

SFA Modernization Partner
United States Department of Education
Student Financial Assistance



SFA Portal Strategy
Install Specification
2.p

Task Order #48

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1 Overview

This document describes the installation of `sfaframework_2_p.zip`. This SFA Portal Framework is composed of development code and is delivered as a development package. This SFA Portal Framework has been installed under different names, on a few different servers, with different configurations and should be portable to any supported platform with minimal configuration changes.

Note: As shipped all files in the `sfaframework_x_x.zip` have a root directory name of `sfa`. In this document all file names will be referred to with the absolute `sfaframework_x_x.zip` path names, but when unzipped the containing directory or root directory can be any name appropriate for your system.

2 WebSphere Installation

2.1 Requirements

WebSphere Advanced Edition 3.5.3

Apache Struts 1.0 binary distribution (with modified `struts.jar`)

Sun JAXP 1.0.1

SFA Framework 1.e source and binary distribution

Either DB2 7.2.3 or Oracle 8.x as specified by Accenture or SFA

RCS exception, logging, persistence and search components as provided in this package as specified by Accenture or SFA

`sfaframework_x_x.zip`

2.2 Installations

Win 2000 Professional Workstation – `nich1.lexington.ibm.com`

AIX 4.3 Server – `lf1.lexington.ibm.com`

Sun Solaris Server – `dev.eip.sfa.ed.gov` as specified by Accenture or SFA

2.3 Procedures

Unzip `sfaframework_x_x.zip` to any desired WebSphere Web Application directory

Make the appropriate configuration file changes described below

Make sure an appropriate database exists with appropriate as described below

Make sure there are appropriate WebSphere configuration definitions for the desired Application Server, Web Application, Host and Data Source as described below

Stop and restart the Application Server

Run the supplied development test plan as an Install Verification Program

3 WebSphere Configuration

3.1 Configuration files

3.1.1 sfa/rcs/rcs.xml

Change

```
<fileName>c:\websphere\appserver\logs\sfa.log</fileName>
```

to use an appropriate log file name for the server

3.1.2 sfa/web/WEB-INF/ApplicationResources.properties

Change the db.* properties to properly specify the intended WebSphere Data Source

3.1.3 sfa/web/WEB-INF/struts-config.xml

Comment or uncomment the DOCTYPE tags appropriate for the server

3.1.4 sfa/web/WEB-INF/web.xml

Comment or uncomment the DOCTYPE tags appropriate for the server

3.2 Database definitions

Ensure that an appropriate database with appropriate tables exists. On systems using DB2 the /sfa/build/scripts/create_sfa_db.sql file was used to create appropriate tables. On the Accenture/SFA development system the VICDEV database was used.

Ensure that the database tables are populated with appropriate data. On systems using DB2 the /sfa/build/scripts/populate_sfa_db.sql file was used to populate the tables. On the Accenture/SFA development system the /sfa/build/scripts/oracle_populate_sfa_db.sql file was used to populate the tables.

3.3 WebSphere configuration definitions

3.3.1 admin.config

Ensure that the supplied RCS jar files are specified in the class path. The following is an example from nich.lexington.ibm.com.

```
com.ibm.ejs.sm.adminserver.classpath=c\:/websphere/appserver/hosts/default_host/sfa/rcs;c\:/websphere/appserver/hosts/default_host/sfa/rcs/jakarta-oro-2.0.1.jar;c\:/websphere/appserver/hosts/default_host/sfa/rcs/jdom-  
B6.jar;c\:/websphere/appserver/hosts/default_host/sfa/rcs/protomatter-  
1_1_5.jar;c\:/websphere/appserver/hosts/default_host/sfa/rcs/util
```

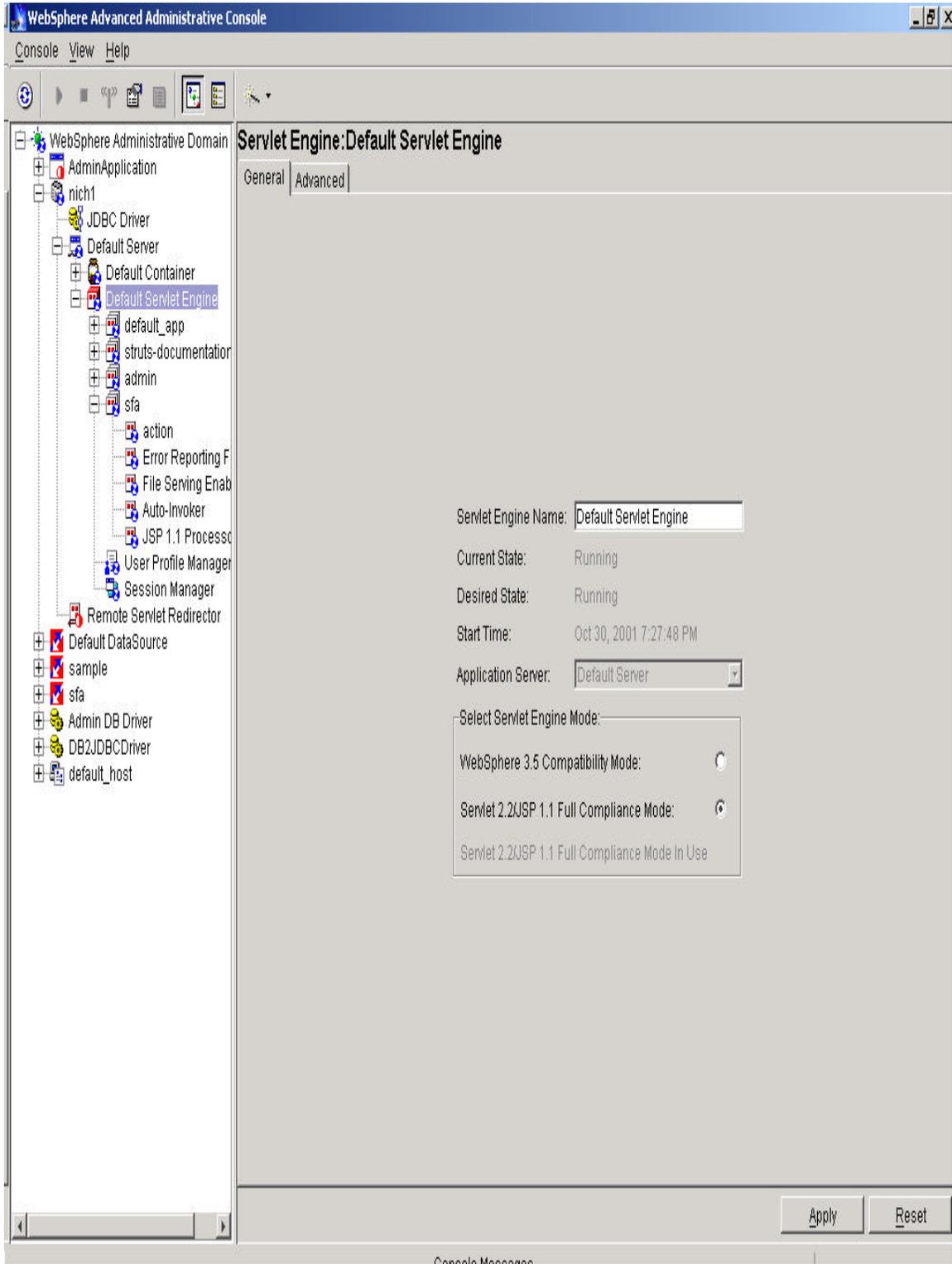
```
ity.jar;c:\websphere/appserver/hosts/default_host/sfa/rcs/xerces
.jar;c:\websphere/appserver/hosts/default_host/sfa/rcs/xml.jar;c
\:/websphere/appserver/hosts/default_host/sfa/rcs/StartupRcs.jar;
c:\websphere/appserver/hosts/default_host/sfa/rcs/rcs_logging_v1
.5.jar;c:\websphere/appserver/hosts/default_host/sfa/rcs/rcs_exc
eption_v1.5.jar;c:\websphere/appserver/hosts/default_host/sfa/rc
s/rcs_persistence_v1.6.jar;C:\WebSphere/AppServer/lib/ibmwebas.j
ar;C:\WebSphere/AppServer/properties;C:\WebSphere/AppServer/lib
/servlet.jar;C:\WebSphere/AppServer/lib/webtlsrn.jar;C:\WebSph
ere/AppServer/lib/lotusxsl.jar;C:\WebSphere/AppServer/lib/compat
.jar;C:\WebSphere/AppServer/lib/xalan.jar;C:\WebSphere/AppServer
/lib/ns.jar;C:\WebSphere/AppServer/lib/ejs.jar;C:\WebSphere/App
Server/lib/ujc.jar;C:\SQLLIB/java/db2java.zip;C:\WebSphere/AppS
erver/lib/repository.jar;C:\WebSphere/AppServer/lib/admin.jar;C\
:\WebSphere/AppServer/lib/swingall.jar;C:\WebSphere/AppServer/li
b/console.jar;C:\WebSphere/AppServer/lib/was20cm.jar;C:\WebSph
ere/AppServer/lib/tasks.jar;C:\WebSphere/AppServer/lib/xml4j.jar;
C:\WebSphere/AppServer/lib/vaprt.jar;C:\WebSphere/AppServer/lib
/sslight.jar;C:\WebSphere/AppServer/lib/ibmjndi.jar;C:\WebSpher
e/AppServer/lib/deployTool.jar;C:\WebSphere/AppServer/lib/databe
ans.jar;C:\WebSphere/AppServer/classes;C:\WebSphere/AppServer/j
dk/lib/tools.jar;C:\WebSphere/AppServer/lib/bsf.jar;C:\WebSpher
e/AppServer/lib/dertrjrt.jar;C:\WebSphere/AppServer/lib/derdbpw
.jar;C:\WebSphere/AppServer/lib/ivjejb35.jar;c:\websphere/appser
ver/lib/js.jar
```

3.3.2 Application Server

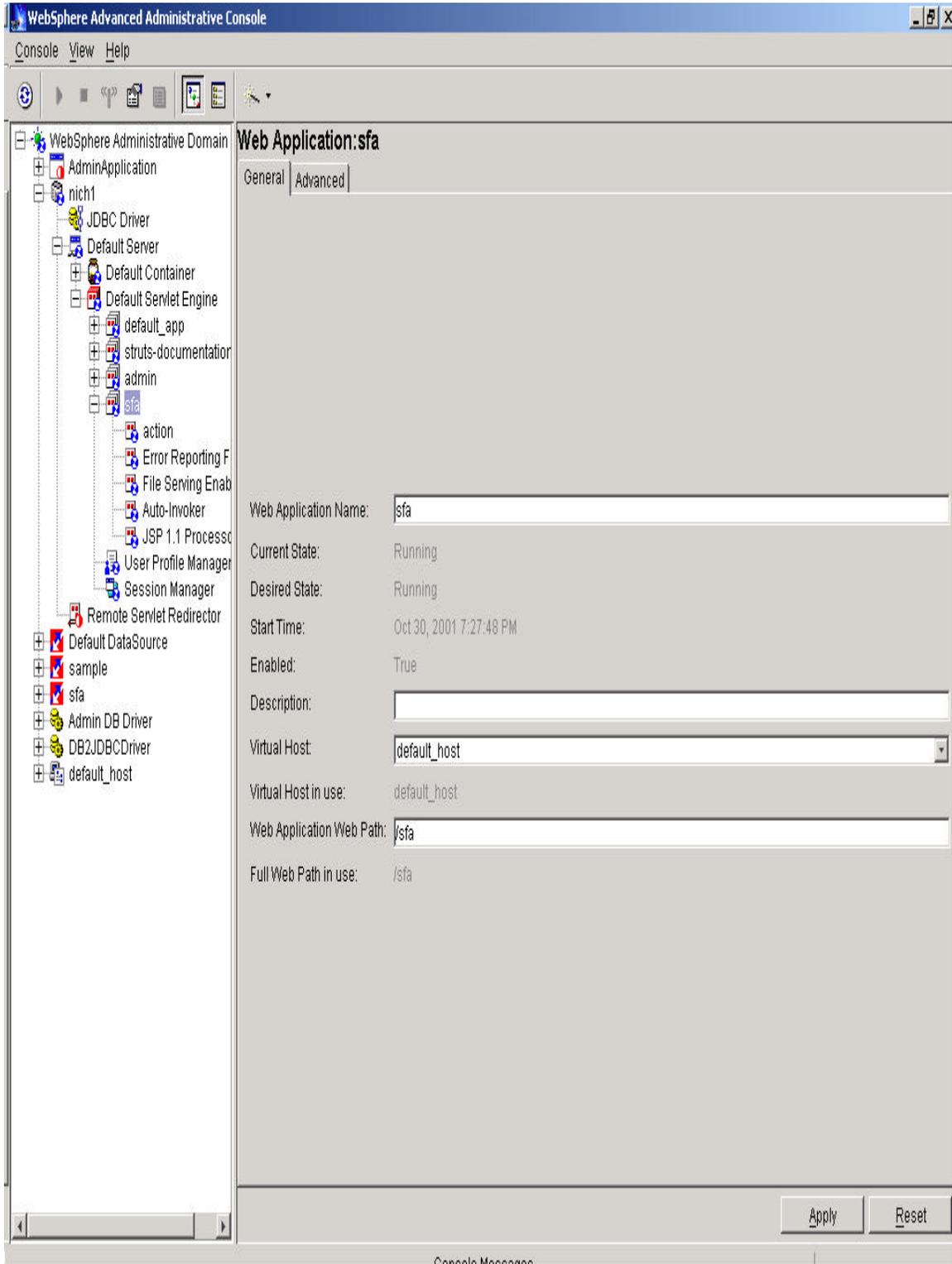
Ensure that the command line parameters specify the appropriate RCS configurations. The following is an example from nich.lexington.ibm.com.

```
-
Dcom.ibm.ejs.sm.server.ServiceInitializer=gov.ed.sfa.ita.common.S
tartupRcs -
DSyslog.config.xml=c:\websphere\appserver\hosts\default_host\sfa\
rcs\rcs.xml
```

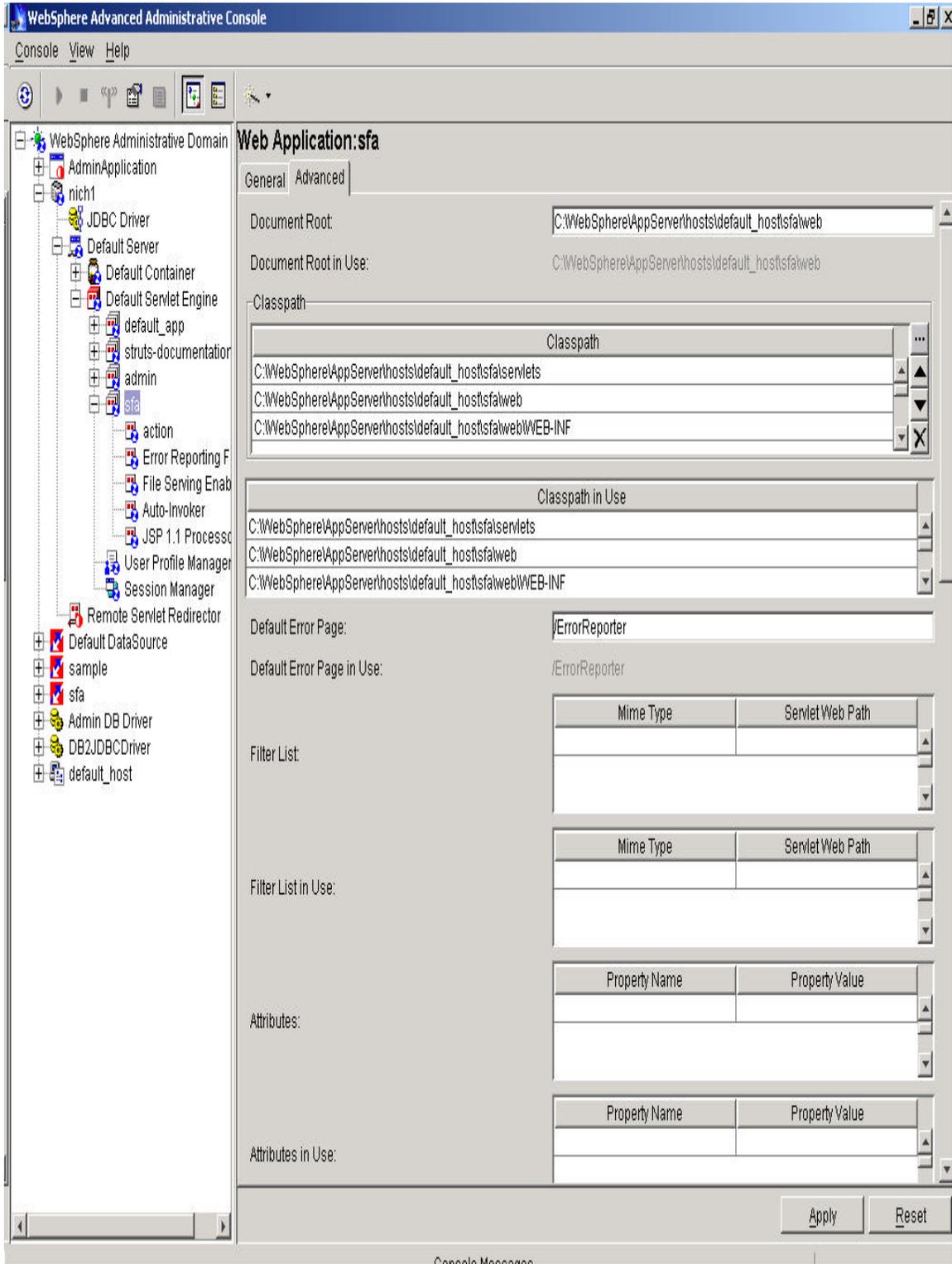
3.3.3 Servlet Engine



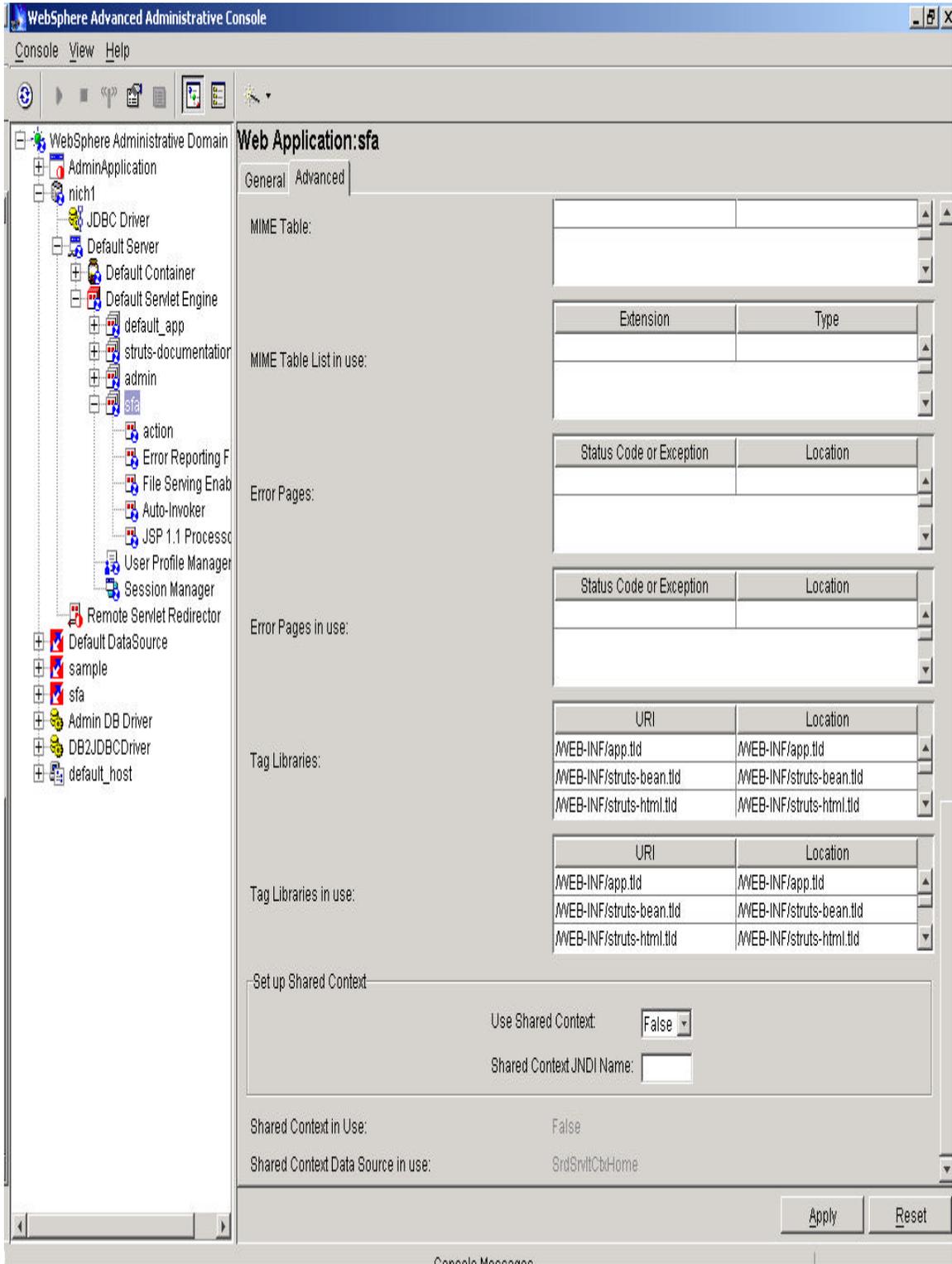
3.3.4 Web Application General



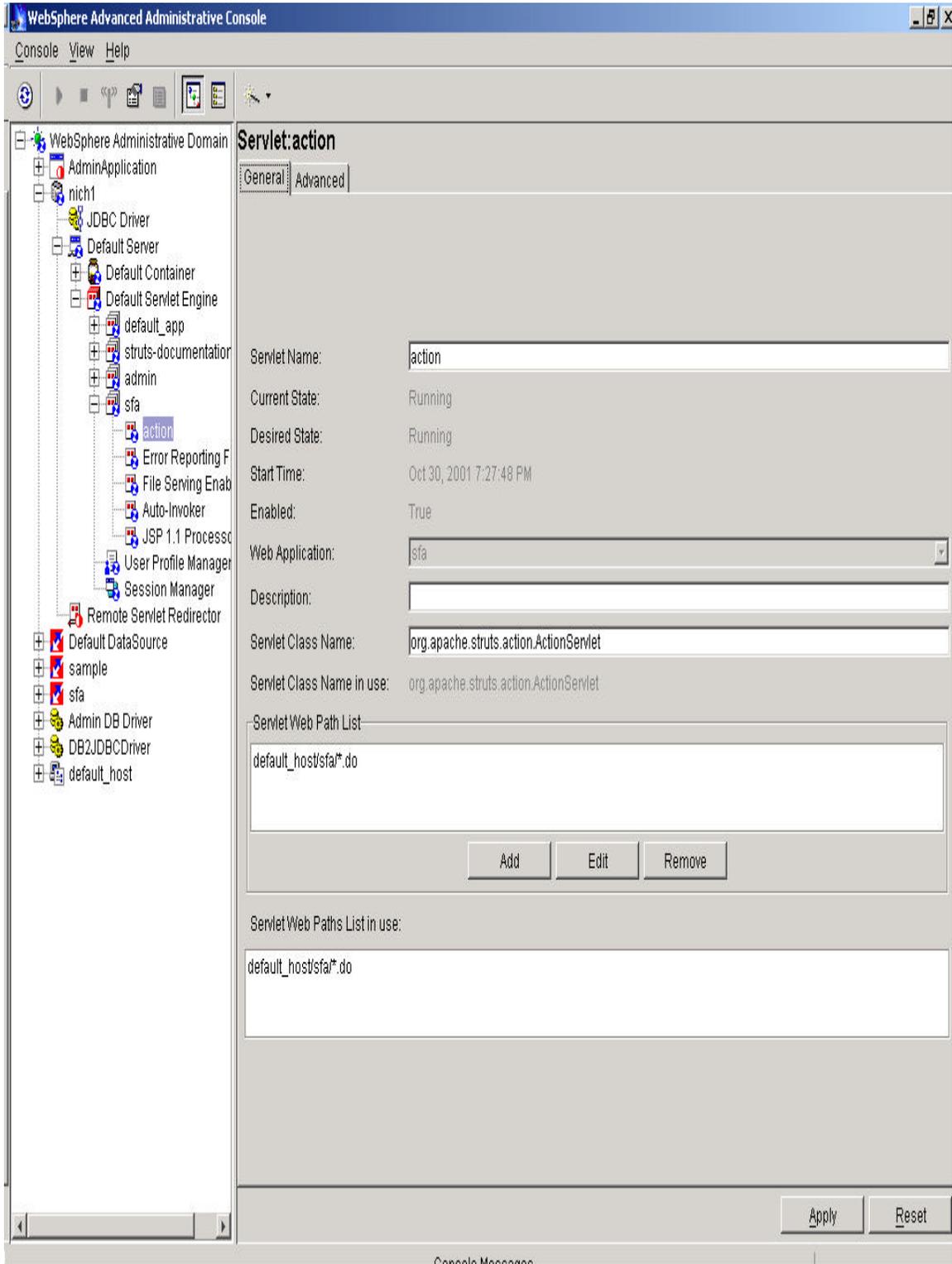
3.3.5 Web Application Advanced 1



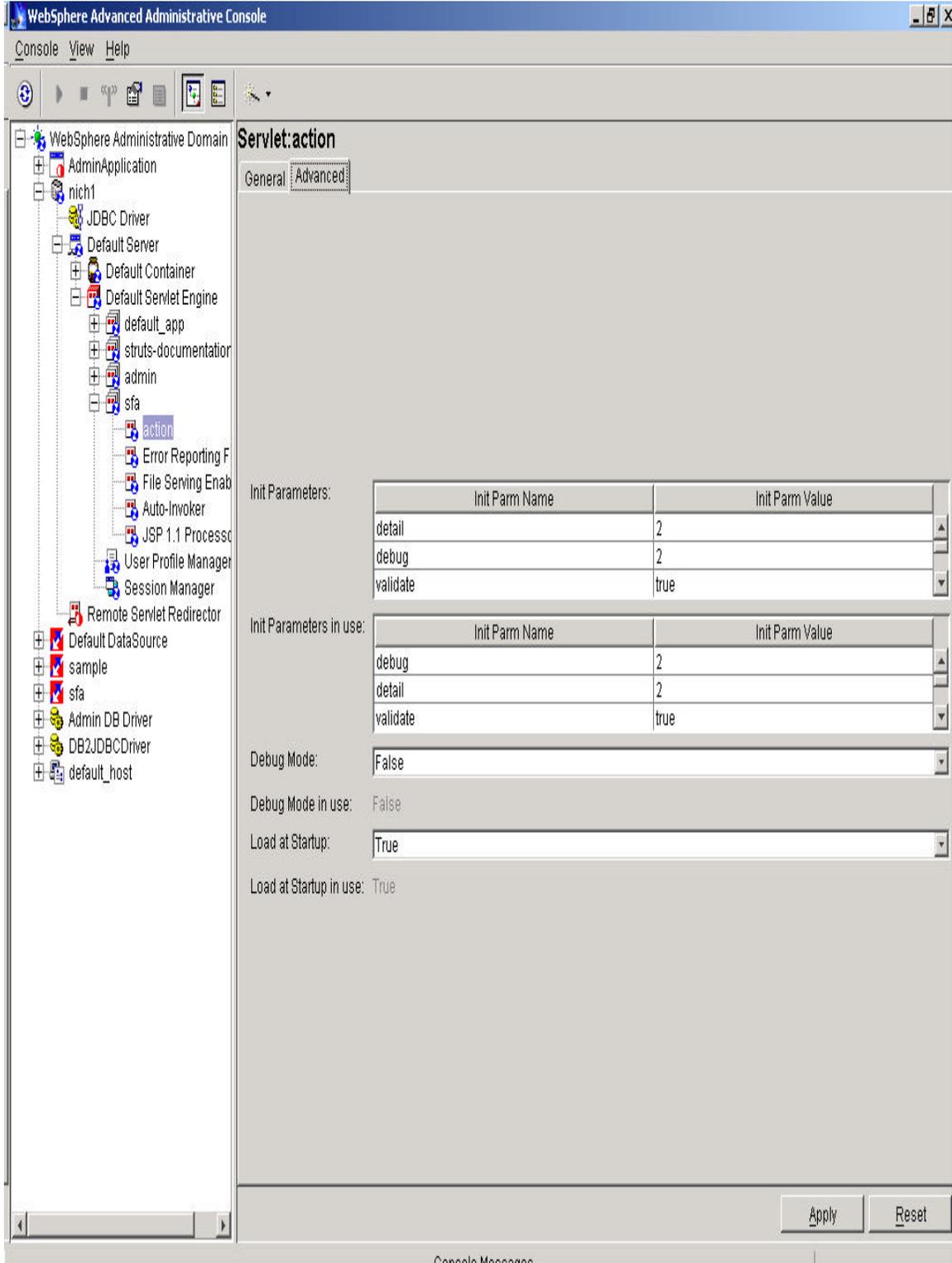
3.3.6 Web Application Advanced 2



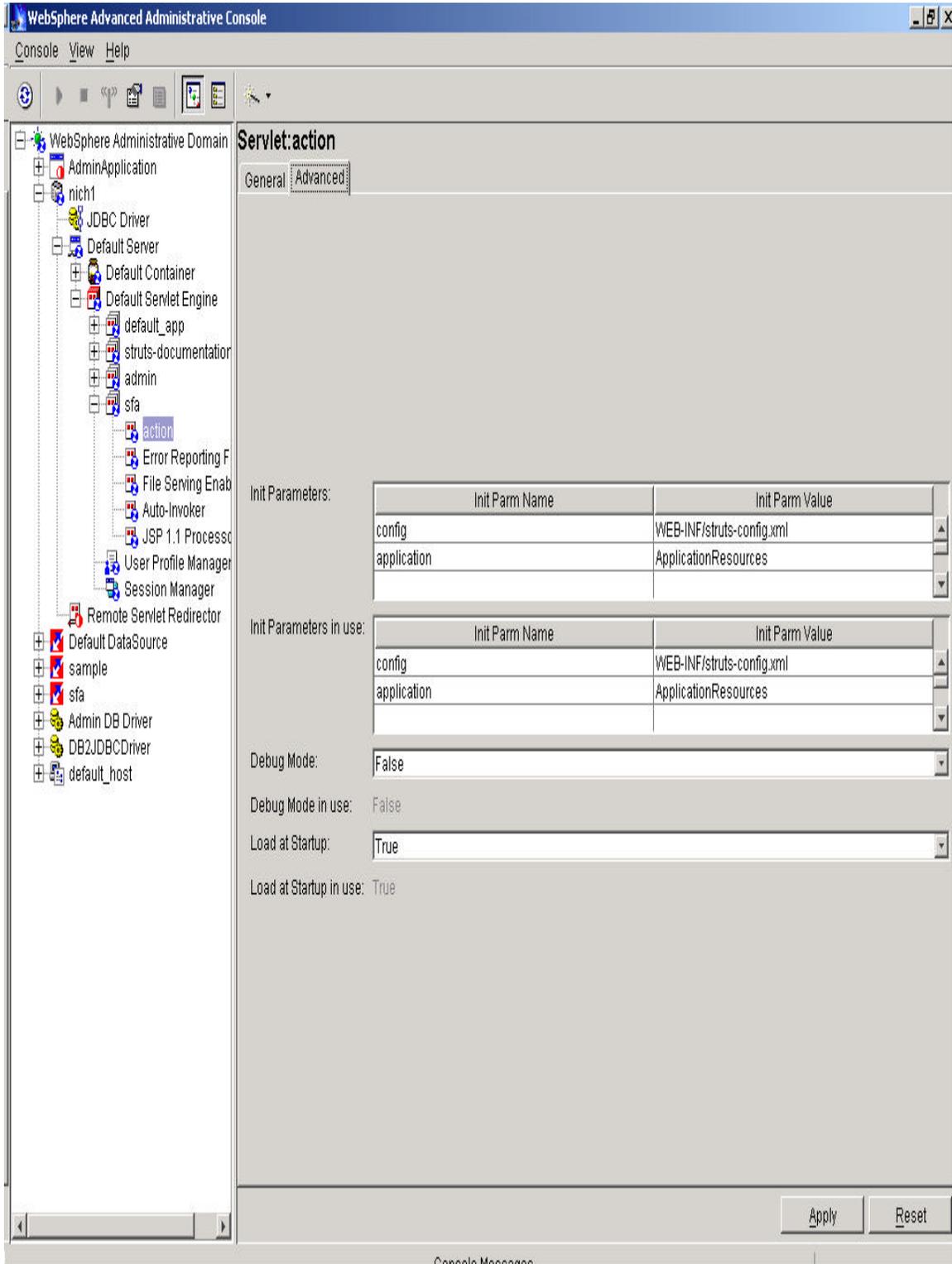
3.3.7 Servlet Action General



3.3.8 Servlet Action Advanced 1



3.3.9 Servlet Action Advanced 2



3.4 Stopping and starting the Application Server

To stop or start the Application Server right click the Application Server from the WebSphere Administrator's Console and select either the stop or start option.

3.5 Installation Verification

The development test scripts are defined in the `sfa/doc/SFA Portal Strategy Tests .xls` file.

4 VisualAge for Java Installation

4.1 Requirements

VisualAge for Java Enterprise Edition 3.5.3

Apache Struts 1.0 binary distribution (with modified struts.jar)

Sun JAXP 1.0.1

sfaframework_x_x.zip

5 VisualAge for Java Configuration

5.1 Assumptions:

The following must be installed and working:

VisualAge for Java 3.5.3 (VAJ)

WebSphere Test Environment (WTE) within VAJ.

WTE default_host directory = C:\Program Files\IBM\VisualAge for Java\ide\project_resources\IBM WebSphere Test Environment\hosts\default_host

VAJ Project Resources = C:\Program Files\IBM\VisualAge for Java\ide\project_resources\

5.2 Procedures:

Unzip the SFAFramework*.zip file to a temp directory on your hard drive. (I unzipped it on to the windows desktop for easy access to the files.)

Open VAJ 3.5.3 and go to the workspace.

Create the following projects by right clicking on the workspace and then selecting add and clicking on project.

ApacheStruts

ApacheStrutsJAXP

Java DOM

SchoolsPortal

Import the class and resource files from the struts.jar file located in <your temp directory>/servlets into the ApacheStruts project.

Import the class and resource files from the jaxp.jar file located in the <your temp directory>/servlets in to the ApacheStrutsJAXP project.

Import the class and resource files from the parser.jar file except for the those classes that start with org.w3c.*. (This is because WTE already have these imported).

Import the class and resource files from the jdom-B6.jar located in the <your temp directory>/servlets into the Java DOM project.

Import the class and resource files from following directories from the <your temp directory>/servlets into the SchoolsPortal project. (You may refrain from importing the *.bak files as these will not be needed by VAJ or WTE.)

org

sfa

create a directory named 'sfa' in the following directory to the WTE default_host directory.

copy <your temp directory>/web/*. * to <WTE default_host directory>/sfa/

copy <your temp directory>/servlets/*.properties to <VAJ Project Resources >/SchoolsPortal/ create a sfa.webapp file in the <WTE default_host directory>/sfa/ directory. The contents of this file should appear as below.

```
<?xml version="1.0"?>
<webapp>
  <name>sfa</name>
  <description>SFA Portal</description>
  <error-page>/ErrorReporter</error-page>
  <servlet>
    <name>ErrorReporter</name>
    <description>Default error reporter servlet</description>
<code>com.ibm.servlet.engine.webapp.DefaultErrorReporter</code>
    <servlet-path>/ErrorReporter</servlet-path>
    <autostart>true</autostart>
  </servlet>
  <servlet>
    <name>invoker</name>
    <description>Auto-registration servlet</description>
    <code>com.ibm.servlet.engine.webapp.InvokerServlet</code>
    <servlet-path>/servlet/*</servlet-path>
    <autostart>true</autostart>
  </servlet>
  <servlet>
    <name>jsp</name>
    <description>JSP support servlet</description>
    <code>com.ibm.ivj.jsp.jasper.runtime.JspDebugServlet</code>
    <init-parameter>
      <name>workingDir</name>
```

```
    <value>$server_root$/temp/default_app</value>
</init-parameter>
<init-parameter>
    <name>jspemEnabled</name>
    <value>>true</value>
</init-parameter>
<init-parameter>
    <name>scratchdir</name>
    <value>$server_root$/temp/JSP1_0/default_app</value>
</init-parameter>
<init-parameter>
    <name>keepgenerated</name>
    <value>>true</value>
</init-parameter>
<autostart>>true</autostart>
<servlet-path>*.jsp</servlet-path>
</servlet>
<servlet>
    <name>action</name>
    <description>Action Servlet</description>
    <code>org.apache.struts.action.ActionServlet</code>
    <servlet-path>*.do</servlet-path>
    <init-parameter>
        <name>application</name>
        <value>ApplicationResources</value>
    </init-parameter>
    <init-parameter>
        <name>config</name>
        <value>/WEB-INF/struts-config.xml</value>
    </init-parameter>
    <init-parameter>
        <name>debug</name>
        <value>2</value>
    </init-parameter>
```

```
<init-parameter>
    <name>detail</name>
    <value>2</value>
</init-parameter>
<init-parameter>
    <name>validate</name>
    <value>>true</value>
</init-parameter>
<autostart>true</autostart>
</servlet>

<!-- Application Tag Library Descriptor -->
<taglib>
    <taglib-uri>/WEB-INF/app.tld</taglib-uri>
    <taglib-location>/WEB-INF/app.tld</taglib-location>
</taglib>
<taglib>
    <taglib-uri>/WEB-INF/struts-bean.tld</taglib-uri>
    <taglib-location>/WEB-INF/struts-bean.tld</taglib-location>
</taglib>
<taglib>
    <taglib-uri>/WEB-INF/struts-html.tld</taglib-uri>
    <taglib-location>/WEB-INF/struts-html.tld</taglib-location>
</taglib>
<taglib>
    <taglib-uri>/WEB-INF/struts-logic.tld</taglib-uri>
    <taglib-location>/WEB-INF/struts-logic.tld</taglib-location>
</taglib>
</webapp>
```

Edit the default.Servlet_engine file found in < VAJ Project Resources >/IBM WebSphere Test Environment/properties/. Add the following webshere webgroup.

```
<websphere-webgroup name="sfa">
    <description>SFA Portal</description>
    <document-root>$approot$</document-root>
```

```
<classpath>$approot$</classpath>  
<root-uri>/sfa</root-uri>  
<auto-reload enabled="true" polling-interval="3000"/>  
<shared-context>>false</shared-context>  
</websphere-webgroup>
```

5.3 Starting WTE for the First Time

When you start WTE for the first time you want to click on “Edit Class Path...” command button and then click on Select All and then Okay. This set’s the class path for the WTE. You may only want to select the classes you will be using in the WTE but this insures that WTE can see all the classes that are in the workspace.