BEA WebLogic Server®

# WebLogic Tuxedo Connector Quick Start Guide



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CHAPTER 1

# WebLogic Tuxedo Connector Quick Start Guide



**Note:** For more detailed information on how to configure the WebLogic Tuxedo Connector for this WebLogic Server Release, see the *WebLogic Tuxedo Connector Programmer's Guide* at http://e-docs.bea.com/wls/docs90/wtc_admin/index.html.

The following sections describe how to use the WebLogic Server console to configure WebLogic Tuxedo Connector to allow WebLogic Server to interoperate with Tuxedo Releases 6.5 and higher:

- Configuring the WebLogic Tuxedo Connector
- Configuring Tuxedo
- Run the Example

## Configuring the WebLogic Tuxedo Connector

**Note:** This section summarizes how to configure the WebLogic Tuxedo Connector on a Windows platform. UNIX users can adapt the instructions by making appropriate substitutions such as replacing the "\" with "/" and ".cmd" with ".sh".

This example extends the Tuxedo `simpapp` application to run over Tuxedo Domains (TDomains). This allows clients of the `TOUPPER` service to run on either the Tuxedo server or the WebLogic Server `examplesServer`. The example provides the following services:

- `TOUPPER`: A Tuxedo service that converts a string to upper case. A WebLogic Server client invokes the `TOUPPER EJB` and connects to the Tuxedo `TOUPPER` service.

- `Tolower`: A service implemented by an EJB in WebLogic Server. The client for the `Tolower` service runs on Tuxedo.

The following sections describe how to configure WebLogic Tuxedo Connector using the Administration Console:

- Build the Simpapp Example
- Create a WTC Service
- Create a Local Tuxedo Access Point
- Create a Remote Tuxedo Access Point
- Create Exported Services
- Create Imported Services
- Target mySimpapp to the examplesServer
- Register TDOM1 as a WebLogic Server User

# Build the Simpapp Example

**Note:** You may want to enable tracing to monitor WebLogic Tuxedo Connector. See Monitoring the WebLogic Tuxedo Connector located at http://e-docs.bea.com/wls/docs90/wtc_admin/troubleshooting.html.

Use the following steps to build the `simpapp` example:

1. Boot your WebLogic examplesServer.
2. Open a new shell window and set environment variables using the `SAMPLES_HOME\domains\examples\setExamplesEnv.cmd` file.
3. Change directories to your `SAMPLES_HOME\server\examples\src\examples\wtc\atmi\simpapp` directory.
4. Build the `wtc_toupper.jar` file using ant. This will deploy the EJB on WebLogic Server. Enter the following command: `ant`
5. Change directories to the `SAMPLES_HOME\server\examples\src\examples\wtc\atmi\simpserv` directory.
6. Build the `wtc_tolower.jar` file. This will deploy the EJB on WebLogic Server. Enter the following command: `ant`

7. Launch the Administration Console in your browser. Use the following URL: http://*your_machine*:7001/console. Replace *your_machine* with the IP address for your machine or your machine name.
8. In the navigation tree, Click Deployments→EJB Modules and confirm that the `wtc_tolower.jar` and `wtc_toupper.jar` are deployed.

## Create a WTC Service

Use the following steps to create and configure a WTC service using the WebLogic Server Console:

1. Expand Interoperability and select WTC Service in the navigation tree.
2. On the WTC Servers page, click New.
3. On the Crate a New WTC Server page, enter the name of your WTC Service in the Name field. Example: `mySimpapp`
4. Click Finish.
5. Your new WTC Service appears in the navigation tree.

## Create a Local Tuxedo Access Point

**Note:** When configuring the Network Address for a local access point, the port number used should be different from any port numbers assigned to other processes. Example: Setting the Network Address to `//mymachine:7001` is not valid if the WebLogic Server listening port is assigned to `//mymachine:7001`.

Use the following steps to configure a local Tuxedo access point:

1. In the Administration Console, expand Interoperability and select WTC Service/
2. On the WTC Servers page, click the name of a WTC Service, such as mySimpapp.
3. Click the Local APs tab.
4. Enter the following values for the following fields on the WTC Local Access Points page:

   Access Point: `myLocalAp`

   AccessPoint ID: `TDOM2`

   Network Address: *the network address and port of your local access point*

Example: `//123.123.123.123:5678`

5. Click Finish.
6. If you are connecting to a Tuxedo 6.5 domain, do the following:
   a. Click the Connections tab.
   b. Set the Interoperate field to `Yes`.
   c. Click Finish.

## Create a Remote Tuxedo Access Point

Use the following steps to configure a remote Tuxedo access point:

1. In the Administration Console, expand Interoperability and select WTC Service/
2. On the WTC Servers page, click the name of a WTC Service, such as mySimpapp.
3. Click the Remote APs tab.
4. Enter the following values for the following fields on the WTC Remote Access Points page:

   Access Point: `myRemoteAP`

   AccessPoint ID: `TDOM1`

   Local Access Point: `myLocalAp`

   Network Address: *the network address and port of your remote access point*

   Example: `//123.123.123.123:1234`
5. Click Finish.

## Create Exported Services

Use the following steps to configure an exported service:

1. In the Administration Console, expand Interoperability and select WTC Service/
2. On the WTC Servers page, click the name of a WTC Service, such as mySimpapp.
3. Click the Exported tab.
4. Enter the following values for the following fields on the WTC Exported Services page:

Resource Name: `TOLOWER`

Local Access Point: `myLocalAp`

EJB Name: `tuxedo.services.TOLOWERHome`

Remote Name: `TOLOWER`

5. Click Finish.

## Create Imported Services

Use the following steps to configure an imported service:

1. In the Administration Console, expand Interoperability and select WTC Service/
2. On the WTC Servers page, click the name of a WTC Service, such as mySimpapp.
3. Click the Imported tab.
4. Enter the following values for the following fields on the WTC Imported Services page:

   Resource Name: `TOUPPER`

   Local Access Point: `myLocalAp`

   Remote Access Point List: `myRemoteAP`

   Remote Name: `TOUPPER`

5. Click Finish.

## Target mySimpapp to the examplesServer

1. In the Administration Console, expand Interoperability and select WTC Service/
2. On the WTC Servers page, click the name of a WTC Service, such as mySimpapp.
3. Click the Target and Deploy tab.
4. Click the checkbox for the `examplesServer`.
5. Click Save.

## Register TDOM1 as a WebLogic Server User

Use the following steps to register TDOM1 as a WebLogic Server user:

1. Click Security Realms in the navigation tree.
2. Click myRealm.
3. Click on Users and Groups tab.
4. Click Users.
5. Click Lock & Edit.
6. Click New.
7. In the Create a New User page, do the following:
   a. Add TDOM1 in the Name field.
   b. Enter and validate a password.
   c. Click Finish.
8. Click Release Configuration.

# Configuring Tuxedo

Use the following steps to configure your Tuxedo domain:

1. Your PATH environment variable needs to include the path of your C compiler. Use set PATH to check the status and add the path if necessary.
2. Copy the `simpapp` example from your Tuxedo installation and create a working Tuxedo `simpapp` directory.
3. Change directories to your working Tuxedo `simpapp` directory.
4. Set environment variables using the `setEnv.cmd` located at TUXDIR. Update the following parameters:

   TUXDIR - base directory of the TUXEDO Software
   APPDIR - base directory of the sample program

5. Build the clients:

```
buildclient -o simpcl -f simpcl.c
buildserver -o simpserv -f simpserv.c -s TOUPPER
```

6. Copy the `ubbdomain` and `dom1config` files from the `SAMPLES_HOME\server\examples\src\examples\wtc\atmi\simpapp` directory to your Tuxedo `simpapp` directory.
7. Copy the `tolower.c` file from the `SAMPLES_HOME\server\examples\src\examples\wtc\atmi\simpserv` directory to your Tuxedo `simpapp` directory.
8. Modify the `ubbdomain` for your Tuxedo environment. This includes setting the pathnames for `APPDIR`, `TUXCONFIG`, and `TUXDIR` and setting the machine name. Replace all `<braced>` items with information for your environment.

   Example:

   ```
   APPDIR="\home\me\simpapp"
   TUXCONFIG="\home\me\simpapp\tuxconfig""
   TUXDIR="\usr\tuxedo"
   ```

9. Load the `ubbdomain` file: `tmloadcf -y ubbdomain`
10. Modify the `dom1config` for your Tuxedo environment. This includes creating log devices and updating the network addresses.

    Example:

    ```
    DMTLOGDEV="d:\my_apps\tlog"
    AUDITLOG="d:\my_apps\aud"
    TDOM1 NWADDR="//TuxedoMachine:1234"
    TDOM2 NWADDR="//WTCMachine:5678"
    ```

11. Load the `dom1config` file.

    ```
    set BDMCONFIG=d:\mydomain\simpapp\bdmconfig
    dmloadcf -y dom1config
    ```

12. Build the `tolower` client

    ```
    buildclient -f tolower.c -o tolower
    ```

13. Boot the Tuxedo domain

    ```
    tmboot -y
    ```

# Run the Example

Run each client to demonstrate interoperability between Tuxedo and WebLogic Server.

## WebLogic Server to Tuxedo Interoperability

Start a WebLogic Server client from the `SAMPLES_HOME\server\examples\src\examples\wtc\atmi\simpapp` directory to invoke the `TOUPPER EJB` and connect to the Tuxedo `TOUPPER` service. Use the following command:

```
ant run
```

The Tuxedo service replies to your WebLogic Server application with:

```
Buildfile: build.xml
run:
[java]
[java] Beginning statefulSession.Client...
[java]
[java] Creating Toupper
[java]
[java] converting allcaps
[java] converted to: ALLCAPS
[java]
[java] End statefulSession.Client...
[java]
BUILD SUCCESSFUL
```

## Tuxedo to WebLogic Server Interoperability

Run the `tolower` client from the Tuxedo `simpapp` directory to invoke the Tolower EJB and return the results to the client. Use the following command:

```
tolower ALLSMALL
```

The WebLogic Server service replies to your Tuxedo client with:

```
Returned string is: allsmall
```