Just Get it Written: Deploying Applications to WebLogic Server Using JDeveloper and WLS Console

Peter Koletzke

Technical Director &
Principal Instructor

A | ORACLE ACE Director

Co-author: Duncan Mills, Oracle

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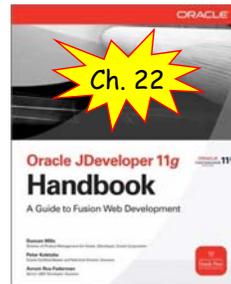**quovera**

Moral

*Don't get it right,
just get it written.*

—*James Thurber*,
*The Sheep in Wolf's Clothing;
Fables for our Time*

Agenda

- Deployment concepts

- Hands-on practice notes

Ch. 22

ORACLE

Oracle JDeveloper 11g
Handbook
A Guide to Fusion Web Development

*Slides, hands-on practice, sample
application, schema setup files are
at kscope14.com & quovera.com*

*4:30 today: Intro to
ADF Faces layout*

Application Deployment

- Copying and installing application files to a runtime environment
  - Development, test, QA, production
  - Occurs multiple times for an application
    - Bug fixes, enhancements, updates
  - Files are packaged, copied to the server
    - The server then unpackages the files
- You may be responsible
- Someone else may be responsible
  - You need to provide the files to deploy
  - Testing those files beforehand is useful

Preparation for Deployment

- Development and testing complete
- Required libraries and supporting files are identified
- Application server is available
  - Has an appropriate web container (JVM) process
    - For example, WebLogic Server
  - You know the server administration password
    - Or you know someone who knows

Deployment Objectives

- Files must be archived into specially formatted Java EE JAR files
- EAR: enterprise application archive
  - The main deployment file
  - Contains one or more WAR files
  - Configuration files
- WAR: web application archive
  - Contains all application files
    - Model, ViewController
- ADF Library JARs
  - Store common code
   - Model for example

Not part of the practice

Sample EAR File

JDeveloper Archive Viewer

hrdeploy.ear			
Path	Date	Size	Compressed
META-INF/HR_DB-jdbc.xml	6/20/14 6:14 PM	1.00 KB	1.00 KB
META-INF/application.xml	6/20/14 6:14 PM	477	477
META-INF/cwallet.sso	6/17/14 8:50 PM	3.18 KB	3.18 KB
META-INF/weblogic-application.xml	6/17/14 8:43 PM	1.58 KB	1.58 KB
adf/META-INF/adf-config.xml	6/17/14 8:50 PM	1.21 KB	1.21 KB
adf/META-INF/connections.xml	6/17/14 8:50 PM	987	987
adf/META-INF/wsm-assembly.xml	6/17/14 8:43 PM	127	127
hrdeploy.war	6/20/14 6:14 PM	792.99 KB	792.99 KB
lib/adf-loc.jar	6/20/14 6:14 PM	273	273

Archive

- One app (WAR) file in this case
- Several XML configuration files
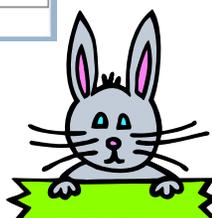
Sample WAR File

hrdeploy.war	
Path	Date
WEB-INF/adfc-config.xml	6/17/14 8:43 PM
WEB-INF/classes/META-INF/adf-settings.xml	6/17/14 9:06 PM
WEB-INF/classes/META-INF/adfm.xml	6/20/14 6:14 PM
WEB-INF/classes/hr/model/EmpManagerFkAssoc.xml	6/17/14 9:06 PM
WEB-INF/classes/hr/model/EmpManagerFkLink.xml	6/17/14 9:06 PM
WEB-INF/classes/hr/model/Employees.xml	6/17/14 9:03 PM
WEB-INF/classes/hr/model/EmployeesView.xml	6/17/14 9:03 PM
WEB-INF/classes/hr/model/HRService.xml	6/17/14 9:06 PM
WEB-INF/classes/hr/model/Model.jpx	6/17/14 9:06 PM
WEB-INF/classes/hr/model/common/bc4j.xcfg	6/17/14 9:06 PM

Archive

- Can alternatively be deployed without an EAR
- Contains files inside WEB-INF (main runtime) folder

Agenda

- Deployment concepts

- Hands-on practice notes

Objectives

✓ Understand the contents of the WAR and EAR

✓ Set up a standalone WLS domain for testing

✓ Practice deployments to WLS using JDeveloper and/or WLS console

Uses Middleware 12c but 11g is similar

Standalone WebLogic

- Use it to experiment with a local deployment
  - After development, before server deployment
- One-time step: set up the WLS domain
  - WLS is part of Oracle Fusion Middleware
  - Installed with JDeveloper – can be run as a standalone server
- Access it in JDev and WLS console
- Run the application to test its functionality
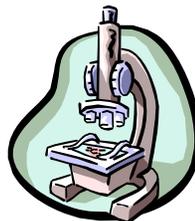
WLS Configuration Wizard

This is the "quick start" wizard

EAR Deployment Profile
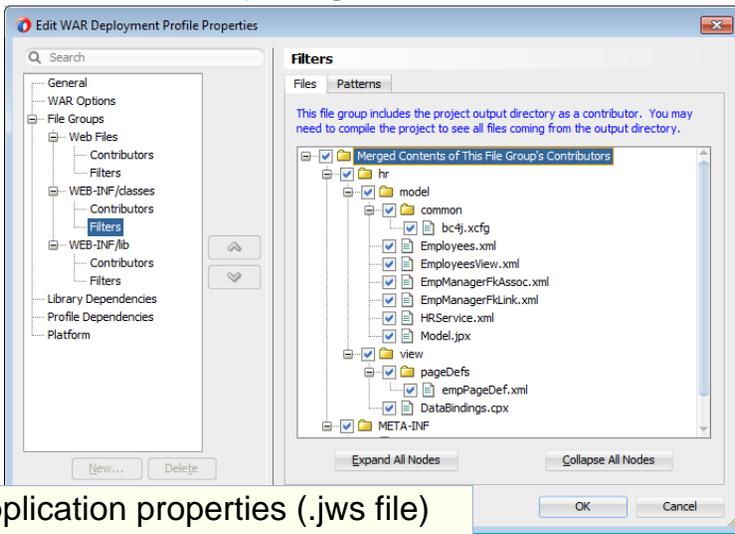
- In application properties (.jws file)
- Default profile created with the Fusion Web App template

WAR Deployment Profile
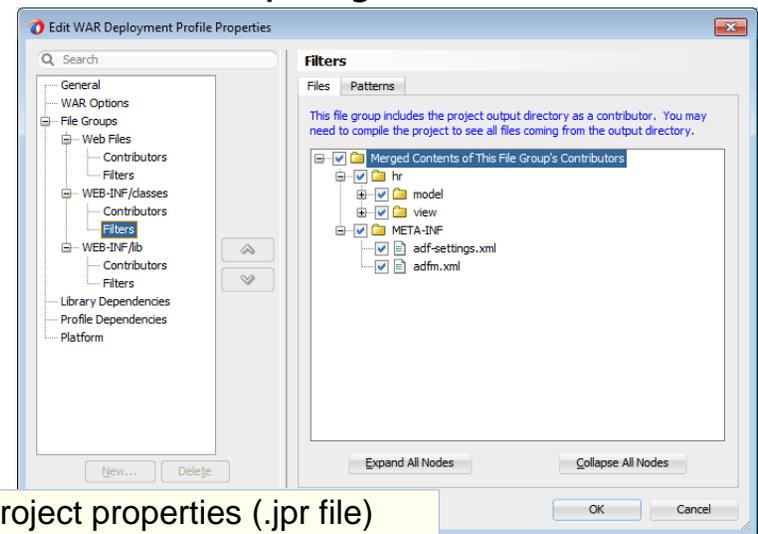
- In project properties (.jpr file)
- Default also created with the Fusion Web App template

The Application Menu

- Deploy = EAR file deployment
- Application Properties = Edit the EAR deployment profile
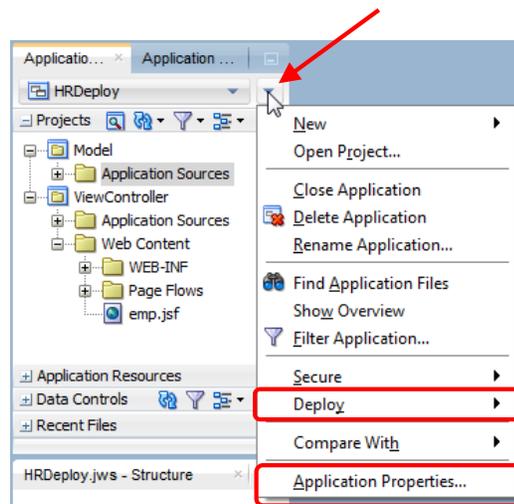
The Project Menu

- Deploy = WAR file deployment
  - **Note**: the EAR deployment will create the WAR as well
- Project Properties = Edit the WAR deployment profile

JDBC Descriptor Deployment

Application Properties - C:\JDevProjects\JDev121\HRDeploy\HRDeploy.jws

Search
- Application Content
- Customization Libraries
- Deployment
  - **Weblogic**
- IDE Performance Cache
- Libraries and Classpath
- Maven
- Resource Bundles
- Run
- WS Policy Store

Deployment: Weblogic

○ Use Custom Settings   Customize Settings...
● Use Application Settings

Security Deployment Options
- ○ Use the existing settings in weblogic-application.xml
- ● Update weblogic-application.xml with the following settings during deployment
  - Overwrite the following security objects if they were previously deployed.
    - ☑ Application Policies
    - ☑ Credentials
  - Migrate the following security objects.
    - ☑ Users and Groups

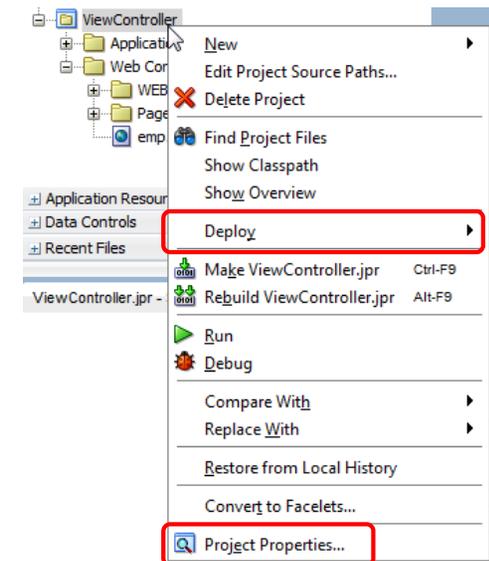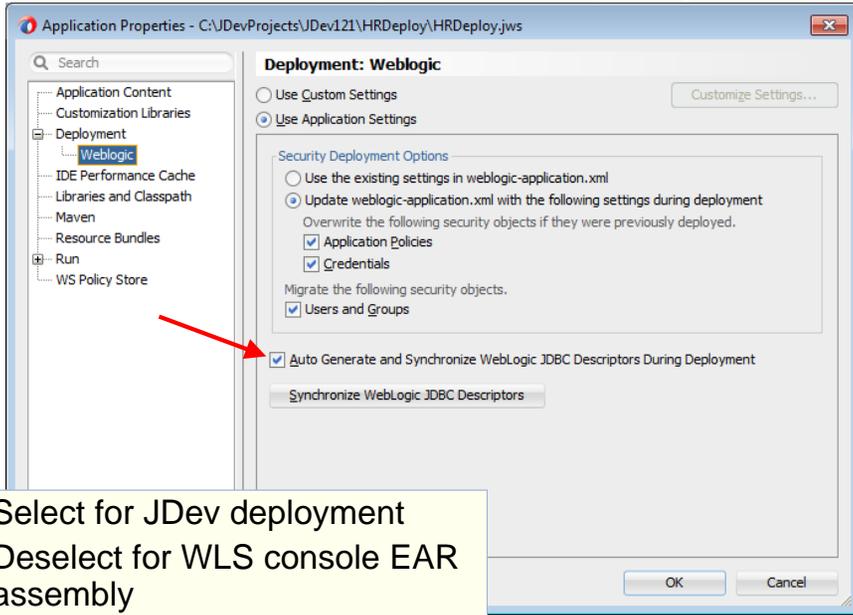☑ Auto Generate and Synchronize WebLogic JDBC Descriptors During Deployment

Synchronize WebLogic JDBC Descriptors

OK   Cancel

- Select for JDev deployment
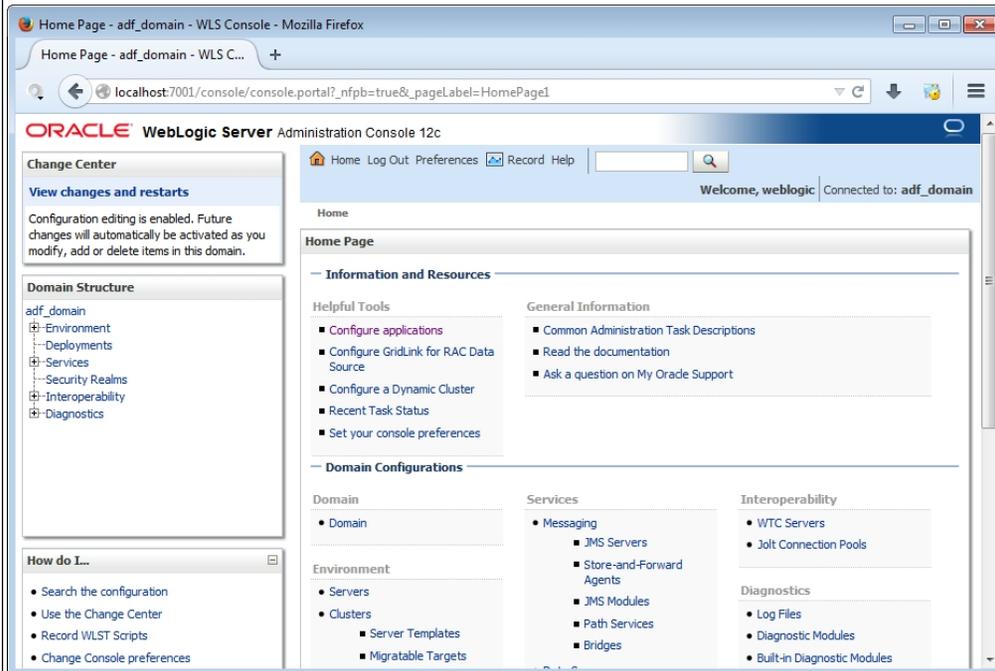- Deselect for WLS console EAR assembly

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Data Source

- Alternative to JDBC descriptor
- Named resource on the server
  – User ID, password, host, port, SID
- Application references the name
- The name is the same on development, test, QA, and production servers
  – Deployments use the same EAR file
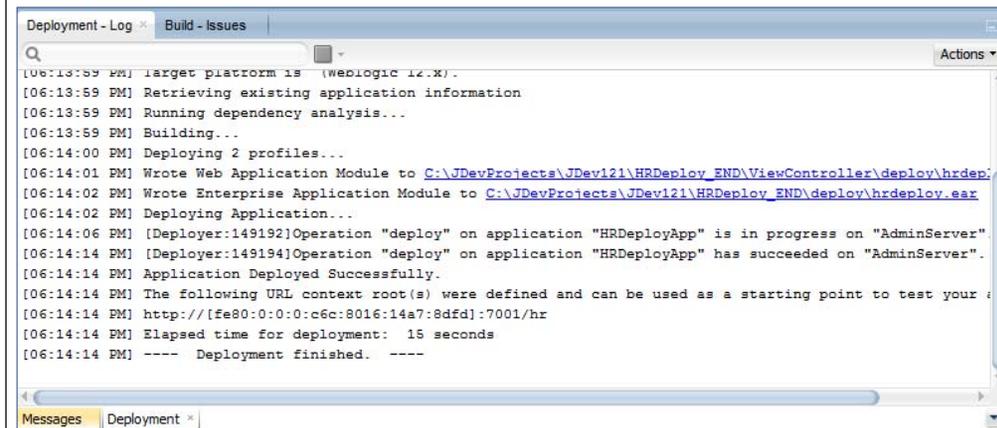- Credentials don't float around with the app files

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WLS Admin Console

Home Page - adf_domain - WLS Console - Mozilla Firefox

Home Page - adf_domain - WLS C...   +

localhost:7001/console/console.portal?_nfpb=true&_pageLabel=HomePage1

ORACLE WebLogic Server Administration Console 12c

Home Log Out Preferences Record Help

Welcome, weblogic | Connected to: **adf_domain**

Change Center

View changes and restarts

Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Domain Structure

adf_domain
- Environment
  - Deployments
- Services
- Security Realms
- Interoperability
- Diagnostics

How do I...
- Search the configuration
- Use the Change Center
- Record WLST Scripts
- Change Console preferences

Home

Home Page

Information and Resources

Helpful Tools
- Configure applications
- Configure GridLink for RAC Data Source
- Configure a Dynamic Cluster
- Recent Task Status
- Set your console preferences

General Information
- Common Administration Task Descriptions
- Read the documentation
- Ask a question on My Oracle Support

Domain Configurations

Domain
- Domain

Environment
- Servers
- Clusters
  - Server Templates
  - Migratable Targets

Services
- Messaging
  - JMS Servers
  - Store-and-Forward Agents
  - JMS Modules
  - Path Services
  - Bridges

Interoperability
- WTC Servers
- Jolt Connection Pools

Diagnostics
- Log Files
- Diagnostic Modules
- Built-in Diagnostic Modules

Deployment Log Window

Deployment - Log ×   Build - Issues

Actions ▾

[06:13:59 PM] Target platform is (Weblogic 12.x).
[06:13:59 PM] Retrieving existing application information
[06:13:59 PM] Running dependency analysis...
[06:13:59 PM] Building...
[06:14:00 PM] Deploying 2 profiles...
[06:14:01 PM] Wrote Web Application Module to C:\JDevProjects\JDev121\HRDeploy_END\ViewController\deploy\hrdep:
[06:14:02 PM] Wrote Enterprise Application Module to C:\JDevProjects\JDev121\HRDeploy_END\deploy\hrdeploy.ear
[06:14:02 PM] Deploying Application...
[06:14:06 PM] [Deployer:149192]Operation "deploy" on application "HRDeployApp" is in progress on "AdminServer".
[06:14:14 PM] [Deployer:149194]Operation "deploy" on application "HRDeployApp" has succeeded on "AdminServer".
[06:14:14 PM] Application Deployed Successfully.
[06:14:14 PM] The following URL context root(s) were defined and can be used as a starting point to test your a
[06:14:14 PM] http://[fe80:0:0:0:c6c:8016:14a7:8dfd]:7001/hr
[06:14:14 PM] Elapsed time for deployment: 15 seconds
[06:14:14 PM] ---- Deployment finished. ----

Messages   Deployment ×

- Usually in the bottom of the JDeveloper IDE window
- Click the Deployment tab

We're Not Done Yet?

This is not the end.
It is not even the beginning
of the end.
But it is, perhaps,
the end of the beginning.

—*Winston Churchill (1874–1965)*

- Please fill out the evals
- Books co-authored with Dr. Paul Dorsey, Avrom Roy-Faderman, & Duncan Mills

QUOVERA

Ch. 22

http://www.quovera.com

- Founded in 1995 as Millennia Vision Corp.
- Profitable without outside funding
- Consultants each have 10+ years industry experience
- Strong High-Tech industry background
- 200+ clients/300+ projects
- JDeveloper Partner
- More technical white papers and presentations on the web site

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The Sheep in Wolf's Clothing

Not very long ago there were two sheep who put on wolf's clothing and went among the wolves as spies, to see what was going on. They arrived on a fete day, when all the wolves were singing in the taverns or dancing in the street. The first sheep said to his companion, "Wolves are just like us, for they gambol and frisk. Every day is fete day in Wolfland." He made some notes on a piece of paper (which a spy should never do) and he headed them "My Twenty-Four Hours in Wolfland," for he had decided not to be a spy any longer but to write a book on Wolfland and also some articles for the *Sheep's Home Companion.*

The Sheep in Wolf's Clothing

The other sheep guessed what he was planning to do, so he slipped away and began writing a book called "My Ten Hours in Wolfland." The first sheep suspected what was up when he found his friend had gone, so he wired a book to his publisher called "My Five Hours in Wolfland," and it was announced for publication first. The other sheep immediately sold his manuscript to a newspaper syndicate for serialization.

The Sheep in Wolf's Clothing

Both sheep gave the same message to their fellows: wolves were just like sheep, for they gambolled and frisked, and every day was a fete day in Wolfland. The citizens of Sheepland were convinced by all this, so they drew in their sentinels and they let down their barriers. When the wolves descended on them one night, howling and slavering, the sheep were as easy to kill as flies on a windowpane.