

# **MCA Services Build Process Guide**

Version 2004.5

December 2004

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Printed in the United States of America

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# 1 Introduction

This build guide covers the build process for MCA Services. The terms MCA Services and Foundation Services are interchangeable. MCA Services encompasses the Financial Process Integrator engine and the Statemachine. This guide is broken into the following four sections:

- Prerequisites
- Building the EAR for WebLogic 8.1 & Oracle
- Building the EAR for WebSphere 5.1 & DB2
- Building the EAR for WebSphere 5.1 & Oracle

The build scripts for each environment will create an Enterprise Application using the same MCA Services libraries, and the appropriate deployment descriptors for the relevant environment. To deploy the Enterprise Application, see the corresponding installation guide for the platform.



# 2 Build Process Prerequisites

It is a prerequisite that the MCA Services installation pack for the appropriate target application server/database platform has been extracted so that required directory structures are created. It is not a prerequisite that the application has been installed and started.

The build scripts are currently supported on the Windows platform and require a J2SE Development Kit (JDK) version 1.4 or higher.

It is intended that these scripts are executed via a command shell which has certain environment variables set.

**These environment variables indicate the location of the JDK and ANT libraries to use. By default, the JDK location, labeled as `JAVA_HOME`, is expected to be `D:\bea\jdk141_02`. The `ANT_HOME` value is set to the ANT directory that is supplied within the installation pack.**

These locations can be changed by editing the `javaenv.bat` file in `/Foundation Services/Build/java` folder of the appropriate installation pack when extracted.

## Standard Directory Structure

The files contained in the installation packs will be extracted to the following Standard Directory Structure for the MCA Services build. `<install dir>` is used to indicate the location that the installation pack has been extracted to:

Directory	Description
<code>&lt;install dir&gt;\ FoundationServices</code>	The root folder
<code>&lt;install dir&gt;\ FoundationServices\3rdParty</code>	Contains third-party libraries required for supporting MCA Services.
<code>&lt;install dir&gt;\ FoundationServices\Build</code>	Contains the command shell, ANT scripts and other required resources for generating a deployable EAR.
<code>&lt;install dir&gt;\ FoundationServices\build_tmp</code>	Contains the deployable EAR built using the build scripts provided. This directory is also used for temporary files produced during execution of the build script. The deployable EAR will be in  <code>&lt;install dir&gt;\ FoundationServices\build_tmp\build_re lease\siebel.ear</code>
<code>&lt;install dir&gt;\</code>	Contains the common jar files and resource files that

Directory	Description
<code>FoundationServices\Common</code>	are shared between Siebel Retail Finance products. See the following section for further details.
<code>&lt;install dir&gt;\FoundationServices\deploy</code>	Contains the pre-built and deployable MCA Services EAR file
<code>&lt;install dir&gt;\FoundationServices\deploy\data base</code>	Contains the table create and data insert scripts for the relevant target database.

The `build.properties` file in the `<install dir>\FoundationServices\Common` directory is used to specify what the target environment is as well as the build folder (`<install dir>\FoundationServices\build_tmp by default`) location. For each supported target environment, the properties files are preset with the appropriate values.

## Signed Java Class jar files in the Standard Directory Structure

The MCA Services installation pack contains several important class jar files contained in the `<install dir>\Foundation Services\Common\lib` folder.

The following jar files contain compiled classes only—no source code. These jar files have been signed with a digital certificate using the Jar Signer tool. This is intended to aid the verification of jar versions. Signing a jar file prevents any changes being made to it. This means that Siebel Systems can be sure that the version of a jar file being used on a customer site corresponds exactly to the version originally supplied. For ease of future support these jar files must be placed without alteration in the classpath of an Enterprise Application when it is being built and deployed using MCA Services.

### *mca.jar*

This is the jar of MCA Services classes.

### *bfa-utils.jar*

This jar file contains utility classes.

### *statemachine-ext.jar*

This jar file contains extension classes for the StateSoft Statemachine framework supporting the Screen Orchestrator tool in the Financial Transactions WorkBench.

# 3

## WebLogic 8.1 Build Process

### Prerequisites for WebLogic Build Process

In order to run the WebLogic build process it is necessary to have WebLogic 8.1.0 installed on the build machine.

**Ensure that the JAVA\_HOME value defined in <install dir>\Foundation Services\Build\java\javaenv.bat has the location of a valid JDK.**

In order to build an EAR for WebLogic, the WebLogic variable in <install dir>\Foundation Services\Common\build.properties must be uncommented (remove the # symbol) and pointed at the server directory in the user's WebLogic Home. The websphere.home variable must be commented out.. As the WebLogic build process as supplied is database independent, the target database variable must be commented out. Below is an example configuration for building a WebLogic EAR for Oracle:

```
weblogic.home=/bea/weblogic81/server
#websphere.home=C:/Progra~1/WebSphere/AppServer
#target.database.db2=true
#target.database.oracle=true
```

These settings will already be in place for the MCA Services installation pack. The weblogic.home value must be set to the appropriate WebLogic server directory (see example above).

### Automated WebLogic Build Process

The <install\_dir>\Foundation Services\Build folder contains a Windows script called JavaPrompt.vbs that creates a command prompt that has the classpath and path variables configured to invoke the MCA Services Build Process. There is a build script within this folder called build.xml. Running this script will create the EAR file, which can be found in <install\_dir>\Foundation Services\build\_tmp\build\_release.

Please note that the pre-built MCA Services EAR file will remain available in the <install\_dir>\Foundation Services\deploy directory and is not overwritten by the provided build process.

Double-click on the JavaPrompt.vbs file in <install\_dir>\Foundation Services\Build to open a command prompt.

Enter the following at the command prompt (This example assumes <install\_dir> is D:\):

```
D:\Foundation Services>cd Build
```

```
D:\Foundation Services\Build>ant
```

This will create the EAR, including the appropriate Application Server specific deployment descriptors. This EAR is located in <install\_dir>\Foundation Services\build\_tmp\build\_release\siebel.ear.

## Deploying the EAR

Now that you have rebuilt the EAR, you can redeploy it on your application server. Please refer to the MCA Services Installation Guide for instructions.

# 4 WebSphere 5.1 Build Process

This section contains information about how to build the MCA Services Enterprise Application for WebSphere 5.1 using the automated mechanism run by the file [EJBDeploy.bat](#) that is located in WebSphere 5.1 at `{WebSphereHome}\bin\ejbdeploy.bat`.

It is important to note that for convenience, there are separate installation packs for WebSphere & DB2 and WebSphere & Oracle. One should use the appropriate installation pack for the target Application Server and Database Server environment.

## Prerequisites for the WebSphere Build Process

**NOTE:** This guide is provided to give an example build process; it is not an exhaustive guide to building MCA Services for WebSphere. In order to use this guide you must have WebSphere 5.1 installed on your build machine

Ensure that the `JAVA_HOME` value defined in `<install_dir>\Foundation Services\Build\java\javaenv.bat` has the location of a valid JDK.

In order to build an EAR for WebSphere, the `websphere.home` variable in `<install_dir>\Foundation Services\Common\build.properties` must be uncommented (remove the `#` symbol) and pointed at the user's WebSphere home. The `weblogic.home` variable must be commented out. The variable relating to the target database must also be uncommented. Below is an example configuration for building a WebSphere—DB2 ear:

```
#weblogic.home=/bea/weblogic81/server
websphere.home=C:/Progra~1/WebSphere/AppServer
target.database.db2=true
#target.database.oracle=true
```

These settings will already be in place for the MCA Services installation pack. The WebSphere & DB2 installation pack will have `target.database.db2` already set to `true`, and contain the appropriate WebSphere & DB2 specific deployment descriptors in place. Similarly, the WebSphere & Oracle installation pack will have `target.database.db2` commented out, `target.database.oracle` set to `true` and contain the appropriate WebSphere & Oracle specific deployment descriptors.

The `websphere.home` value must be set to the appropriate WebSphere application server directory (see example above).

## Automated WebSphere Build Process

The `<install_dir>\Foundation Services\Build` folder contains a Windows script called `JavaPrompt.vbs` that creates a command prompt that has the classpath and path variables configured to invoke the MCA Services Build Process. There is a build script within this folder called `build.xml`.

Running this script will create the EAR file, which can be found in `<install_dir>\Foundation Services\build_tmp\build_release`.

**NOTE:** The pre-built MCA Services EAR file will remain available in the <install dir>\Foundation Services\deploy directory and is not overwritten by the build process provided.

Double-click on the `JavaPrompt.vbs` file in <install dir>\Foundation Services\Build to open a command prompt.

Enter the following at the command prompt (This example assumes <install dir> is `D:\`):

```
D:\Foundation Services>cd Build
```

```
D:\Foundation Services\Build>ant
```

This will create the EAR, including the appropriate Application Server specific deployment descriptors. This EAR is located in <install dir>\Foundation Services\build\_tmp\build\_release\siebel.ear.

## Deploying the EAR

Now that you have rebuilt the EAR, you can redeploy on your application server. Please refer to the *MCA Services Installation Guide* for instructions.