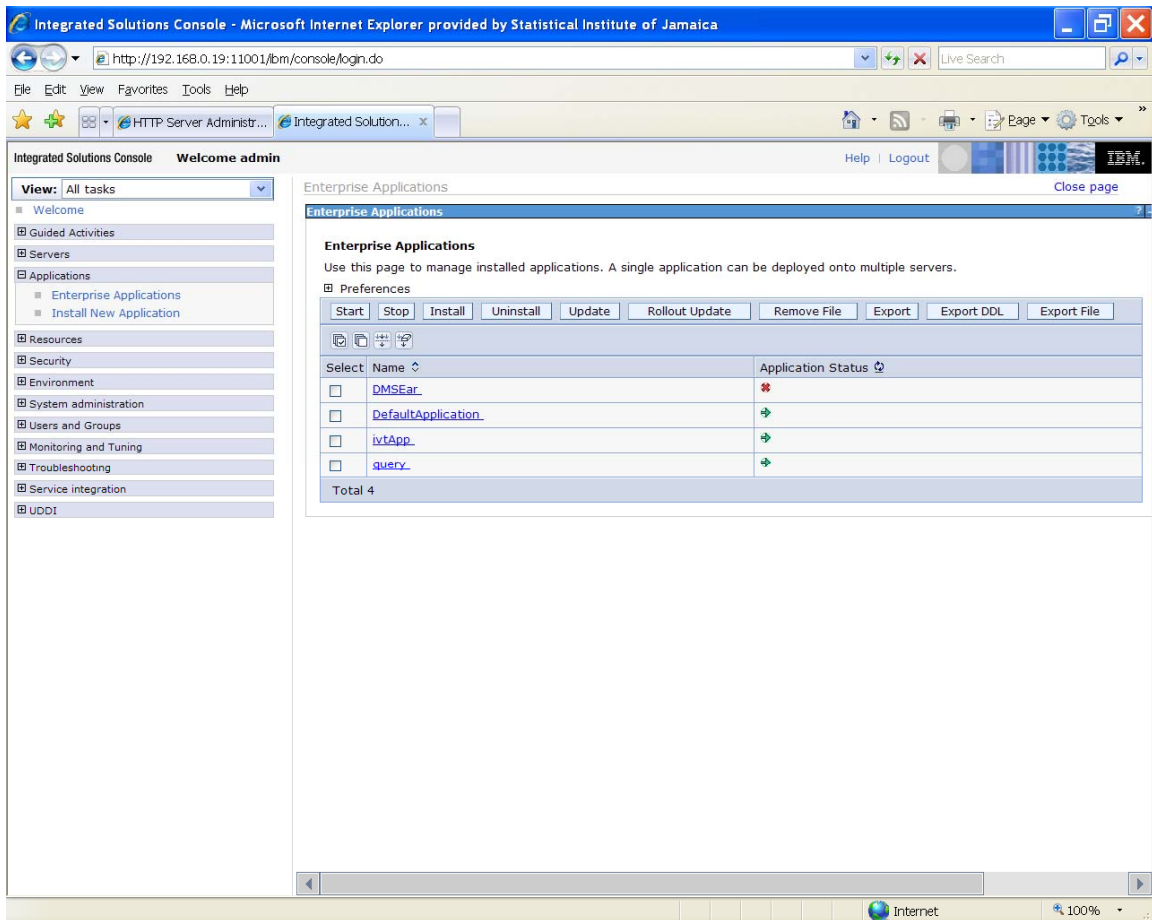
## RESOURCES FOLDER

Item	Description
<b>Filename</b>	<a href="#">CreuDataLoad.properties</a>
<b>Path</b>	\\QIBM\UserData\WebSphere\AppServer\V61\Express\profiles\WAS61PROD\installedApps\STATINIS_WAS61PROD\DMSEar.ear\DMSWeb.war\WEB-INF\classes\dmsweb\resources
<b>Purpose</b>	Configures the File location of Excel files to load into the CREU Module
<b>Update</b>	<p>1. Update the parameters to reflect the following path location:</p> <p>GCT_SOURCEDIR = /QIBM/PROD61/statinproddata2/gct/source/  GCT_MOVEDIR = /QIBM/PROD61/statinproddata2/gct/loaded/  GCT_ERRORDIR = /QIBM/PROD61/statinproddata2/gct/error/</p> <p>CREUEXCEL_SOURCEDIR = /QIBM/PROD61/statinproddata2/creu/source/  CREUEXCEL_MOVEDIR = /QIBM/PROD61/statinproddata2/creu/loaded/  CREUEXCEL_ERRORDIR = /QIBM/PROD61/statinproddata2/creu/error/</p> <p>CREUEXCEL_FORREFRESH = /QIBM/PROD61/statinproddata2/creu/refresh/CREU.xls  CREUEXCEL_FORPROSPECT = /QIBM/PROD61/statinproddata2/creu/prospectforms/CREU_NO_</p>
<b>Filename</b>	<a href="#">DemoDataLoad.properties</a>
<b>Path</b>	\\QIBM\UserData\WebSphere\AppServer\V61\Express\profiles\WAS61PROD\installedApps\STATINIS_WAS61PROD\DMSEar.ear\DMSWeb.war\WEB-INF\classes\dmsweb\resources
<b>Purpose</b>	Configures the File location of Excel files to load into the Demography Module
<b>Update</b>	<p>1. Update the parameters to reflect the following path location:</p> <p>MARRIAGEELECTRONICLOAD_SOURCEDIR=/QIBM/PROD61/statinproddata2/Demography/marriage/source/  MARRIAGEELECTRONICLOAD_ERRORDIR=/QIBM/PROD61/statinproddata2/Demography/marriage/error/  MARRIAGEELECTRONICLOAD_MOVEDIR=/QIBM/PROD61/statinproddata2/Demography/marriage/loaded/</p> <p>DEATHELECTRONICLOAD_SOURCEDIR=/QIBM/PROD61/statinproddata2/Demography/death/source/  DEATHELECTRONICLOAD_MOVEDIR=/QIBM/PROD61/statinproddata2/Demography/death/loaded/  DEATHELECTRONICLOAD_ERRORDIR=/QIBM/PROD61/statinproddata2/Demography/death/error/</p> <p>DIVORCEELECTRONICLOAD_MOVEDIR=/QIBM/PROD61/statinproddata2/Demography/divorce/loaded/  DIVORCEELECTRONICLOAD_SOURCEDIR=/QIBM/PROD61/statinproddata2/Demography/divorce/source/  DIVORCEELECTRONICLOAD_ERRORDIR=/QIBM/PROD61/statinproddata2/Demography/divorce/error/</p> <p>BIRTHELECTRONICLOAD_ERRORDIR=/QIBM/PROD61/statinproddata2/Demography/birth/error/  BIRTHELECTRONICLOAD_SOURCEDIR=/QIBM/PROD61/statinproddata2/Demography/birth/source/  BIRTHELECTRONICLOAD_MOVEDIR=/QIBM/PROD61/statinproddata2/Demography/birth/loaded/</p> <p>MOVEMENTELECTRONICLOAD_ERRORDIR=/QIBM/PROD61/statinproddata2/Demography/movement/error/  MOVEMENTELECTRONICLOAD_SOURCEDIR=/QIBM/PROD61/statinproddata2/Demography/movement/source/  MOVEMENTELECTRONICLOAD_MOVEDIR=/QIBM/PROD61/statinproddata2/Demography/movement/loaded/</p>
<b>Filename</b>	<a href="#">dms.properties</a>
<b>Path</b>	\\QIBM\UserData\WebSphere\AppServer\V61\Express\profiles\WAS61PROD\installedApps\STATINIS_WAS61PROD\DMSEar.ear\DMSWeb.war\WEB-INF\classes\dmsweb\resources
<b>Purpose</b>	Configures the source database schema the deployed application should use. This is used to point the application to the DMSTEST or DMSPROD database.
<b>Updates</b>	<p>1. Sets the schema the DMS application must use.</p> <p>schema=DMSPROD</p>

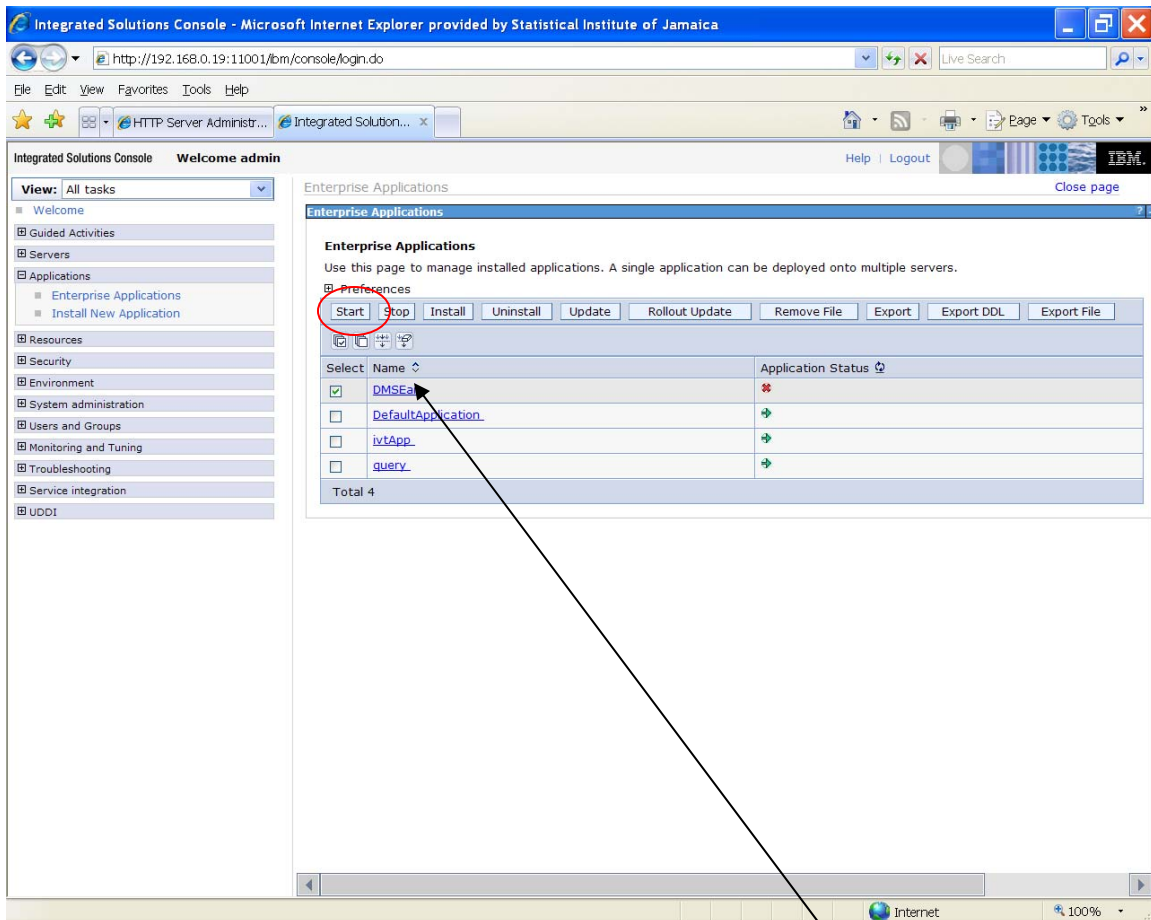


	<p>2. Configures how long the user can login without being automatically logged out of the DMS application. This is different from the WebSphere Application Server login time which must be set using the Administrator console. If both are not set properly, users may be logged out of the system by either. MaxInactiveInterval =90</p> <p>3. Sets the total number of records to be displayed on a page. pagesize=30</p> <p>4. Sets the total records to return after a search. maxRecordSearch = 500</p>
<b>Filename</b>	<a href="#">xmlloader.properties</a>
<b>Path</b>	\\QIBM\UserData\WebSphere\AppServer\V61\Express\profiles\WAS61PROD\installedApps\STATINIS_WAS61PROD\DMSEar.ear\DMSWeb.war\WEB-INF\classes\dmsweb\resources
<b>Purpose</b>	Configures the source database schema the deployed application should use. This is used to point the application to the DMSTEST or DMSPROD database.
<b>Update</b>	<p>1. Variable used to decide whether to load Export Data or not. EXPORTDATALOAD = YES</p> <p>2. Variable used to decide whether to load REExport Data or not. REEXPORTDATALOAD = YES</p> <p>3. Variable used to decide whether to run the loading program or not. LOADFLAG = NO</p> <p>4. Variable used to decide whether to run trade validation program or not. TRADEVALIDATIONFLAG = NO</p> <p>5. Name of the schema SCHEMANAME = DMSPROD</p> <p>6. SOURCEDIR = /QIBM/PROD61/statinproddata2/trade/source/ MOVEDIR = /QIBM/PROD61/statinproddata2/trade/loaded/ ERRORDIR = /QIBM/PROD61/statinproddata2/trade/error/</p>

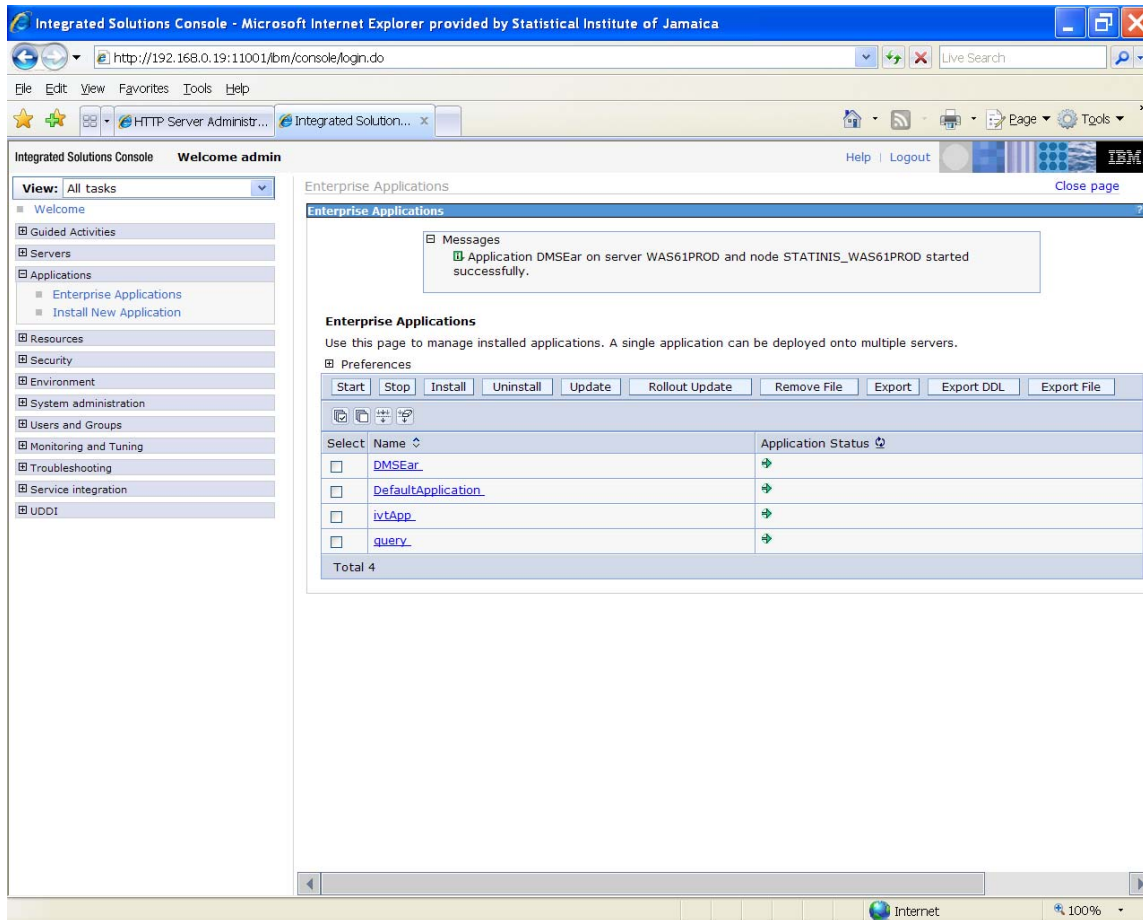
## 5.5 STARTING THE DMS APPLICATION



1. Expand **Applications**
2. Click on **Enterprise Applications**



3. Select the check box beside the newly installed application (**DMSEAR**)
4. Click on the **Start** button.

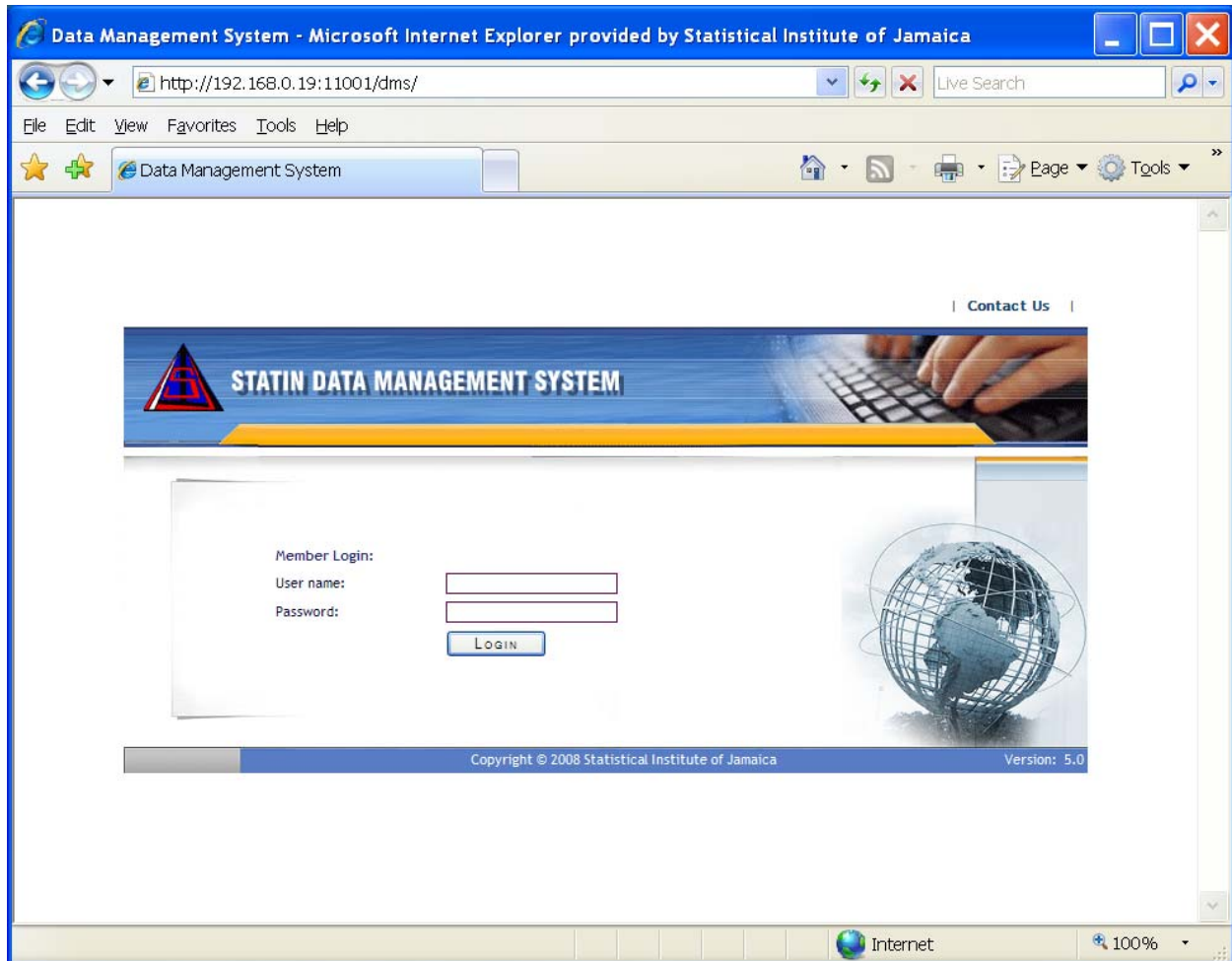


The page will refresh showing the status of the application. A green arrow indicates a successful start. The application is now available to receive and process requests.

**Note:** You can use this interface to **Stop** the application.

## 5.6 Test the application

Before testing the DMS application, the application server has to be restarted. This has been detail in the section Start and Stop the Application Server.



1. Type the following in the browser address bar: <http://192.168.0.19:11001/dms>
2. Enter your **username** and **password**
3. Click the **Login** button

Data Management System - Microsoft Internet Explorer provided by Statistical Institute of Jamaica

http://192.168.0.19:11001/dms/login.do








File Edit View Favorites Tools Help

Data Management System

Contact Us | Site Map | Logout

### STATIN DATA MANAGEMENT SYSTEM

Welcome, admin !

-  **CREU**  
CREU
-  **Economic Accounting**  
Economic Accounting
-  **Survey System**  
Survey System
-  **Administrator**  
Administrator
-  **Demographic System**  
Demographic System
-  **Media Clipping System**  
Media Clipping System
-  **Trade System**  
Trade System

Copyright © 2008 Statistical Institute of Jamaica Version: 5.0

Done Internet 100%

## 6.0 DEPLOYING AN UPDATE TO THE DMS APPLICATION

Updates to the DMS application may vary in the way it is to be deployed, depending on the nature of the problem it is intended to fix. Some updates may require copying and replacing certain files, while another may require re-deploying the whole application. Updates may require restarting the WebSphere Application Server (WAS) or restarting the DMS Application. The email containing the instructions will indicate how the update is to be deployed and what actions should be taken.

Most updates received have to do with updating files associated with the DMS application. Below is an example of an update received to be implemented along with the actions taken to complete the update.

Hi Boyd,

We have done some troubleshooting to find the root cause of the issue with loosing data in Export entries. We are thinking about TWO possible causes. Considering the first possible cause; we have made some changes in the application. I am sending you updated files and their location on iSeries|server. I need your help in replacing these files, with the help of following steps:-

File	Location
struts-config.xml	<b>INSTALLDIR</b> /WebContent/WEB-INF
InitialC87EntryForm.class	<b>INSTALLDIR</b> /WEB-INF/classes/org/caribsoft/dms/web/trade/fom
entrySearch.jsp	<b>INSTALLDIR</b> /WebContent/jsp/trade/fileMaintenance

**INSTALLDIR:**  
/QIBM/userdata/websphere/appserver/v6/profiles/default/installedapps/DMSEar.ear/DMSWeb.war

**Steps:-**

1. Stop the WAS Server
2. Get the **backup** of following file (Refer to the above table for location)
  - a. Struts-config.xml
  - b. InitialC87EntryForm.class
  - c. entrySearch.jsp
3. Copy updated files (attached with the mail) to the same location.
4. Start the WAS

Please copy these files in the morning and let me know if this works or not. If NOT then I'll make another change to the application and will send you changed files to replace.

**Note:**  
I can be contacted @ **+1-262-252-8655**. Feel free to call me anytime.

This update involves replacing some files with updated ones. The nature of this update requires the WAS to be restarted.

<b>Step</b>	<b>Action</b>	<b>Note</b>
1. Stop the WAS Server	Go to Section 3.2 of this manual on how to <b>stop</b> the server	Be sure to inform everyone to log out of the application
2. Backup Files	Go to each location in the table above and make a backup copy of each file.	This step is critical in case there is a need to roll back to the previous files.
3. Copy updated files	Copy the new files received to the location specified.	
4. Start the WAS Server	Go to Section 3.1 of this manual on how to <b>start</b> the server	Inform everyone that they can now log back into the application.

Not all updates are this simple to execute. Some may require making changes to the database which involves executing SQL scripts via the iSeries Navigator interface. Still, others may require changing the system configuration of WAS or the DMS application using the WAS Administrator Console. If the instructions received are not clear, always seek further clarification.



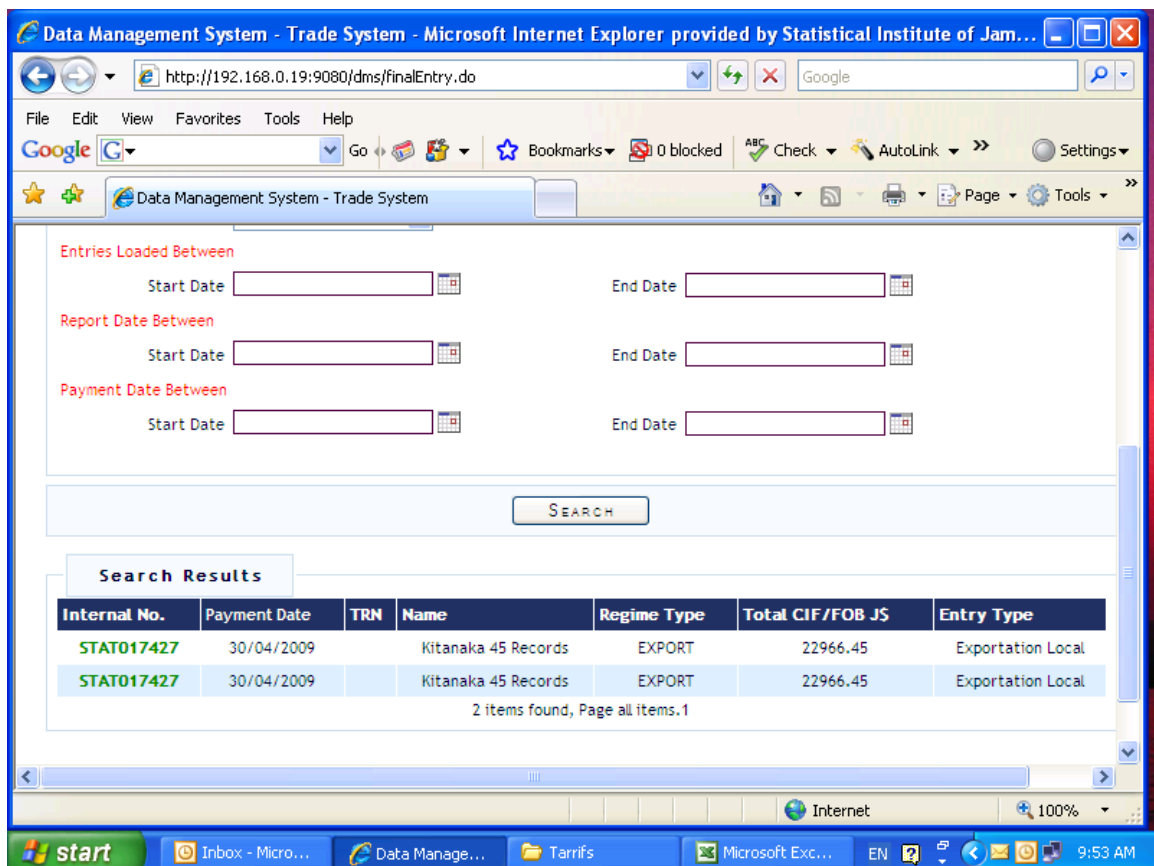
## 7.0 RESOLVING ERRORS IN THE DMS APPLICATION

As with any system, errors will appear from time to time. While the developers craft the system from information and data received, not every situation will be foreseen nor can be coded. Using a system not only requires knowledge of its functions and features but also how to handle errors. Below are the three main types of errors with examples.

### 7.1 User Error - Duplicate Records in Trade Module

#### **The Problem:**

A user was asked to edit an entry in the Final area. The user copied the entry from the Final area to the Initial area. While performing the action, the user was logged out of the system by the application. After the user logged in, the copy action was repeated. When the user searched the Initial area for the entry, two identical entries were found. User is unable to determine which entry to edit. Below is a picture of the error.



The screenshot shows a web browser window displaying the 'Data Management System - Trade System'. The search results table contains two identical entries:

Internal No.	Payment Date	TRN	Name	Regime Type	Total CIF/FOB JS	Entry Type
STAT017427	30/04/2009		Kitanaka 45 Records	EXPORT	22966.45	Exportation Local
STAT017427	30/04/2009		Kitanaka 45 Records	EXPORT	22966.45	Exportation Local

Below the table, it indicates '2 items found, Page all items.1'. The interface also shows search filters for 'Entries Loaded Between', 'Report Date Between', and 'Payment Date Between', each with 'Start Date' and 'End Date' fields. A 'SEARCH' button is located below the filters.

#### **Problem Analysis:**

Two entries were found indicating that there were duplicates in the database. However, the system does not facilitate duplicate records. How is this possible? Although two entries were found when the search was done, the entries were not in essence duplicates because both entries had different record ids. When an entry is copied from Final to Initial or from Error to Initial, the entry is given a new record id (i.e. HEADERROWID).

The problem occurred because the user was disconnected from the system by the application. The root cause of the problem is certainly with the application but the duplicate records could have been avoided by the user.

**Solution:**

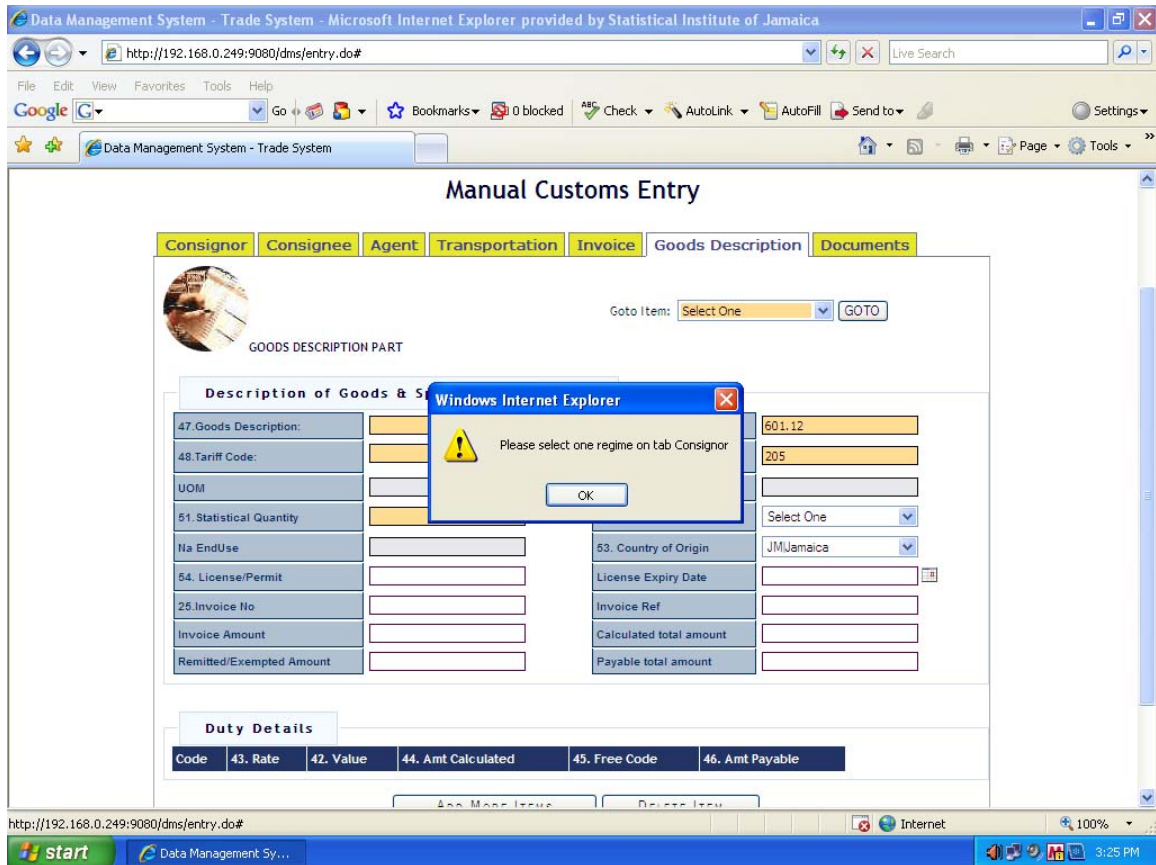
If the user is logged out of the system while performing some action, the first course of action after logging back in is to check to see if the action was completed. The user could have searched for the entry, and would have found that the system had copied it successful. They then would not have repeated the copying process thereby creating duplicate entries.

## 7.2 Application Error – Automatic disconnection

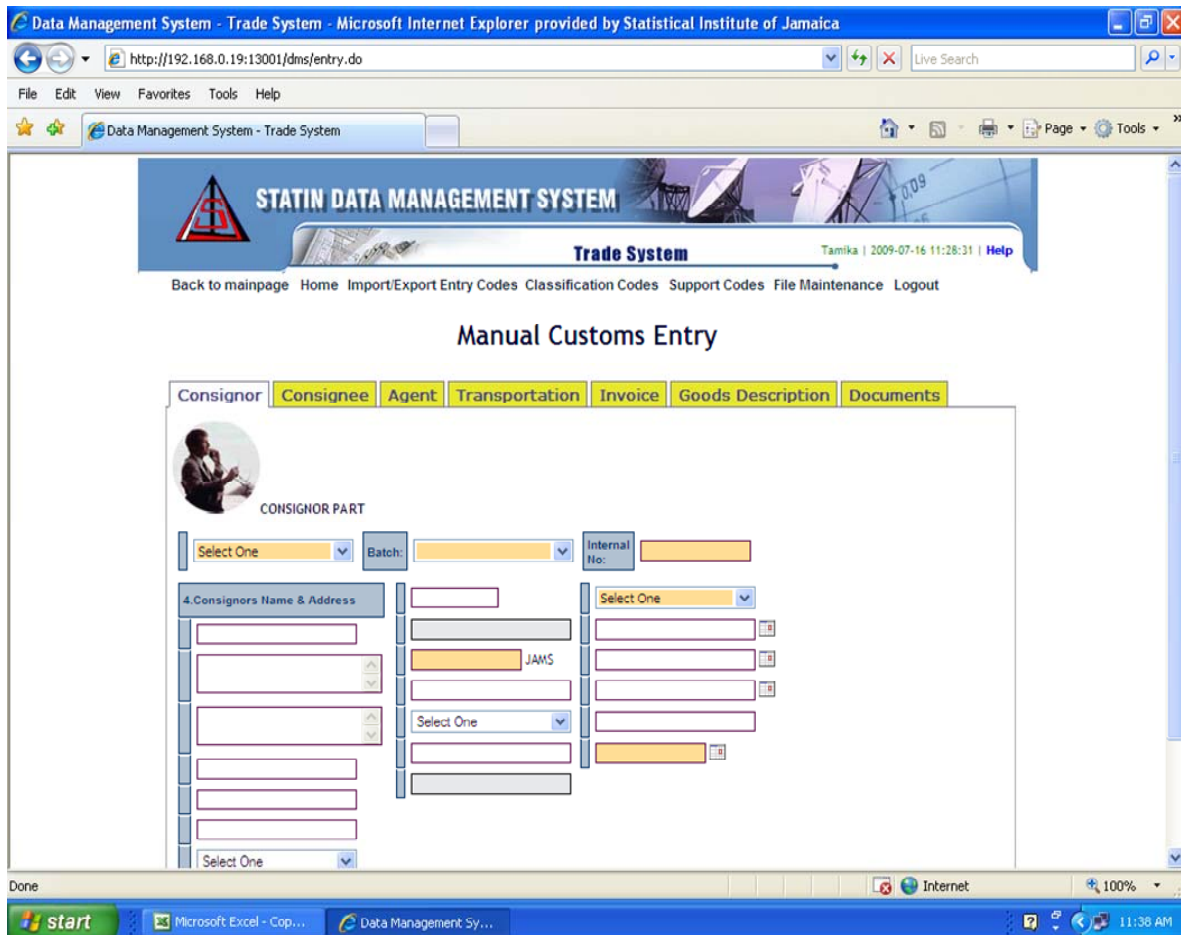
**The Problem:**

Several application problems have occurred that have proven disruptive in the use of the system. User have reported that they have been automatically logged out of the system, data entered on forms is lost after saving an entry and some forms are displayed with missing fields.

The image below displays an error message after saving an entry. All the form data is lost and blank fields are shown. An error message is displayed requesting the user to enter data that was already saved.



This image displays the form for Manual Custom Entry but as can be seen, some fields are missing or truncated.



### ***Problem Analysis***

It is still uncertain what causes these problems. It is mostly experienced by users doing manually entry of Export data, correction of Import data and sometimes by users of the CREU module. Data collected from one user sees this problem occurring during the busiest time of the business day (early morning or late afternoon).

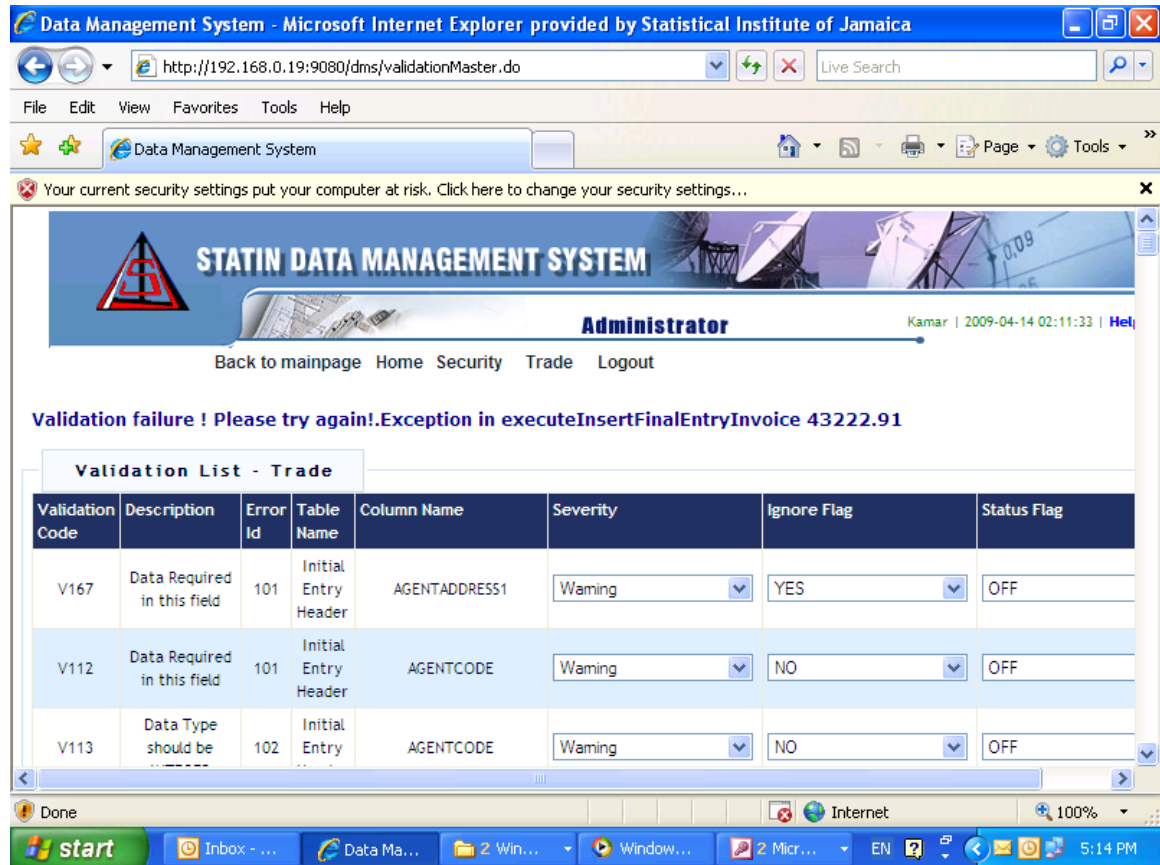
Isolating the problem is proving to be a challenge. The problem could be with the logic behind the application, unknown issues with the WebSphere environment as well as activities happening on the network at the same time or local issues with the user computer.

### ***Solution:***

- A solution that provides temporary ease from the problem is to
1. Quite the DM application by logging out of it (if that is possible)
  2. Flush the browser cache then close the browser
  3. Open the browser then log back in
  4. Search for the entry and continue data entry from that point.

## 7.3 Data Error – Validation Fails

The Validation process is critical to correcting data in the DMS. It contains the business rules that maintain the quality and the integrity of the data that can be stored in the DMS. These rules can be enforced or relaxed when necessary. During the validation checks, sometimes the data does not meet expected quality checks and these discrepancies can stop the Validation process.



The screenshot shows the STATIN Data Management System web application. The browser title is "Data Management System - Microsoft Internet Explorer provided by Statistical Institute of Jamaica". The URL is "http://192.168.0.19:9080/dms/validationMaster.do". The page displays a validation failure message: "Validation failure ! Please try again!.Exception in executeInsertFinalEntryInvoice 43222.91". Below the message is a table titled "Validation List - Trade" with the following data:

Validation Code	Description	Error Id	Table Name	Column Name	Severity	Ignore Flag	Status Flag
V167	Data Required in this field	101	Initial Entry Header	AGENTADDRESS1	Warning	YES	OFF
V112	Data Required in this field	101	Initial Entry Header	AGENTCODE	Warning	NO	OFF
V113	Data Type should be	102	Initial Entry	AGENTCODE	Warning	NO	OFF

When the process is halted, the logs have to be checked to determine which record caused the problem. The logs indicate the date and time of the error along with information on the particular record and the nature of the error.

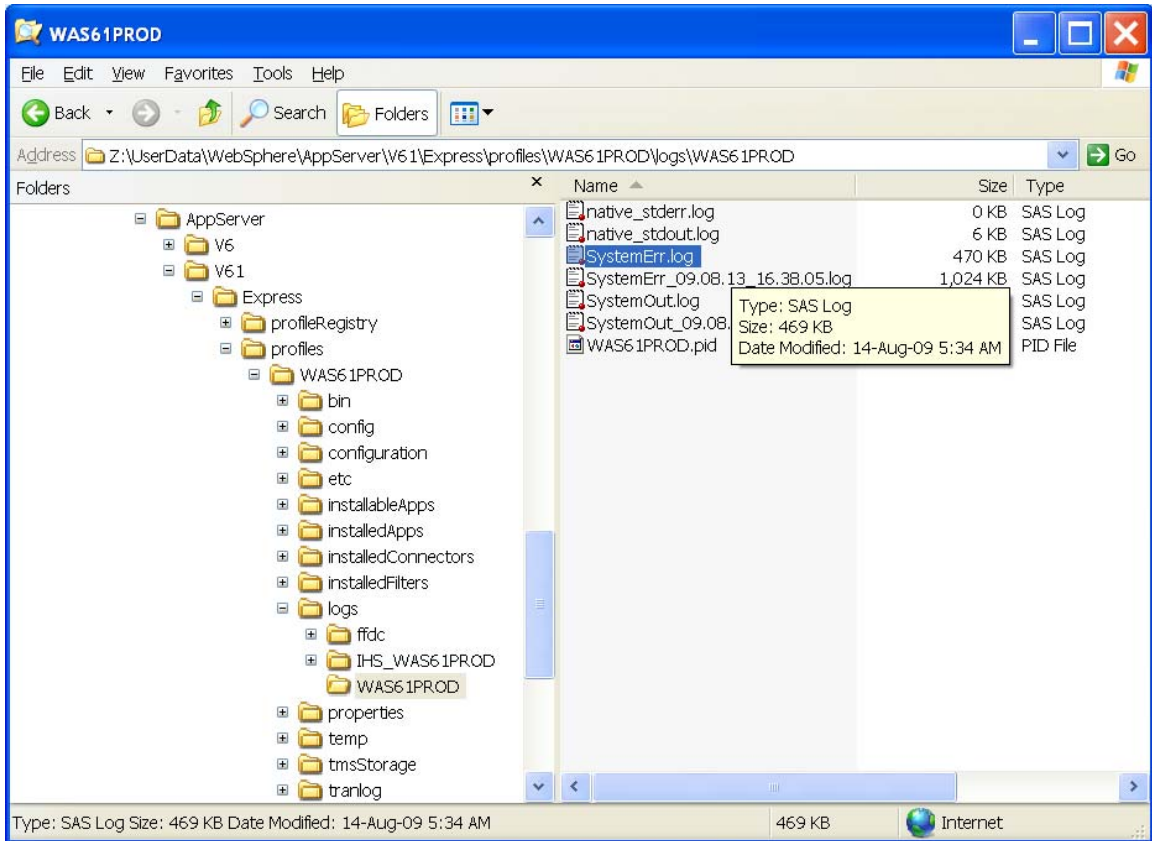
The steps to identify these errors are:

1. Search the DMS Log for the last record that was being processed by the validation routine
2. Search the DMSErr Log for the same record
3. Identify the HeaderRowId of the record from the logs
4. Using MS Access open the IntialEntryHeader table
5. Use a query and find the record with the id found in step 3
6. Check the entry for any improperly formatted data  
e.g. Payment date may have an "o" instead of zero "0" – "10/04/20o8"  
CIF Value may contain two decimal points – "1567346..45"
7. Make the corrections and save the record.
8. Re-run the validation

The steps below were used to resolve an error which stopped the validation process. This can be used as a guide in resolving most data related validation issues.

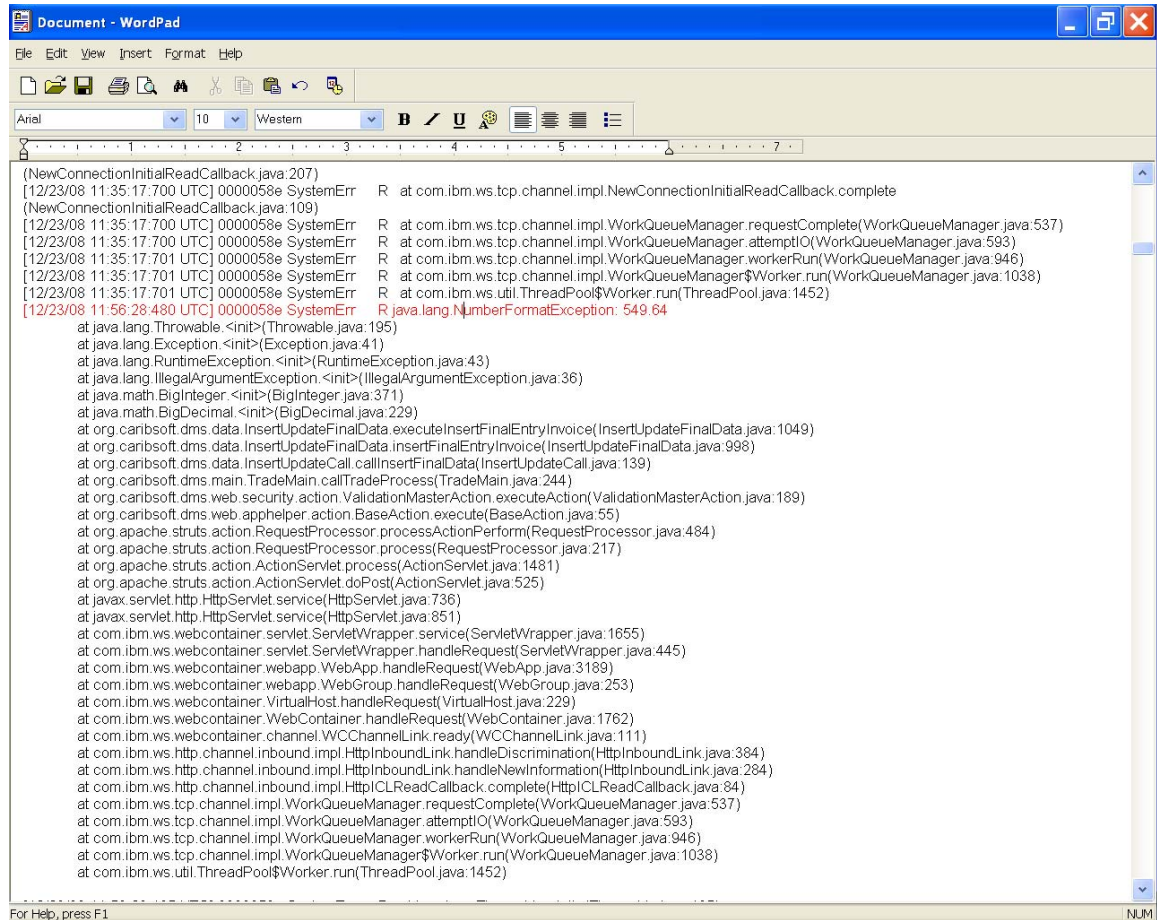
#### STEP 1

Navigate to the SystemErr.log file in the /QIBM folder on the iSeries server. The path is Z:\UserData\WebSphere\AppServer\V61\Express\profiles\WAS61PROD\logs\WAS61PROD"



## STEP 2

Make a copy of the SytemErr.log file and open it with MS WordPad application. Scroll through the file making note of date and time or exception errors found. In the image below, a Number Format exception error is identified. A number (549.64) is also given and the error occurred at 12/23/08 at 11:56:28.

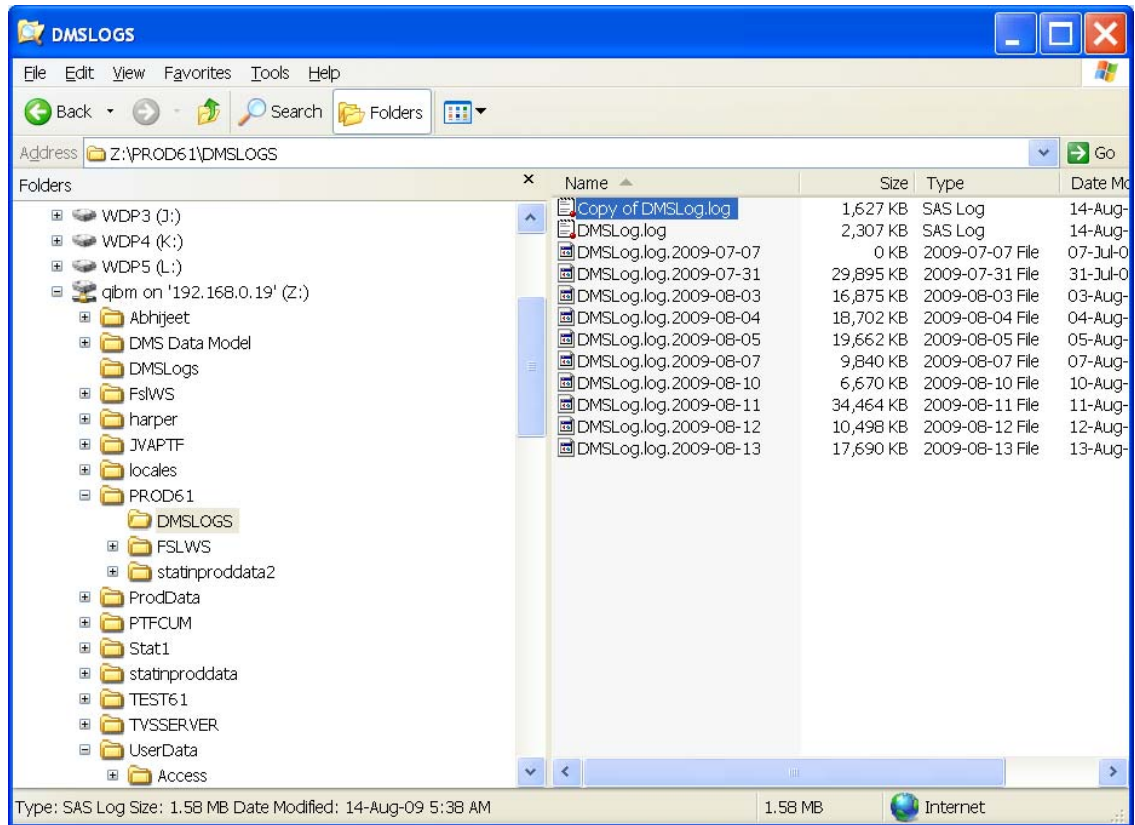


The image shows a screenshot of the MS WordPad application. The window title is "Document - WordPad". The menu bar includes "File", "Edit", "View", "Insert", "Format", and "Help". The toolbar contains various icons for file operations and text formatting. The font is set to Arial, size 10, with a Western font style. The main text area displays a log file with several lines of text. The most prominent line is a red-colored error message: "[12/23/08 11:56:28.480 UTC] 0000058e SystemErr R java.lang.NumberFormatException: 549.64". Below this line, a stack trace is visible, listing various Java classes and methods, such as "at java.lang.Throwable.<init>(Throwable.java:195)", "at java.lang.Exception.<init>(Exception.java:41)", and "at org.caribsoft.dms.data.InsertUpdateFinalData.executeInsertFinalEntryInvoice(InsertUpdateFinalData.java:1049)".

```
(NewConnectionInitialReadCallback.java:207)
[12/23/08 11:35:17.700 UTC] 0000058e SystemErr R at com.ibm.ws.tcp.channel.impl.NewConnectionInitialReadCallback.complete
(NewConnectionInitialReadCallback.java:109)
[12/23/08 11:35:17.700 UTC] 0000058e SystemErr R at com.ibm.ws.tcp.channel.impl.WorkQueueManager.requestComplete(WorkQueueManager.java:537)
[12/23/08 11:35:17.700 UTC] 0000058e SystemErr R at com.ibm.ws.tcp.channel.impl.WorkQueueManager.attemptIO(WorkQueueManager.java:593)
[12/23/08 11:35:17.701 UTC] 0000058e SystemErr R at com.ibm.ws.tcp.channel.impl.WorkQueueManager.workerRun(WorkQueueManager.java:946)
[12/23/08 11:35:17.701 UTC] 0000058e SystemErr R at com.ibm.ws.tcp.channel.impl.WorkQueueManager$Worker.run(WorkQueueManager.java:1038)
[12/23/08 11:35:17.701 UTC] 0000058e SystemErr R at com.ibm.ws.util.ThreadPool$Worker.run(ThreadPool.java:1452)
[12/23/08 11:56:28.480 UTC] 0000058e SystemErr R java.lang.NumberFormatException: 549.64
at java.lang.Throwable.<init>(Throwable.java:195)
at java.lang.Exception.<init>(Exception.java:41)
at java.lang.RuntimeException.<init>(RuntimeException.java:43)
at java.lang.IllegalArgumentException.<init>(IllegalArgumentException.java:36)
at java.math.BigInteger.<init>(BigInteger.java:371)
at java.math.BigDecimal.<init>(BigDecimal.java:229)
at org.caribsoft.dms.data.InsertUpdateFinalData.executeInsertFinalEntryInvoice(InsertUpdateFinalData.java:1049)
at org.caribsoft.dms.data.InsertUpdateFinalData.insertFinalEntryInvoice(InsertUpdateFinalData.java:998)
at org.caribsoft.dms.data.InsertUpdateCall.callInsertFinalData(InsertUpdateCall.java:139)
at org.caribsoft.dms.main.TradeMain.callTradeProcess(TradeMain.java:244)
at org.caribsoft.dms.web.security.action.ValidationMasterAction.executeAction(ValidationMasterAction.java:189)
at org.caribsoft.dms.web.apphelper.action.BaseAction.execute(BaseAction.java:55)
at org.apache.struts.action.RequestProcessor.processActionPerform(RequestProcessor.java:484)
at org.apache.struts.action.RequestProcessor.process(RequestProcessor.java:217)
at org.apache.struts.action.ActionServlet.process(ActionServlet.java:1481)
at org.apache.struts.action.ActionServlet.doPost(ActionServlet.java:525)
at javax.servlet.http.HttpServlet.service(HttpServlet.java:736)
at javax.servlet.http.HttpServlet.service(HttpServlet.java:851)
at com.ibm.ws.webcontainer.servlet.ServletWrapper.service(ServletWrapper.java:1655)
at com.ibm.ws.webcontainer.servlet.ServletWrapper.handleRequest(ServletWrapper.java:445)
at com.ibm.ws.webcontainer.webapp.WebApp.handleRequest(WebApp.java:3189)
at com.ibm.ws.webcontainer.webapp.WebGroup.handleRequest(WebGroup.java:253)
at com.ibm.ws.webcontainer.VirtualHost.handleRequest(VirtualHost.java:229)
at com.ibm.ws.webcontainer.WebContainer.handleRequest(WebContainer.java:1762)
at com.ibm.ws.webcontainer.channel.WCChannelLink.ready(WCChannelLink.java:1111)
at com.ibm.ws.http.channel.inbound.impl.HttpInboundLink.handleDiscrimination(HttpInboundLink.java:384)
at com.ibm.ws.http.channel.inbound.impl.HttpInboundLink.handleNewInformation(HttpInboundLink.java:284)
at com.ibm.ws.http.channel.inbound.impl.HttpInboundLink.handleRequest(HttpInboundLink.java:84)
at com.ibm.ws.http.channel.inbound.impl.HttpInboundLink.handleRequest(HttpInboundLink.java:84)
at com.ibm.ws.tcp.channel.impl.WorkQueueManager.requestComplete(WorkQueueManager.java:537)
at com.ibm.ws.tcp.channel.impl.WorkQueueManager.attemptIO(WorkQueueManager.java:593)
at com.ibm.ws.tcp.channel.impl.WorkQueueManager.workerRun(WorkQueueManager.java:946)
at com.ibm.ws.tcp.channel.impl.WorkQueueManager$Worker.run(WorkQueueManager.java:1038)
at com.ibm.ws.util.ThreadPool$Worker.run(ThreadPool.java:1452)
```

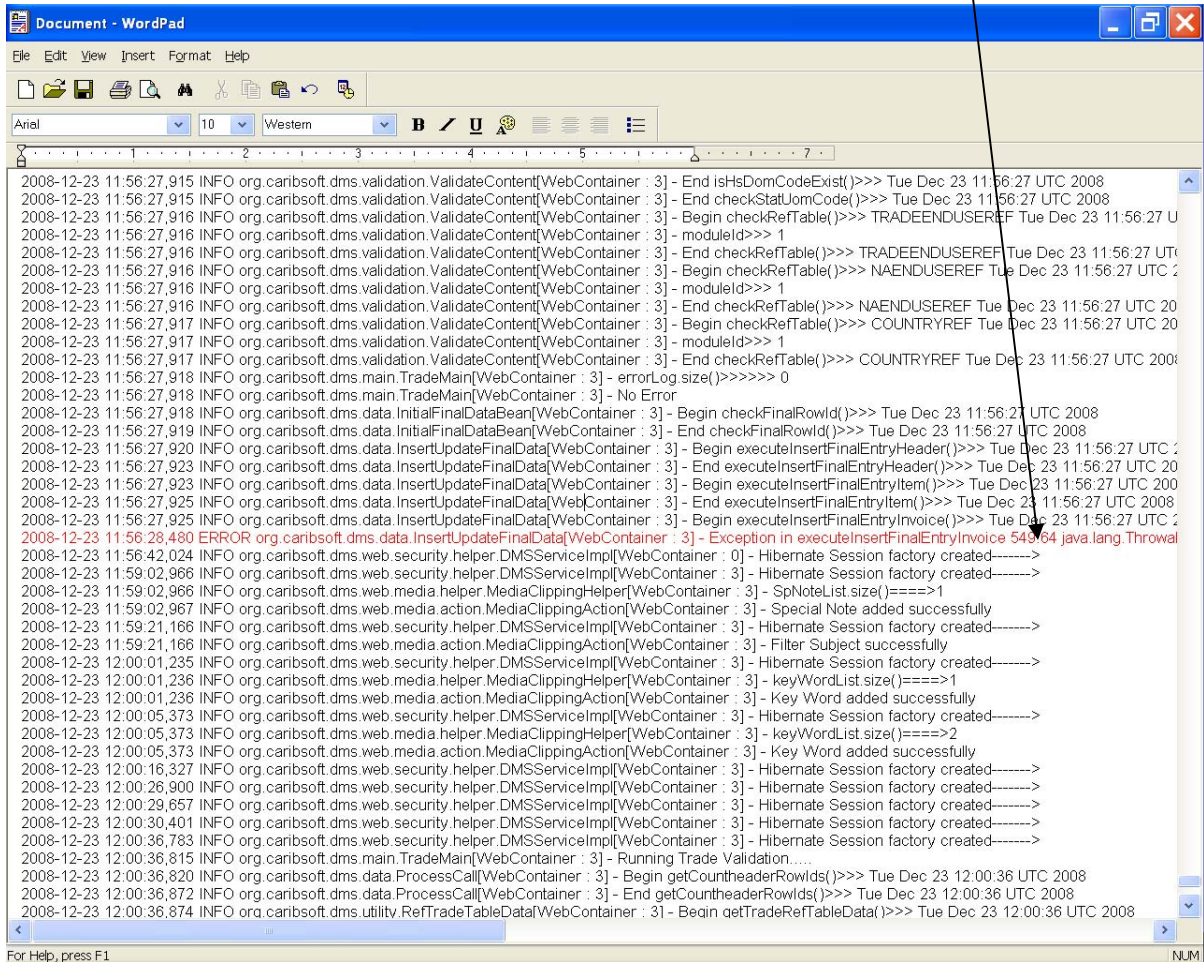
### STEP 3

Navigate using Windows Explorer to the directory location of the DMSLog.log file on the iSeries.  
The path is "Z:\PROD61\DMSLOGS"



## STEP 4

Make a copy of the DMSLog.log file and open it with MS WordPad application. Scroll through the file looking for the same date and time of the error identified in STEP 2 above. Notice that the error in the DMSLog.log file occurred at the same date and time as the error identified in the SystemErr.Log file with the same number, **549.64**.



The screenshot shows a Microsoft WordPad window titled "Document - WordPad". The text area contains a log file with various entries. A red arrow points from the text in Step 4 to a specific error entry in the log. The error entry is:

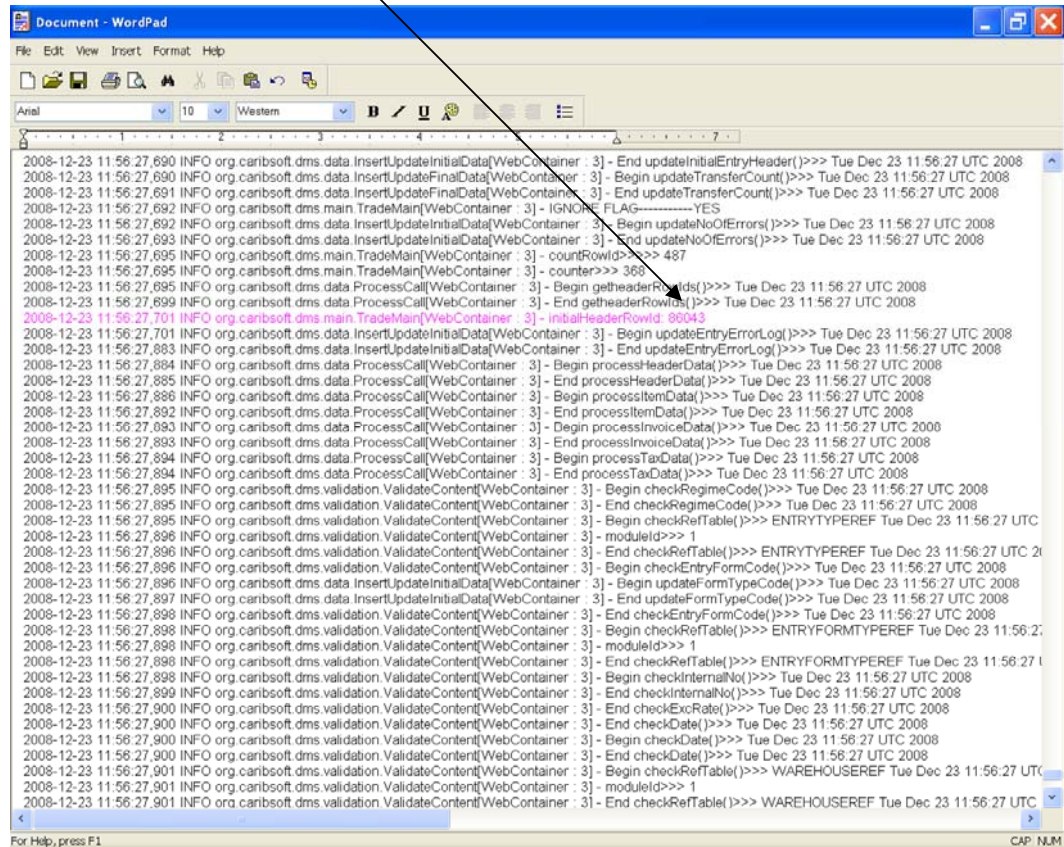
```
2008-12-23 11:56:28.480 ERROR org.caribsoft.dms.data.InsertUpdateFinalData[WebContainer : 3] - Exception in executeInsertFinalEntryInvoice 549.64 java.lang.Throwable
```

The log file also contains many other entries, including INFO and DEBUG messages, and several "Hibernate Session factory created" messages. The status bar at the bottom of the WordPad window shows "For Help, press F1" and "NUM".



## STEP 5

Scroll above and look for the line containing the INITIALHEADERROWID. This will identify the record where the data is in error. In the image below, the HEADERROWID is **86043**

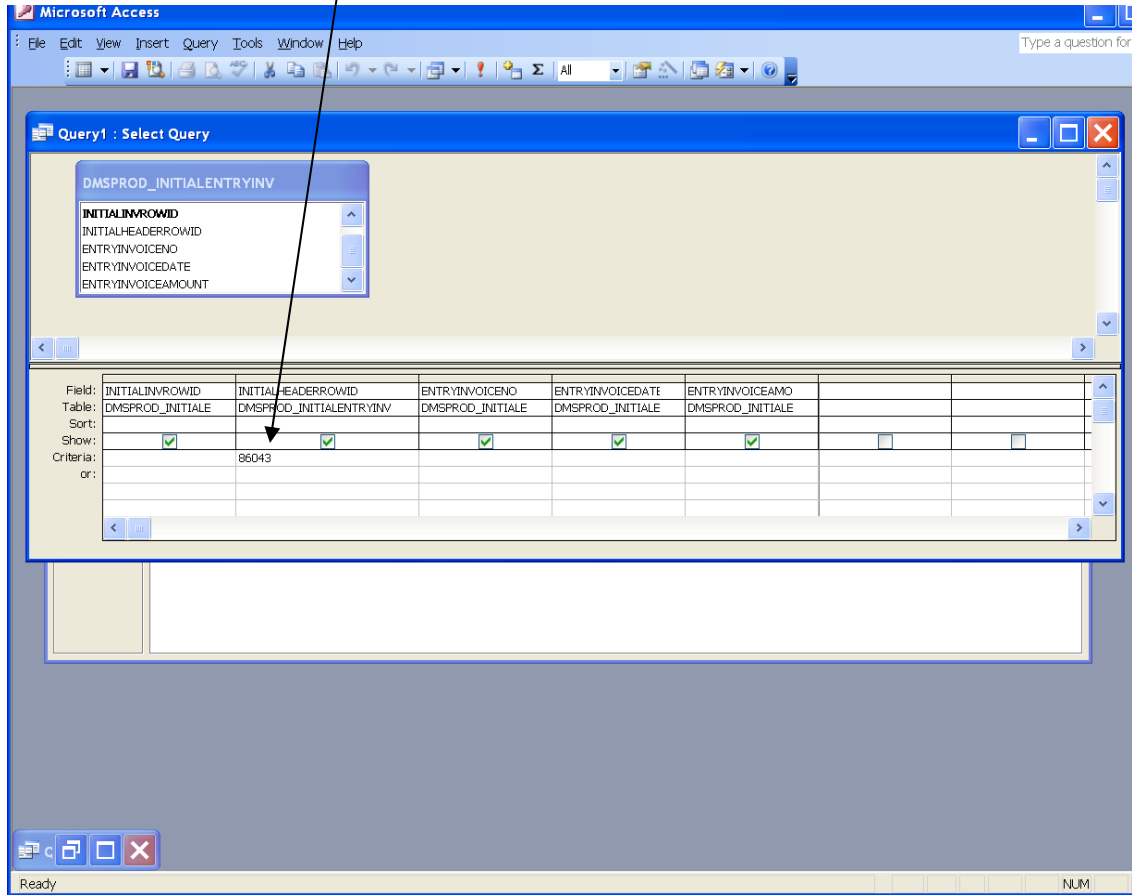


```
2008-12-23 11:56:27,690 INFO org.caribsoft.dms.data.InsertUpdateInitialData[WebContainer : 3] - End updateInitialEntryHeader()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,690 INFO org.caribsoft.dms.data.InsertUpdateFinalData[WebContainer : 3] - Begin updateTransferCount()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,691 INFO org.caribsoft.dms.data.InsertUpdateFinalData[WebContainer : 3] - End updateTransferCount()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,692 INFO org.caribsoft.dms.main.TradeMain[WebContainer : 3] - IGNORE FLAG-----YES
2008-12-23 11:56:27,692 INFO org.caribsoft.dms.data.InsertUpdateInitialData[WebContainer : 3] - Begin updateNoOfErrors()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,693 INFO org.caribsoft.dms.data.InsertUpdateInitialData[WebContainer : 3] - End updateNoOfErrors()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,695 INFO org.caribsoft.dms.main.TradeMain[WebContainer : 3] - countRowId>>> 487
2008-12-23 11:56:27,695 INFO org.caribsoft.dms.main.TradeMain[WebContainer : 3] - counter>>> 368
2008-12-23 11:56:27,695 INFO org.caribsoft.dms.data.ProcessCall[WebContainer : 3] - Begin getheaderRowIds()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,699 INFO org.caribsoft.dms.data.ProcessCall[WebContainer : 3] - End getheaderRowIds()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,701 INFO org.caribsoft.dms.main.TradeMain[WebContainer : 3] - InitialHeaderRowid: 86043
2008-12-23 11:56:27,701 INFO org.caribsoft.dms.data.InsertUpdateInitialData[WebContainer : 3] - Begin updateEntryErrorLog()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,883 INFO org.caribsoft.dms.data.InsertUpdateInitialData[WebContainer : 3] - End updateEntryErrorLog()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,884 INFO org.caribsoft.dms.data.ProcessCall[WebContainer : 3] - Begin processHeaderData()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,885 INFO org.caribsoft.dms.data.ProcessCall[WebContainer : 3] - End processHeaderData()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,886 INFO org.caribsoft.dms.data.ProcessCall[WebContainer : 3] - Begin processItemData()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,892 INFO org.caribsoft.dms.data.ProcessCall[WebContainer : 3] - End processItemData()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,893 INFO org.caribsoft.dms.data.ProcessCall[WebContainer : 3] - Begin processInvoiceData()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,893 INFO org.caribsoft.dms.data.ProcessCall[WebContainer : 3] - End processInvoiceData()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,894 INFO org.caribsoft.dms.data.ProcessCall[WebContainer : 3] - Begin processTaxData()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,894 INFO org.caribsoft.dms.data.ProcessCall[WebContainer : 3] - End processTaxData()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,895 INFO org.caribsoft.dms.validation.ValidateContent[WebContainer : 3] - Begin checkRegimeCode()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,895 INFO org.caribsoft.dms.validation.ValidateContent[WebContainer : 3] - End checkRegimeCode()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,896 INFO org.caribsoft.dms.validation.ValidateContent[WebContainer : 3] - Begin checkRefTable()>>> ENTRYTYPEREF Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,896 INFO org.caribsoft.dms.validation.ValidateContent[WebContainer : 3] - moduleid>>> 1
2008-12-23 11:56:27,896 INFO org.caribsoft.dms.validation.ValidateContent[WebContainer : 3] - End checkRefTable()>>> ENTRYTYPEREF Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,896 INFO org.caribsoft.dms.data.InsertUpdateInitialData[WebContainer : 3] - Begin checkEntryFormCode()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,897 INFO org.caribsoft.dms.data.InsertUpdateInitialData[WebContainer : 3] - Begin updateFormTypeCode()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,898 INFO org.caribsoft.dms.validation.ValidateContent[WebContainer : 3] - End checkEntryFormCode()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,898 INFO org.caribsoft.dms.validation.ValidateContent[WebContainer : 3] - Begin checkRefTable()>>> ENTRYFORMTYPEREF Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,898 INFO org.caribsoft.dms.validation.ValidateContent[WebContainer : 3] - moduleid>>> 1
2008-12-23 11:56:27,898 INFO org.caribsoft.dms.validation.ValidateContent[WebContainer : 3] - End checkRefTable()>>> ENTRYFORMTYPEREF Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,898 INFO org.caribsoft.dms.validation.ValidateContent[WebContainer : 3] - Begin checkInternalNo()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,899 INFO org.caribsoft.dms.validation.ValidateContent[WebContainer : 3] - End checkInternalNo()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,900 INFO org.caribsoft.dms.validation.ValidateContent[WebContainer : 3] - End checkExcRate()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,900 INFO org.caribsoft.dms.validation.ValidateContent[WebContainer : 3] - End checkDate()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,900 INFO org.caribsoft.dms.validation.ValidateContent[WebContainer : 3] - Begin checkDate()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,900 INFO org.caribsoft.dms.validation.ValidateContent[WebContainer : 3] - End checkDate()>>> Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,901 INFO org.caribsoft.dms.validation.ValidateContent[WebContainer : 3] - Begin checkRefTable()>>> WAREHOUSEREF Tue Dec 23 11:56:27 UTC 2008
2008-12-23 11:56:27,901 INFO org.caribsoft.dms.validation.ValidateContent[WebContainer : 3] - moduleid>>> 1
2008-12-23 11:56:27,901 INFO org.caribsoft.dms.validation.ValidateContent[WebContainer : 3] - End checkRefTable()>>> WAREHOUSEREF Tue Dec 23 11:56:27 UTC 2008
```

## STEP 6

Open MS Access and connect to the DMSPROD database schema on the iSeries server.

Using a query, search the INITIALINVROWID column of the INITIALENTYINV table for the record with record id **86043**.



## STEP 7

In this instance, the problem is immediately identified. The column **ENTRYINVOICEAMOUNT** has a value that is not formatted properly. The dollar figure has two decimal points.

