



The image features the 'FUEGO' logo in a bold, blue, sans-serif font, centered horizontally. Below the logo is a thick horizontal line. The background of the entire page is a light gray BPM diagram. This diagram includes several circular nodes: some are simple circles, while others have concentric circles or a small circle inside. These nodes are interconnected by arrows, representing process flows. Some flows are straight lines, while others are curved. The diagram is partially obscured by the text in the foreground.

**FUEGO**

**FuegoBPM™  
Enterprise Process  
Orchestration Engine  
Configuration  
Instructions for a  
JVM Engine**

FUEGOBPM

# System Administration Training

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PART NO. FEPOECv5.5

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U.S. Patent Pending

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## Introduction

This document describes the steps to configure the Fuego Enterprise Engine for a JVM Engine. A separate document describes how to do the installation necessary before performing the steps in this document. A separate document describes how to configure a Fuego Enterprise Engine when using a J2EE Application Server.

## Assumptions

- FuegoBPM version 5.5 Enterprise software has been downloaded, installed and a Fuego Enterprise license key has been successfully applied.
- An Application Server (JBoss, WebSphere, WebLogic) is not being utilized. Another configuration document specifically addresses configuring with an Application Server.
- Windows NT, 2000, 2003 or XP is the target installation platform.
- Fuego 5.5 Enterprise has been installed into the default directory (c:\fuego5.5\enterprise). This will be referred to throughout this document as **\$FUEGO\_ENTERPRISE**.
- Microsoft SQL Server database is being used for the engine's data and directory service.
- The Microsoft SQL Server JDBC driver name used will be **Una2-0.jar**. This JDBC driver is provided by i-Net.

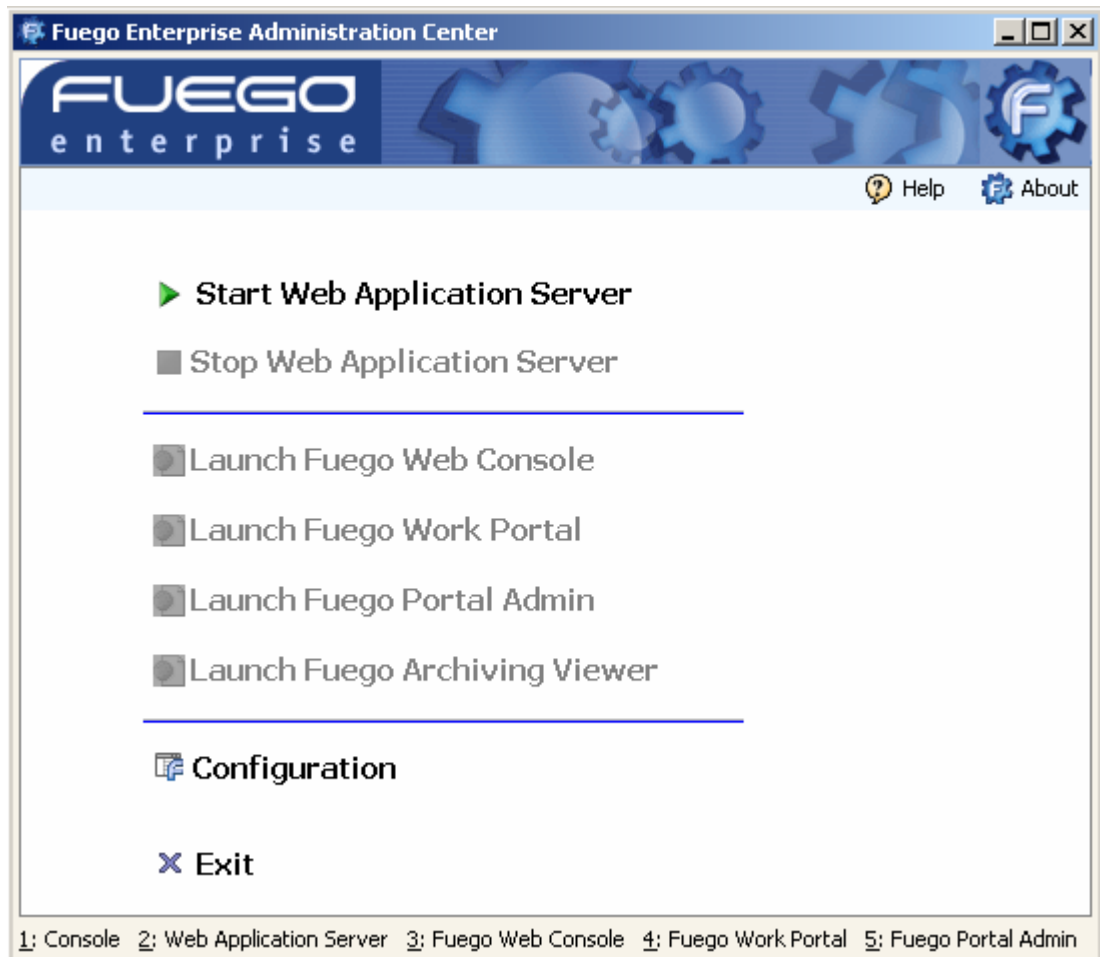
## Precautions

- Do not install Fuego 5.5 Enterprise into the "C:\Program Files" directory or any other directory containing spaces characters. Tomcat Web server will be installed and it will have a problem when trying to compile the Web Console's JSPs if there are spaces in the directory's name.
- Make sure port 8585 is not used by another application. Fuego's Web Console will use this port. If you want the embeded Tomcat Web Server to run on another port, you can change it from the Fuego Admin Center.
- Make sure the JAVA\_HOME environment variable is not set.

## Steps to Configure Fuego 5.5 Enterprise

### *Admin Center Application*

1. Once the license key has been successfully installed, start the Fuego Admin Center application (Start -> Programs -> Fuego Enterprise 5.5 -> Fuego Admin Center).



This is the tool used by a Fuego Administrator to setup, configure and manage both the Directory Service and the Web Console Application Server.

## Directory Service Setup and Configuration

A Directory Service first needs to be setup and configured. This will be used by Fuego to store and retrieve organization information (roles, participants, organization units) and the metadata about the processes and objects created by the Fuego Process Orchestration Studio and utilized by the Fuego Enterprise Orchestration Engines.

Fuego can use either:

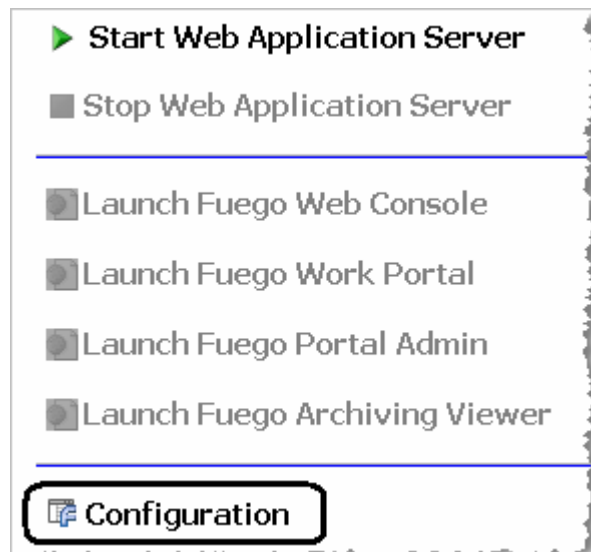
- An existing LDAP Directory Service (iPlanet, Microsoft Active Directory) or
- Create the same structure found on an LDAP Directory Service into an RDBMS (MS SQL Server, Oracle, DB2, Sybase, etc). RDBMS support is important for two reasons. First, not all companies use an LDAP Directory Service, and second some companies may want Fuego to use a dedicated and isolated Directory Service.

## Installing Directory Service Drivers for MS SQL Server

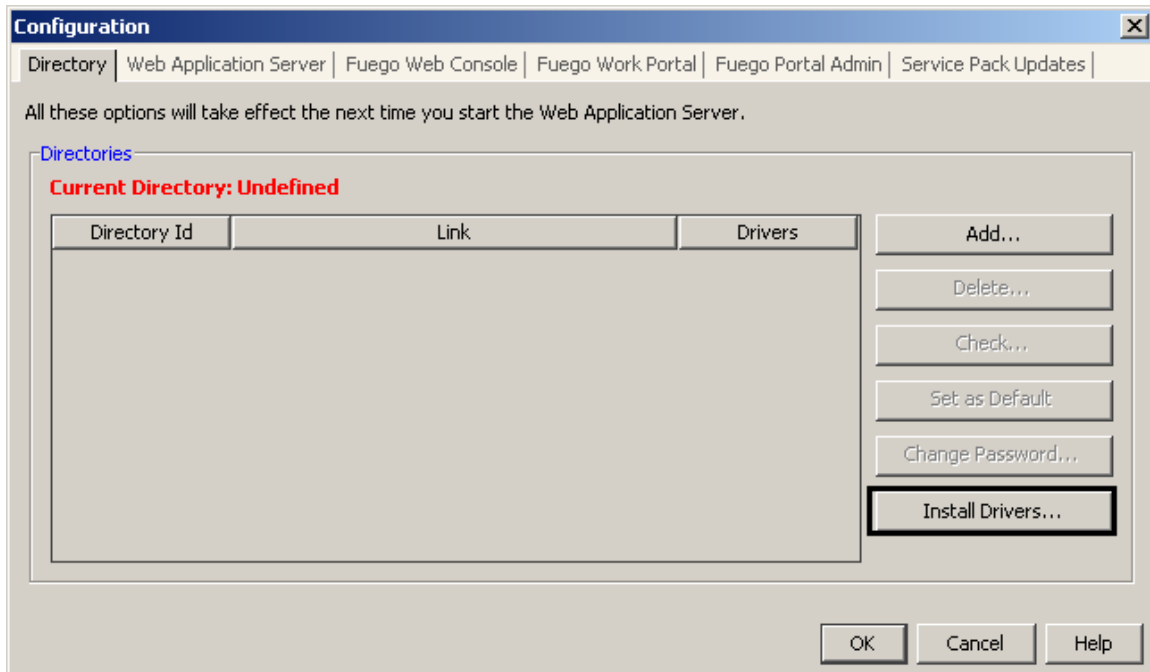
To deploy the Directory Service to a RDBMS, first install the JDBC Drivers for the RDBMS that will host the Directory Service. This JDBC Driver installation is basically the same for every RDBMS supported. Only the JDBC driver file(s) specified will be different for each RDBMS used.

In the “Assumptions” section of this document, it mentions that a MS SQL Server JDBC driver is necessary. In the steps below, it is assumed that the driver used is **Una2-0.jar**, and that this jar file will be installed using the Fuego Enterprise Orchestration Engine’s Admin Center application.

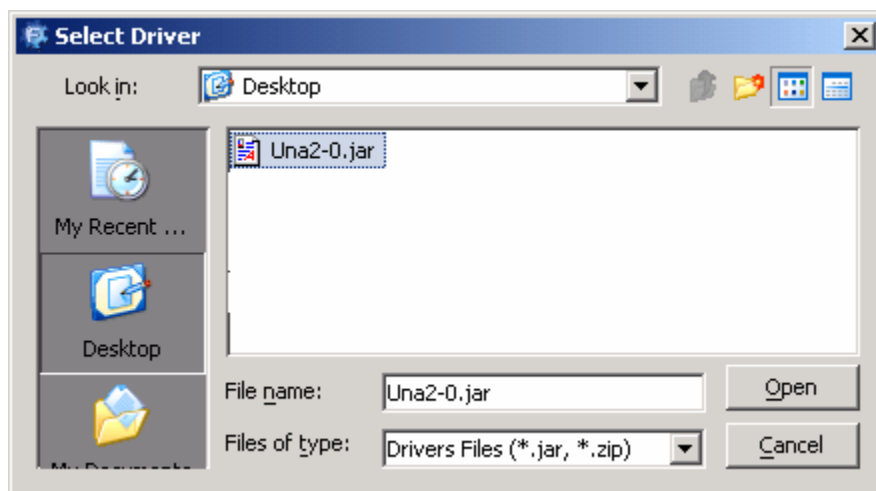
1. To install the JDBC driver, select the **Configuration** choice from Fuego Admin Center Application as shown below.



2. Click the **Install Drivers...** button to continue.



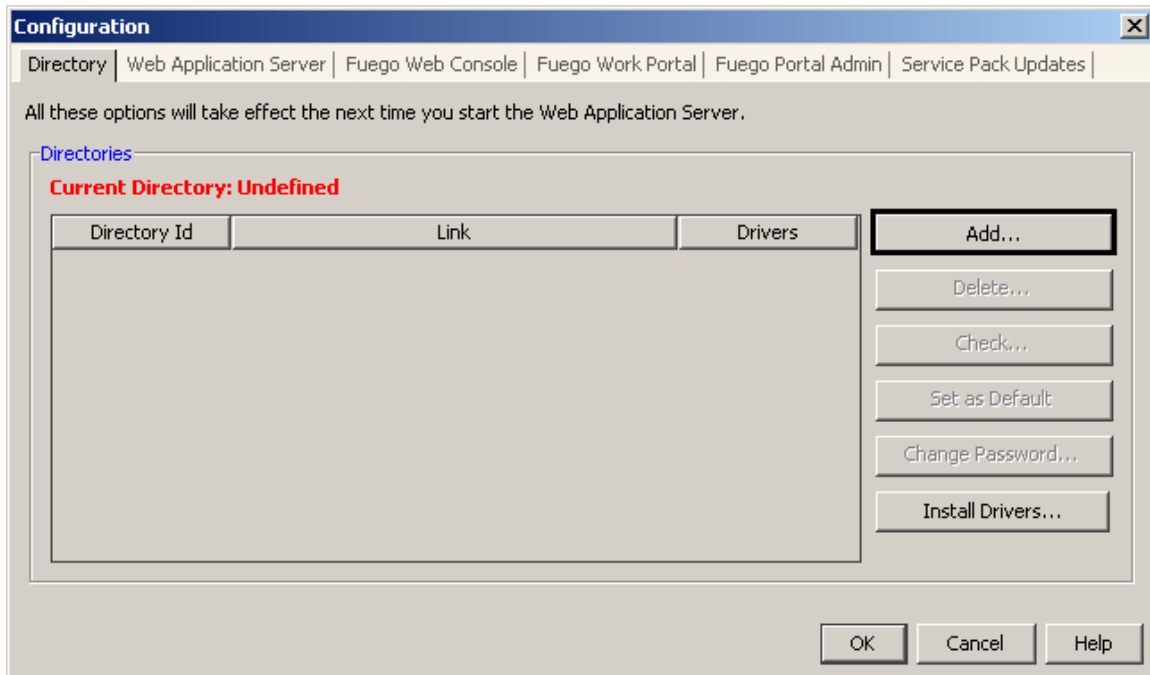
3. Select the MS SQL Server JDBC driver that is on your local file system and click the **Open** button as shown below.



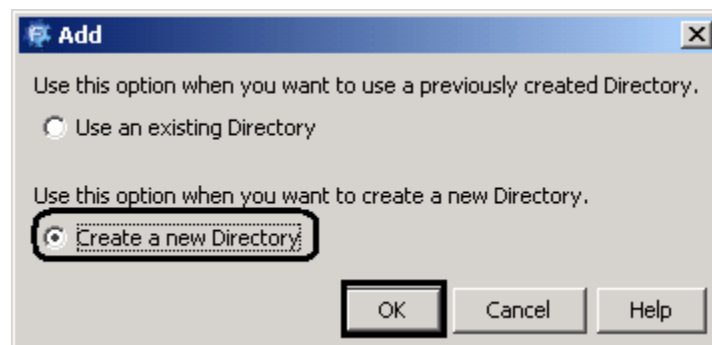
## Creating the Directory Service

Once the MS SQL Server JDBC Driver has been installed, you can create the Directory Service in the MS SQL Server RDBMS.

1. Note that the “Directory” tab is already selected on the top of this dialog box.



2. Click the **Add...** button to define the basic settings to create and configure the Directory Service on MS SQL Server.
3. Make sure the “Create a new Directory” radio button is selected as shown below.



4. Click the **Ok** button.
5. In the “Directory Id” field, define a logical name for the Directory Service that will be created. For this installation, enter **MSSQLDS** as the directory id.
6. As shown below in the “Provider” field, click the combo dropdown box and select **MSSQL JDBC (i-net Driver)** from the list.



## FuegoBPM Enterprise Process Orchestration Engine Configuration

Directory Id	<input type="text" value="MSSQLDS"/>
Provider	<input type="text" value="MsSQL JDBC (i-net Driver)"/>

- Provide all the information necessary for MS SQL Server as shown below.

<div>Basic   Advanced</div> <div>Show the SQL sentences <input type="checkbox"/></div> <div>Database host <input type="text" value="yourServerName"/></div> <div>Database port <input type="text" value="1433"/></div> <div>Organization logical name <input type="text" value="yourCompanyName"/></div> <div>Administrator user <input type="text" value="sa"/></div> <div>Administrator password <input type="password" value="*****"/></div> <div>Database <input type="text" value="MSSQLDBds"/></div> <div>Login name <input type="text" value="user1"/></div> <div>Login Password <input type="password" value="*****"/></div> <div>Confirm password <input type="password" value="*****"/></div>	<div>Host where the MS SQL Server database resides.</div> <div>TCP/IP port where MS SQL Server listens for incoming requests.</div>
	<div>Name of the company where the Directory Service is located (any String name).</div> <div>User already defined in MS SQL Server with permission to create databases. "sa" is the default MS SQL Server Administrator user.</div>
	<div>Password for this Administrator user.</div>
	<div>Name of database that will be created for the Directory Service. <b>This name must be different than the Directory Id's name already entered.</b></div>
	<div>A user id that will be created with the Directory Service. For future connections to this database, you will need to use this user id.</div>
	<div>Password for this new user.</div>

- Select the "Advanced" tab as shown below to set the Directory Service Administrator Id.

Basic | Advanced

Administrator ID

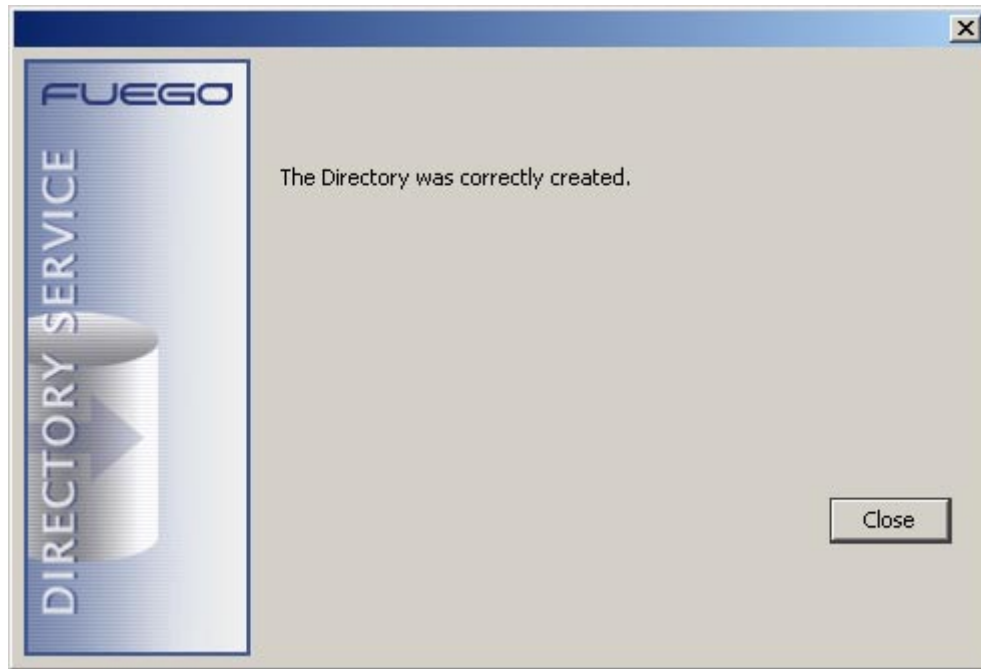
Administrator password

Confirm password

If you want to match Fuego's Administrator ID to the one in the MS SQL Server Database (typically the "sa" user), there is no need to enter anything here. A best practice however, is to set the Fuego Administrator Id to be "root" as shown

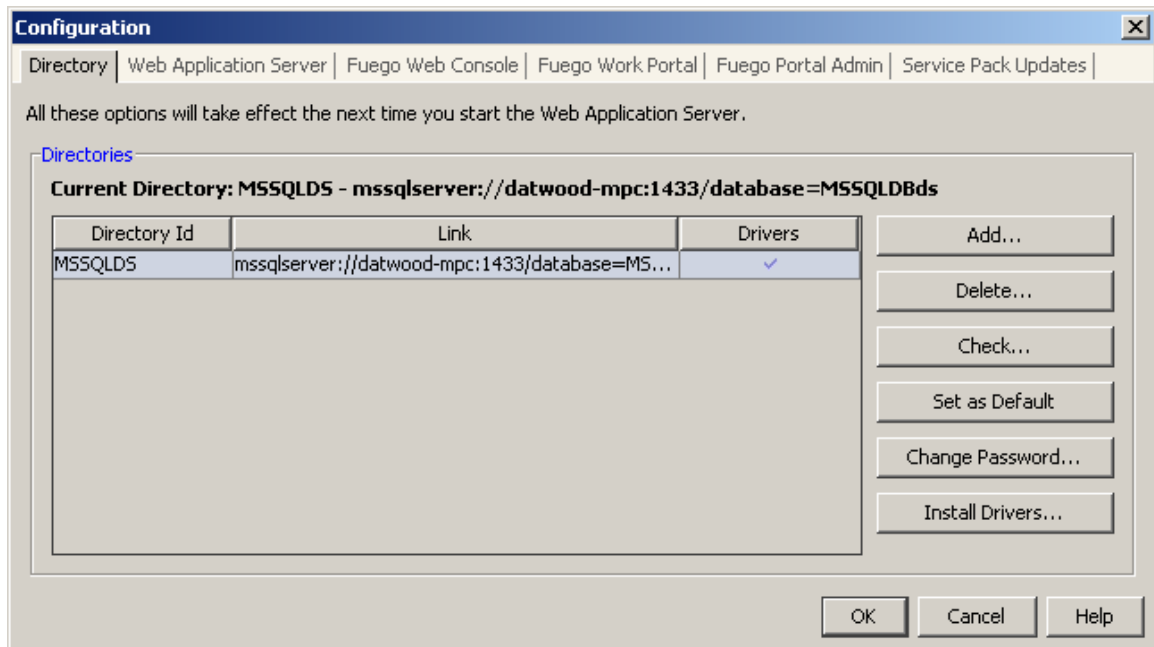
above. This Administrator Id will be the one used to connect to the Fuego Enterprise Web Console once it has been started.

9. Create the Directory Service now by clicking the **Start** button.
10. After the Directory Service has successfully been created, the panel shown below will appear. Complete the Directory Service creation by clicking the **Close** button.



11. As shown below, the Directory Service created will become the default Directory Service within the Fuego Admin Center application.

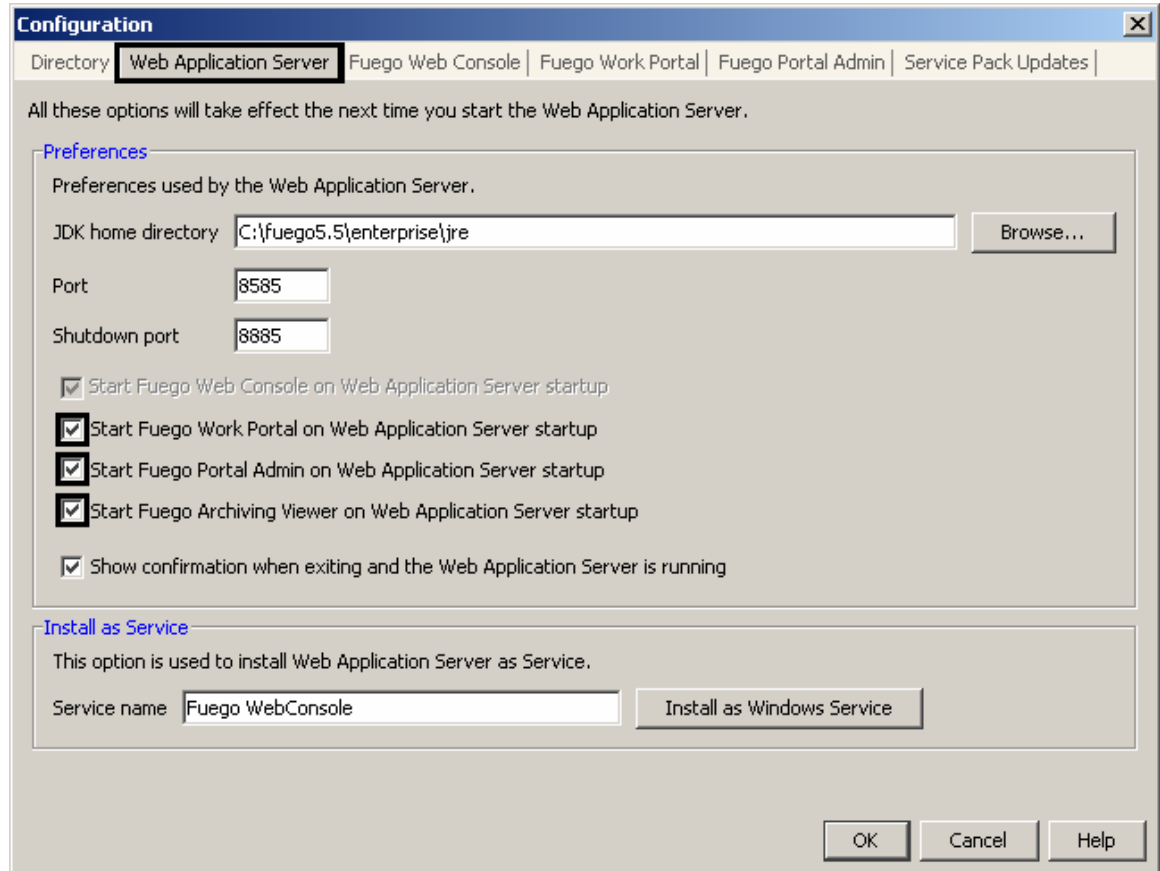
## FuegoBPM Enterprise Process Orchestration Engine Configuration



## ***Fuego Enterprise Web Console's Web Application Server***

### **Configuring the Web Console's Web Application Server**

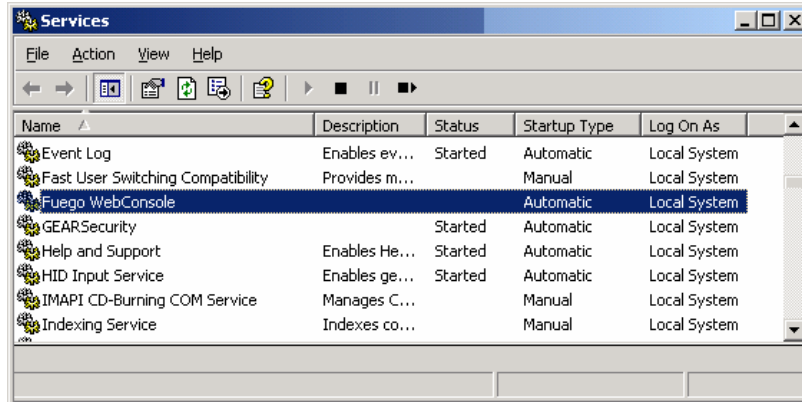
1. Select the Admin Center's **Web Application Server** tab as shown below.



2. First ensure that the TCP/IP port to be used by the Tomcat Web Server for this Web Application (the default is 8585) is not being used by another application. If this default port needs to be changed, change it now by entering another TCP/IP port.
3. Check the three checkboxes on this panel to automatically start the Web Console, Work Portal and Portal Admin servers.

**Important Note:** Before clicking the **Install as Windows Service** pushbutton in the next step, ensure that you do not already have a JAVA\_HOME environmental variable directory already set to a 1.4.2 JSDK. If it is, the Windows Service will point to an incorrect JVM path and the Web Console will not be able to start as a service.

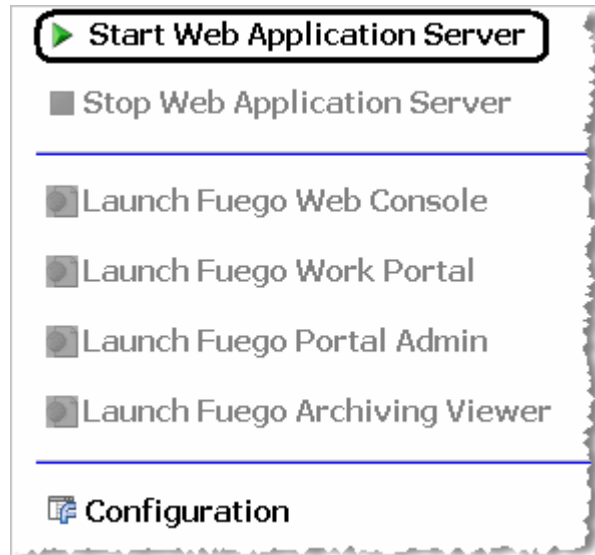
4. To install the Web Console as a Windows Service click the **Install as Windows Service** pushbutton. After having done this “Fuego WebConsole” will appear as a new Windows service as shown below (Start -> Settings -> Control Panel -> Administrative Tools -> Services).



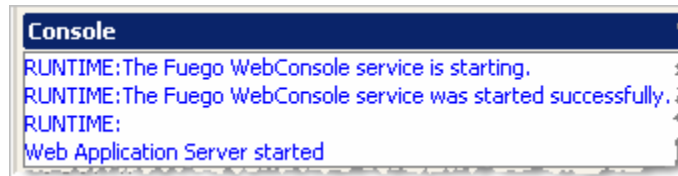
5. Click the Web Application Server tab's **Ok** button.

## Starting the Fuego Enterprise Web Console Web Application Server

1. To start the Web Console's Web Application Server now, either
  - a. start the **Fuego WebConsole** service in the Windows Services panel as you would any other Windows service, or
  - b. start it from the Fuego Admin Center Application by clicking the **Start Web Application Server** link as shown below.

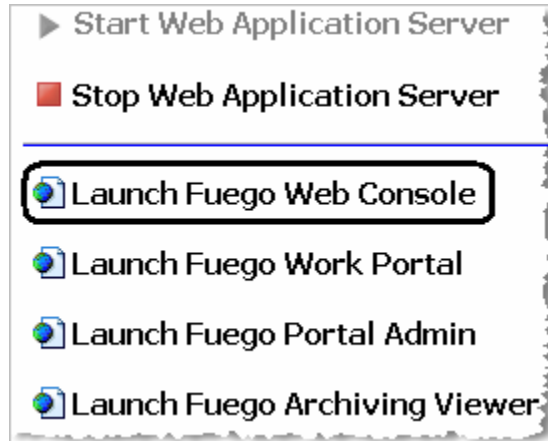


2. After successfully starting the Web Console's Web Application, you should see the message as shown in the **Console** tab at the bottom of the panel of the Admin Center Application as shown below.



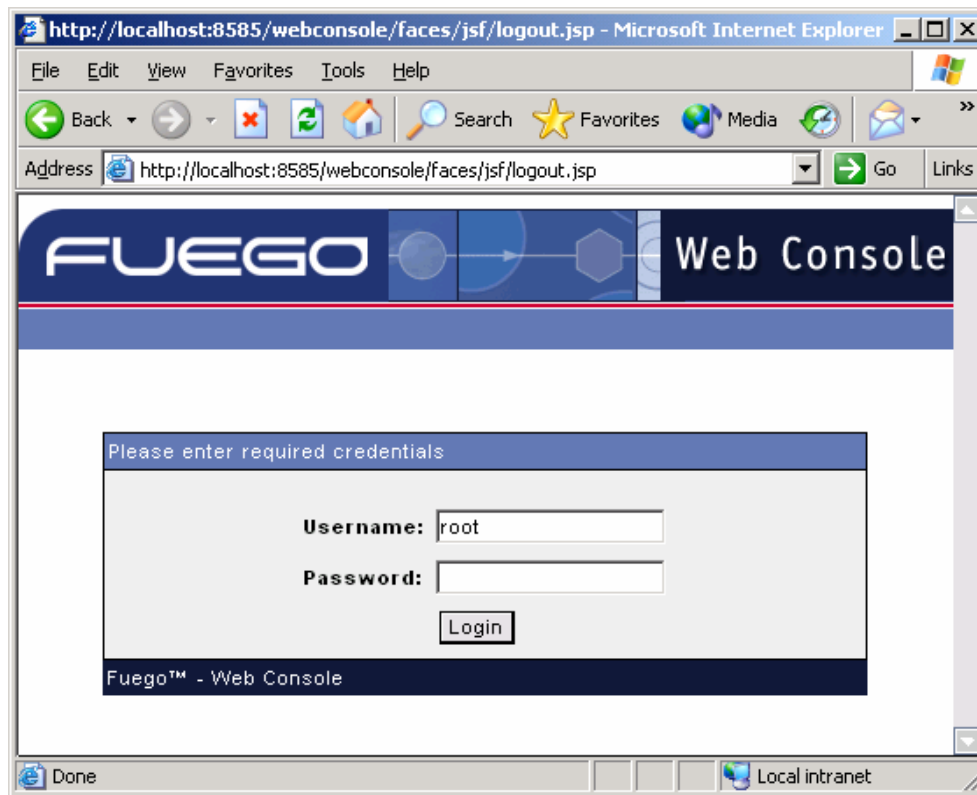
## Starting the Enterprise Web Console

1. The Fuego Enterprise Web Console can be started either:
  - a. from the Fuego Enterprise Admin Center by selecting the link **Launch Fuego Web Console** as shown below,



- b. or by entering the URL <http://yourServerName:8585/webconsole> in a Web Browser (port 8585 is the default port – this port number in this URL needs to match the one specified in the Admin Center configuration’s “Web Application Server” tab).
2. The Web Browser with the Web Console’s login dialog will now open as shown below.





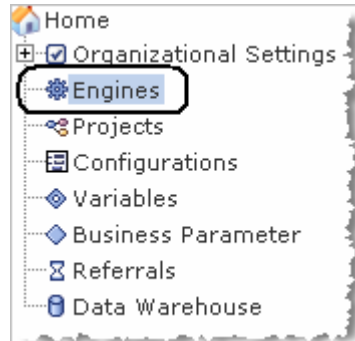
3. When the Directory Service was created, an Administrator Id and password was entered in the “Advanced” tab. If an Administrator Id and password was entered in this tab, use it as your user login name and password. In this example, the user is “root” and its password is the one defined earlier in the “Advanced” tab. If the Administrator Id and password were left blank in the “Advanced” tab, enter a user granted sufficient privileges to create new tables in the database (“sa” will typically work).
4. Click the **Login** button.

## Orchestration Engine Setup and Configuration

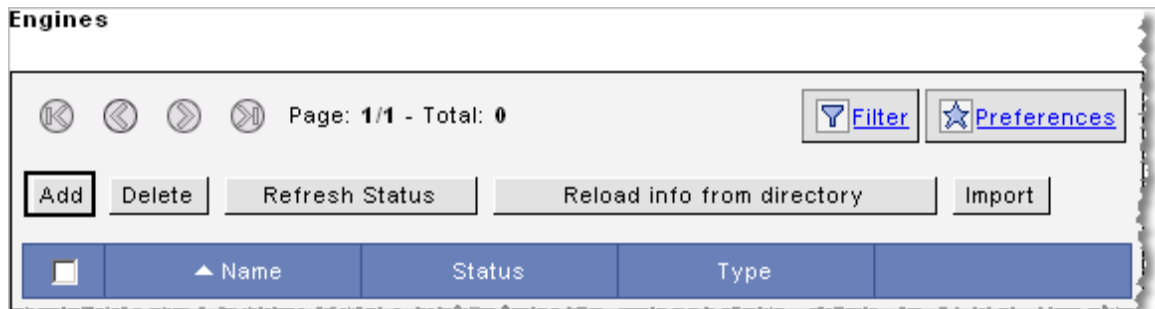
### Creating an Orchestration Engine

After successfully creating an RDBMS configuration that an engine will use, the Orchestration Engine can be created and its properties can be set.

1. As shown below, click the **Engines** node on the left frame.



2. Next, click the **Add** button.



3. Provide the name of the engine, select **enterprise**, and select your JDBC driver. Click the **Next** button.

Engine name	<input type="text" value="Production1"/>
Engine type	<input type="text" value="enterprise"/>
Engine database type	<input type="text" value="MsSQL JDBC (i-net Driver)"/>
<input type="button" value="Next"/> <input type="button" value="Cancel"/> <input type="button" value="Reset"/>	

4. Enter the new engine's database property values shown in the panel below.

## FuegoBPM Enterprise Process Orchestration Engine Configuration

Properties	
Host	yourServerName
Port	1433
Database	FUEGOPROD1
User	FUEGOPROD1
Password	.....

Database machine's name

Name of the Engine's database (this can be any name you choose)

This must be the same name as the above database's name

Password that will be associated with the Engine database user's name

5. Click the **Save** button.

**Basic configuration**
[Log](#)
[Execution](#)
[Services](#)
[Networking](#)
[Others](#)

Basic configuration	
Name	Production1
Type	enterprise
Host	DATWOOD-MPC
Home Directory	C:\fuego5.5\enterprise\server\Production1
Log Directory	C:\fuego5.5\enterprise\log

Save
Cancel
Reset

The settings in the above panel represent:

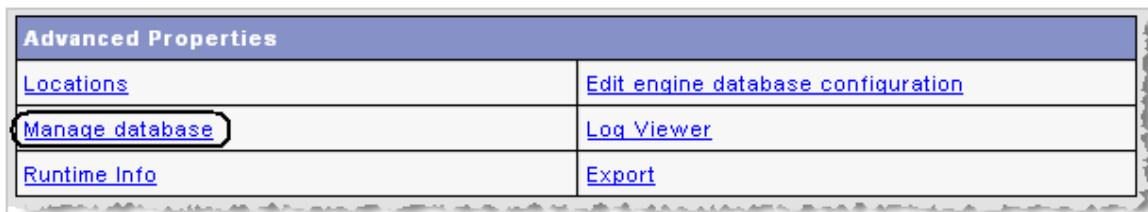
- Name:** The logical name for the Orchestration Engine.
- Type:** The type of engine installed ("enterprise", or Application Server)
- Host:** The name of the server where the Orchestration Engine will run.
- Home Directory:** The runtime directory the Orchestration Engine will use. Always ensure the directory entered here already exists. In this example "c:\fuego5.5\enterprise\server\Production1" was entered. This is a directory that is automatically created during installation.
- Log Directory:** The directory where the engine's log files will be stored. Always ensure the directory entered here

already exists. In this example “c:\fuego5.5\enterprise\log” was entered. This is a directory that is automatically created during installation.

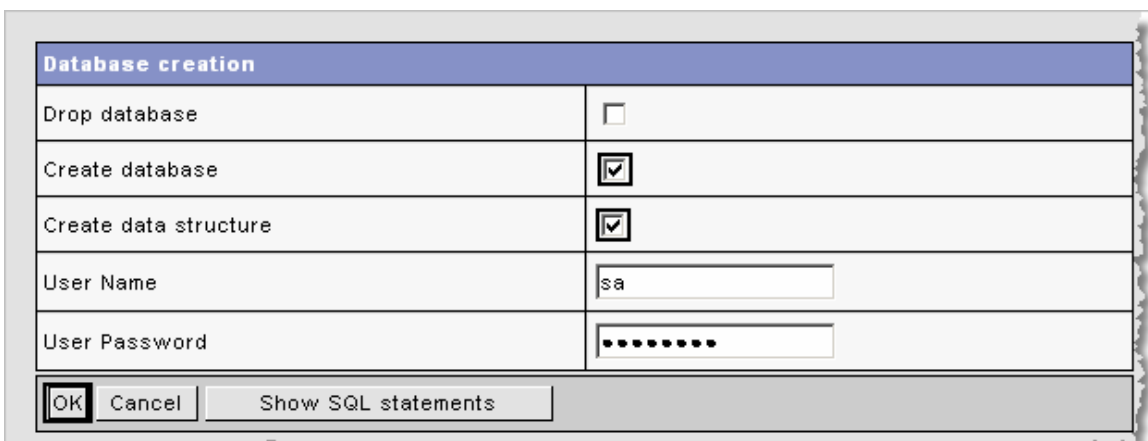
## Creating the Database for an Orchestration Engine

Once the Orchestration Engine’s basic configuration has been completed and saved, the database for the Orchestration Engine can be created.

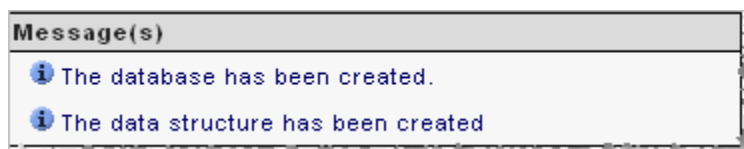
1. Click the **Manage database** as shown below.



2. Select the **Create database** and **Create data structure** checkboxes and enter the database’s Administrator user and password in the **User name** and **User Password** fields.



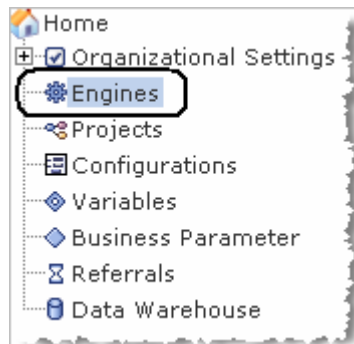
3. To create the database for the Orchestration Engine, click the **Ok** button.
4. If the Orchestration Engine database was successfully created, the top of the right pane will display the messages shown below.



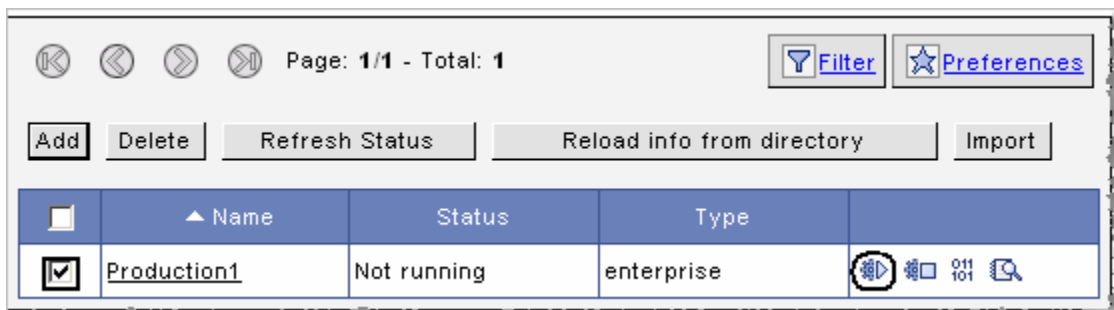
## Starting the Orchestration Engine


Once the Orchestration Engine's database has been created, the engine can be started and used.

1. To start an Orchestration Engine, once again click the **Engines** node in the left frame.



2. Check the checkbox beside the Orchestration Engine to be started.



3. With the Engine selected, click the  start icon.
4. After successfully starting the Orchestration Engine, the engine's status changes to "Ready" as shown below.

