



Module Presenter's Manual *for* **Creating Services for the Web**

***Effective from: September 2017
Ver. 1.0***



Amendment Record

Version No.	Effective Date	Change	Replaced Pages
1.0	September 2017	New	-

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1. Introduction

At the end of this course, students will be able to:

- Learn about Java EE 7 Web Services Framework and Technologies
- Understand Service Oriented Architecture (SOA)
- Learn about Web Service Standards
- Learn the Java APIs for XML Processing
- Learn about SOAP
- Understand WSDL and UDDI
- Learn about Web service endpoints
- Understand packaging and deployment of Web Services
- Learn about Web service clients and modes of communication
- Understand exception handling in Web Services
- Learn about RESTful Web services.

2. Information on Session Allocation

Module	Online (No. of Hrs)
Creating Services for the Web	16

Throughout this Presenter's Manual, the module **Creating Services for the Web** will be referred to as **WEBSRV**.










3. Module Deliverables available on OnlineVarsity

To aid the learning process, following are the deliverables

Student Deliverables:

1. Learner's Guide (eBook)

Resources available on OnlineVarsity for Students:

Icons	Feature - Description/Functionality
	Download Book - Student has the option to download the subject related e-book and read offline.
	Glossary - Student can access a list of subject related specialized words with their definitions.
	FAQ - Student can access frequently asked questions and their answers.
	Show Me How - Student can view a step-wise simulation/demonstration of the module related topics.
	Practice 4 Me - Student can test and evaluate their understanding of module related topics.
	Work Assignments - Student can solve scenario based lab assignments (Hands-on). The faculty will evaluate and give their feedbacks.
	References - Student can access additional subject related material for reading.
	Feedback - Student can provide feedback on the course material.
	Ask to Learn – Student can submit subject related technical queries. Queries submitted will be directed to the particular course coordinator/head.

4. Week-wise Session Schedule

- A Session has duration of 2 hours.

➤ Week-Wise Schedule

Week	Day 1	Day 2	Day 3	Day 4
1	Session 1 WEBSRV- TL1	Session 2 WEBSRV- TL2	Session 3 WEBSRV- TL3	Session 4 WEBSRV- TL4
2	Session 5 WEBSRV- TL5	Session 6 WEBSRV- TL6	Session 7 WEBSRV- TL7	Session 8 WEBSRV- TL8

WEBSRV: Creating Services for the Web

TL: Online Session

5. Session Coverage

Session No.	Session Title	Session Details	Deliverables' Mapping
1	WEBSRV-TL1	<p>All the topics as listed below from Session 1 and Session 2 of <i>Developing Java Web Services</i> book should be covered in this session.</p> <p><u>Session 1 – Introduction to Web Services</u></p> <ul style="list-style-type: none"> ➤ Define Web services and describe their purpose ➤ Describe Service Oriented Architecture (SOA) ➤ Describe role of XML, SOAP, Registry standards, and WSDL in Web services ➤ Describe purpose of using JAXP in processing XML documents ➤ Explain parsing of XML document using SAX and DOM ➤ Describe JAX-WS ➤ Explain JAXR architecture, its components, and its interfaces ➤ Describe the purpose and features of SAAJ ➤ Describe purpose and limitations of JAXB and its components ➤ Explain the marshalling and unmarshalling processes <p><u>Session 2 – SOAP, WSDL, and UDDI</u></p> <ul style="list-style-type: none"> ➤ Explain the purpose and advantages of using SOAP in Web Service ➤ Describe the different parts of a SOAP message ➤ Explain SOAP messaging with attachment ➤ Define Document/Literal SOAP and RPC/Literal SOAP messaging modes ➤ Explain transportation of SOAP over HTTP protocol ➤ List sub-elements of SOAP fault 	<p><u>Developing Java Web Services</u></p> <p>Session 1 & 2</p> <p>XP – Session 1 & 2 TG - Session 1 & 2</p>

Session No.	Session Title	Session Details	Deliverables' Mapping
		<p>element and describe SOAP fault codes</p> <ul style="list-style-type: none"> ➤ Explain the purpose of a WSDL file and describe its elements ➤ Describe UDDI model ➤ Explain the ebXML Registry standards 	
2	WEBSRV-TL2	<p>The workshop lessons of Session 1 and Session 2 of <i>Developing Java Web Services</i> course should be covered in this session.</p>	<p><u>Developing Java Web Services</u></p> <p>(OnlineVarsity)</p> <p>Session 1 Session 2</p>
3	WEBSRV-TL3	<p>All the topics as listed below from Session 3 and Session 4 of <i>Developing Java Web Services</i> book should be covered in this session.</p> <p><u>Session 3 – Web Service Endpoints</u></p> <ul style="list-style-type: none"> ➤ Explain the guidelines to design Web service endpoints ➤ Describe the method to package to deploy a Web service ➤ Explain the process of invoking Web service <p><u>Session 4 – Designing Web Service Clients</u></p> <ul style="list-style-type: none"> ➤ Explain Web Service Clients ➤ Describe the Modes of Communication ➤ Explain how to Locate and Access the Web Services ➤ Explain how to handle Web Service Exceptions 	<p><u>Developing Java Web Services</u></p> <p>Session 3 & 4</p> <p>XP – Session 3 & 4 TG - Session 3 & 4</p>
4	WEBSRV-TL4	<p>The workshop lessons of Session 3 and Session 4 of <i>Developing Java Web Services</i> course should be covered in this session.</p>	<p><u>Developing Java Web Services</u></p> <p>(OnlineVarsity)</p> <p>Session 3</p>

Session No.	Session Title	Session Details	Deliverables' Mapping
			Session 4
5	WEBSRV-TL5	<p>All the topics as listed below from Session 5 of <i>Developing Java Web Services</i> book should be covered in this session.</p> <p><u>Session 5 – JAX-WS</u></p> <ul style="list-style-type: none"> ➤ Explain Web services on Java Enterprise Edition platform ➤ Explain Java API for XML based Web services (JAX-WS) ➤ Explain the need of JAX-WS ➤ Explain the features and standards of JAX-WS ➤ Explain the JAX-WS architecture ➤ Explain JAX-WS annotations ➤ Explain JAX-WS programming model 	<p><u>Developing Java Web Services</u></p> <p>SG – Session 5 XP – Session 5 TG – Session 5</p>
6	WEBSRV-TL6	<p>The workshop lessons of Session 5 of <i>Developing Java Web Services</i> course should be covered in this session.</p>	<p><u>Developing Java Web Services</u></p> <p>(OnlineVarsity)</p> <p>Session 5</p>
7	WEBSRV-TL7	<p>All the topics as listed below from Session 6 of <i>Developing Java Web Services</i> book should be covered in this session.</p> <p><u>Session 6 – RESTful Web Services</u></p> <ul style="list-style-type: none"> ➤ Explain RESTful Web Services ➤ Describe JAX-RS API ➤ Explain how to build a RESTful Web Service with JAX-RS API 	<p><u>Developing Java Web Services</u></p> <p>SG – Session 6 XP – Session 6 TG – Session 6</p>
8	WEBSRV-TL8	<p>The workshop lessons of Session 6 of <i>Developing Java Web Services</i> course should be covered in this session.</p>	<p><u>Developing Java Web Services</u></p> <p>(OnlineVarsity)</p> <p>Session 6</p>

6. Library References

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| ➤ Java Web Services: Up and Running by Martin Kalin |
| ➤ Restful Java Web Services by Jose Sandoval |

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