IBM

Web Services (JSR 101/109) Tutorial/Demonstration Development to Deployment Phase

Create Web Service Application (Provider/Client) and Enable WS-Security

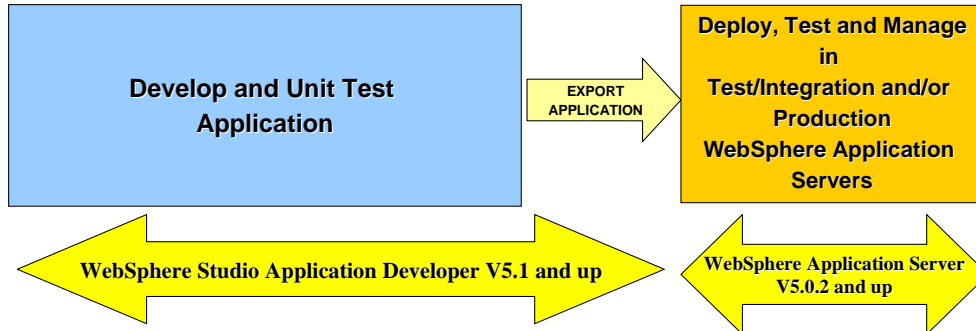**WebSphere.** software

@business on demand software

Web Services demonstration goal

Learn how to develop, test, debug and deploy JSR 101/109 Web Services applications using WebSphere Studio Tools and WebSphere Application Server Runtime

Education format is a set of Web Based simulation that show end to end develop, test and deploy/manage stages of Web Services Application development and deployment cycle
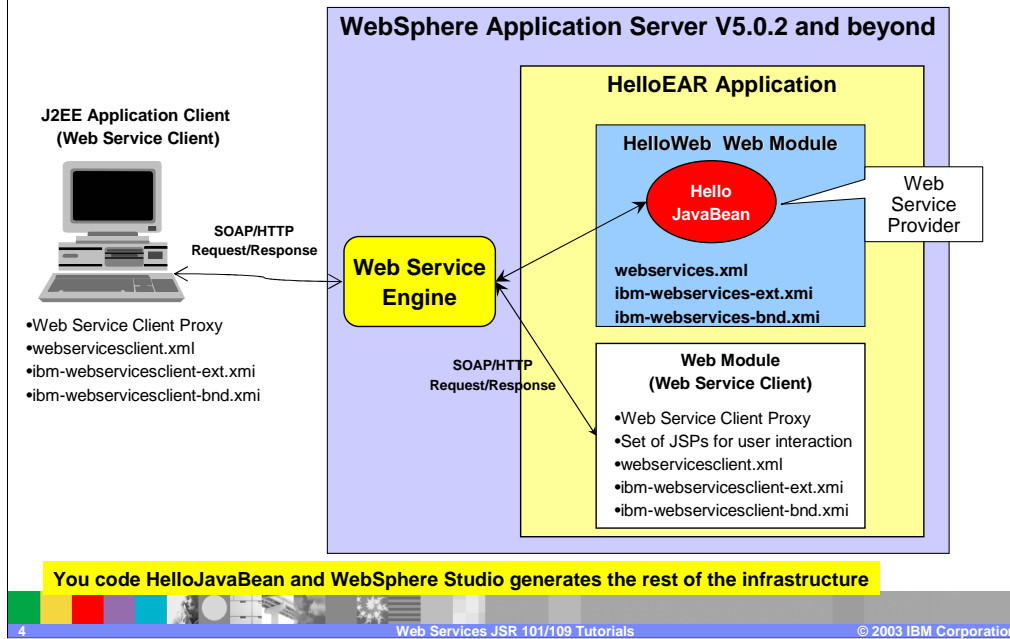
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End to end stages and scenario - Use case

- Stages of Development, Test and Deployment

Develop and Unit Test Application	EXPORT APPLICATION →	**Deploy, Test and Manage in Test/Integration and/or Production WebSphere Application Servers**

⬌ **WebSphere Studio Application Developer V5.1 and up**

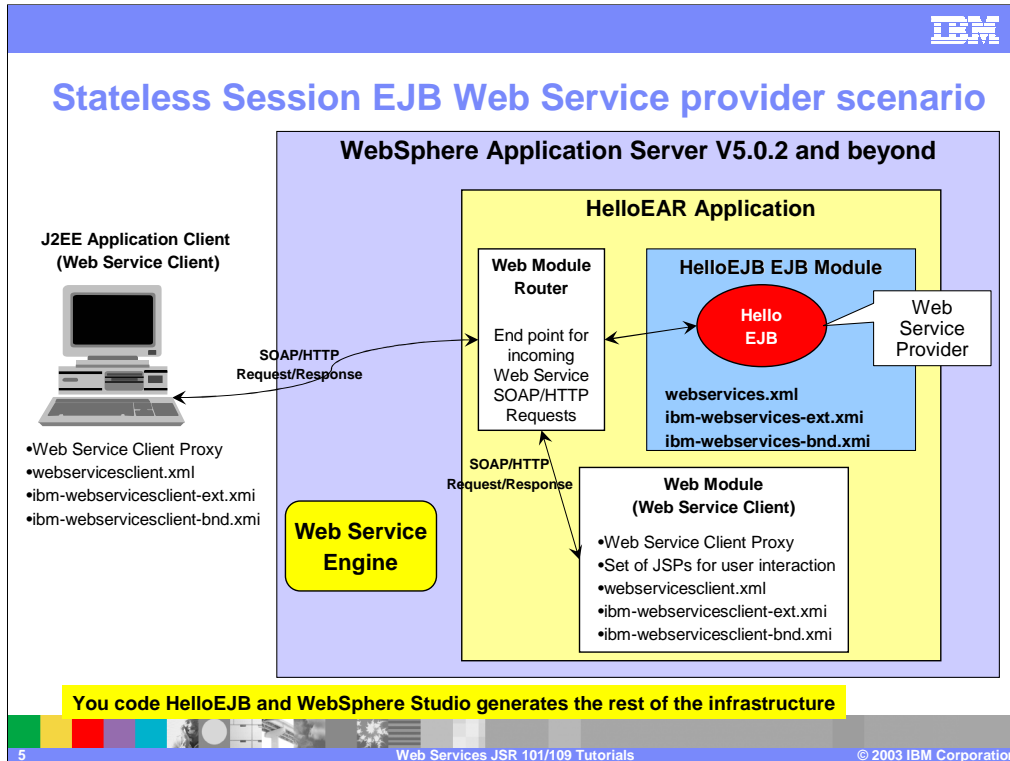⬌ **WebSphere Application Server V5.0.2 and up**

- Scenario uses simple examples (like Hello Java Bean or Hello EJB) that can then be extrapolated easily to complex Web Services application.
  - For example, Steps to enable Web Services for a complex EJB is same as simple Hello EJB (bar any mapping issues)

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This is the example used in this presentation when giving the examples of WSDL, Deployment Descriptors, Client code, and so on.
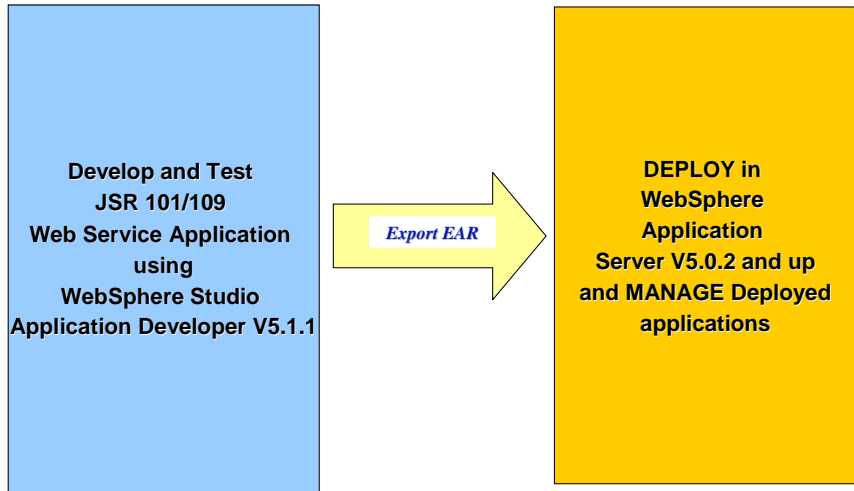
This is the example used in this presentation when giving the examples of WSDL, Deployment Descriptors, Client code, and so on.

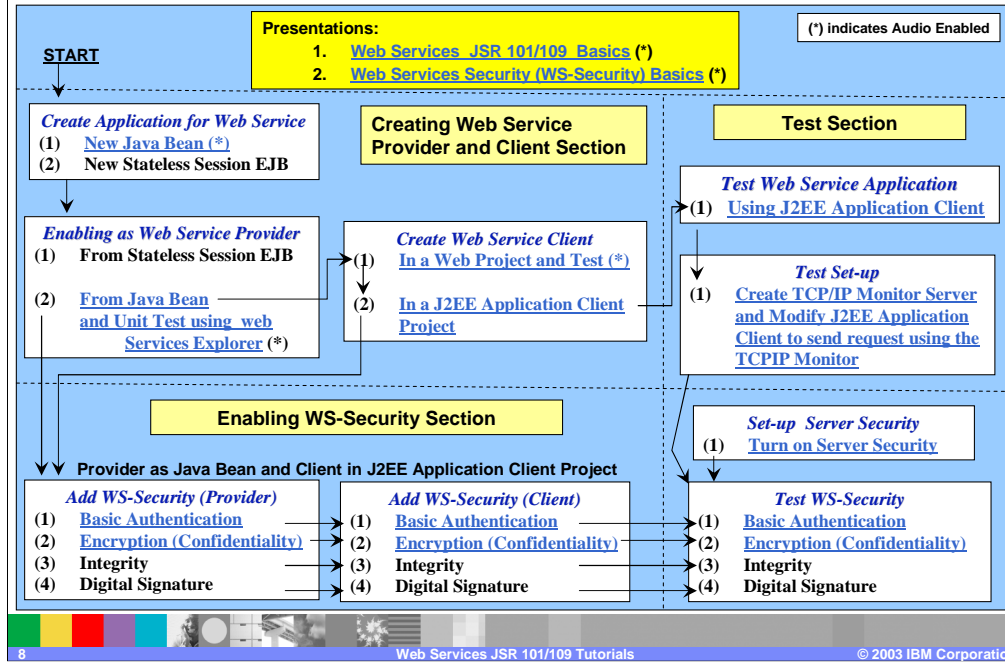## Difference between Java Bean and EJBs as providers

- Creating Web Service Provider for EJB has additional option to specify the Router (how to call the EJB)
  - Traditionally, Session EJBs can only be called using RMI-IIOP
  - For SOAP/HTTP protocol, the tool will add Web module that will act as the receiver of SOAP/HTTP request and then the Web module will call the EJB Web Service Provider
  - For SOAP/JMS protocol, the tool will add EJB module containing Message Driven Bean that will act as the receiver of SOAP/JMS request, and then the MDB will call the EJB Web Service Provider

- Creating Web Service Client and Testing the Client/Provider interaction process is exactly the same for Java Bean and Stateless Session EJB

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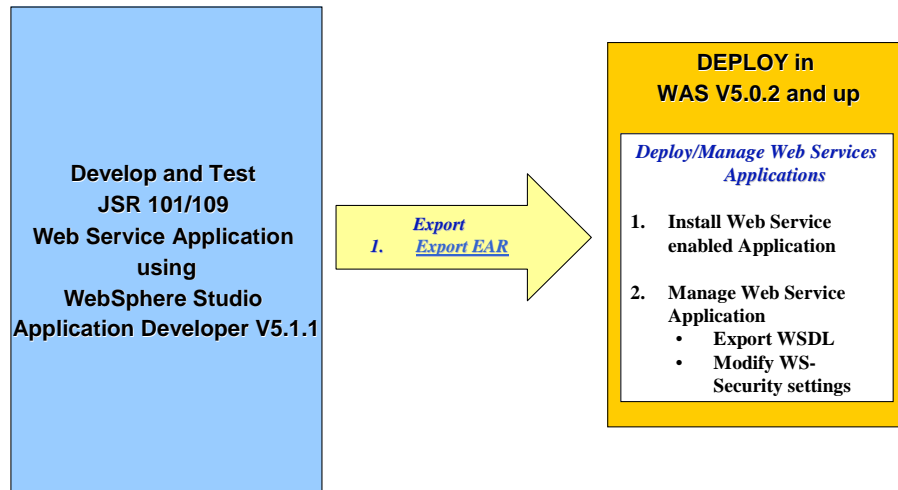# Web Service application life cycle

**Develop and Test
JSR 101/109
Web Service Application
using
WebSphere Studio
Application Developer V5.1.1**

Export EAR

**DEPLOY in
WebSphere
Application
Server V5.0.2 and up
and MANAGE Deployed
applications**

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Develop and test using Application Developer V5.1.1

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START

Presentations:
1. Web Services JSR 101/109 Basics (*)
2. Web Services Security (WS-Security) Basics (*)

(*) indicates Audio Enabled

Creating Web Service Provider and Client Section

Test Section

Create Application for Web Service
(1) New Java Bean (*)
(2) New Stateless Session EJB

Enabling as Web Service Provider
(1) From Stateless Session EJB
(2) From Java Bean and Unit Test using web Services Explorer (*)

Create Web Service Client
(1) In a Web Project and Test (*)
(2) In a J2EE Application Client Project

Test Web Service Application
(1) Using J2EE Application Client

Test Set-up
(1) Create TCP/IP Monitor Server and Modify J2EE Application Client to send request using the TCPIP Monitor

Enabling WS-Security Section

Set-up Server Security
(1) Turn on Server Security

Provider as Java Bean and Client in J2EE Application Client Project

Add WS-Security (Provider)
(1) Basic Authentication
(2) Encryption (Confidentiality)
(3) Integrity
(4) Digital Signature

Add WS-Security (Client)
(1) Basic Authentication
(2) Encryption (Confidentiality)
(3) Integrity
(4) Digital Signature

Test WS-Security
(1) Basic Authentication
(2) Encryption (Confidentiality)
(3) Integrity
(4) Digital Signature

Web Services JSR 101/109 Tutorials

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Web Service tutorial – Deployment phase

**Develop and Test
JSR 101/109
Web Service Application
using
WebSphere Studio
Application Developer V5.1.1**

Export
1. *Export EAR*

**DEPLOY in
WAS V5.0.2 and up**

Deploy/Manage Web Services Applications

1. **Install Web Service enabled Application**

2. **Manage Web Service Application**
   - **Export WSDL**
   - **Modify WS-Security settings**

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Summary

- Using simple set of Simulated tutorials, we showed

  - How to develop, test, deploy and manage Web Services Applications
  - Add WS-Security to your Web Service provider and client

- Would appreciate your feedback in terms of how this set of demos helped you better understand Web Service Application development in WebSphere Studio tool and Application Server

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