

HOWTO: Create a Java COM server using Excelsior JET and Intrinsic J-Integra

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The information in this article applies to:

- Excelsior JET 3.6 and above for Windows
- Intrinsic J-Integra for COM 2.4

SUMMARY

This document contains step-by-step instructions for using Excelsior JET to create a COM-accessible DLL/EXE from your Java code with the help of Intrinsic's J-Integra for COM.

INTRODUCTION

Java code may be integrated with code written in other languages via Java Native Interface (JNI). JNI is the standard mechanism designed by Sun to integrate Java with other languages. Unfortunately, using bare JNI for communication between Java and COM is quite complicated. There are several Java-to-COM bridges on the market which simplify such an integration. One of them is J-Integra for COM by Intrinsic.

This document describes how to use Excelsior JET and J-Integra for COM together to convert your Java components to COM-accessible Windows executables (EXE or DLL).

DETAILS

If you are not a J-Integra for COM user, download a free evaluation version from:

<http://j-integra.intrinsic.com/downloads/>.

For more information about J-Integra for COM, refer to its online documentation: <http://j-integra.intrinsic.com/support/com/doc/>.

Create a COM-accessible Java component

First of all, you have to create a COM-accessible Java component using J-Integra for COM and make sure that it works properly on the Sun HotSpot JVM. Please refer to J-Integra documentation for instructions.

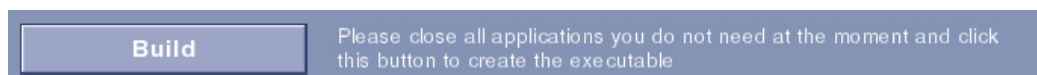
The discussion below is based on the "J-Integra Visual C++ to Java" example described at <http://j-integra.intrinsic.com/support/com/doc/javafromcom/vc2java.html>. It assumes that Java class files for this example are placed in D:\pure\vc2 directory, and J-Integra for COM is installed in E:\jintegra.

Compile the component with Excelsior JET

On this step, you will use Excelsior JET to compile your Java code and the proxy classes produced by J-Integra's `java2com` utility together into an out-of-process COM server (EXE file).

1. Launch the JET Control Panel and create a new project.¹
2. Add these items to the classpath:
 - Directory `D:\pure\vceb`
 - Jar file `J-Integra-home\lib\jintegra.jar`
3. Specify `Main` as the main class.
4. Go to the **Options** page. On the **Advanced** tab select the "Dynamic compilation" option from the "Class absence results in" combobox.

Note: In Excelsior JET version 3.7 and below, go to the **Options** page and select the "Run-time error" option.
5. Go to the **Target** page. Specify the project directory and target executable file name.
6. Go to the **Compile** page, click **Build**:



and wait until compilation completes. The `Main.exe` file will be created in the target directory.

Invoke the JET-compiled component via COM

J-Integra-based COM server can be accessed from COM clients using three different mechanisms. This section describes how to invoke JET-compiled code using each of them. For more information, see:

<http://j-integra.intrinsic.com/com/doc/tools/regjvm.html>.

DCOM mode

Register JVM:

```
regjvmcmd vcebjvm localhost[1111]
```

Create a script called e.g. `run.bat`:

```
set JETVMPROP=-DJINTEGRA_DCOM_PORT:1111
Main.exe
```

and start it. Run the client executable (`vcObserver.exe`) and test the server.

Note: You can hard-wire system property values into the executable file produced by JET to get rid of the `run.bat` script. You specify hard-wired properties on the **Target** page of the JET Control Panel. For details, see [Excelsior JET User's Guide](#), Chapter "Application considerations", section "System properties".

¹In Excelsior JET 4.0 and below select "Manual setting" on the **New** page.

Native mode

Register JVM:

```
regjvmscmd /native vcebjvm
```

Create a script called e.g. run.bat:

```
set JETVMPROP=-DJINTEGRA_NATIVE_MODE  
Main.exe
```

and start it. Run the client executable (vcObserver.exe) and test the server.

Note: You can hard-wire system property values into the executable file produced by JET to get rid of the run.bat script. You specify hard-wired properties on the **Target** page of the JET Control Panel. For details, see [Excelsior JET User's Guide](#), Chapter "Application considerations", section "System properties".

REFERENCES

1. J-Integra for COM manuals:
<http://j-integra.intrinsic.com/com/doc/>
2. J-Integra for COM download:
<http://j-integra.intrinsic.com/j-integra/download/>