

UNIT - I

Chapter 1 : Web Services Basics		1-1 to 1-51
1.1	Introduction to Web Services	1-1
1.2	Types of Web Services	1-2
1.2.1	Simple (Type 1) Web Service	1-2
1.2.2	Subcategories of Simple (Type 1) Web Services	1-3
1.2.3	Complex (Type 2) Web Service	1-3
1.2.4	Subcategories of Complex (Type 2) Web Service	1-3
1.3	The Internet Communication Protocols.....	1-4
1.3.1	The ISO Open Systems Interconnection (OSI) Model	1-4
1.3.2	The TCP/IP Network Protocol	1-7
1.4	The Client-Server Architecture	1-10
1.5	Middleware	1-10
1.6	Interprocess Communication.....	1-11
1.6.1	Messaging based Interprocess Communication.....	1-11
1.6.2	Synchronous Messaging based Interprocess Communication.....	1-12
1.6.3	Asynchronous Messaging based Interprocess Communication.....	1-12
1.6.4	Socket based Message Passing Interprocess Communication.....	1-13
1.7	Synchronous Middleware.....	1-13
1.7.1	Remote Procedure Call (RPC).....	1-13
1.7.2	Remote Method Invocation (RMI).....	1-14
1.8	Asynchronous Middleware.....	1-15
1.8.1	Stored and Forward Asynchronous Middleware	1-15
1.8.2	Publish / Subscribe Asynchronous Middleware	1-16
1.8.3	Event-Driven Processing Asynchronous Middleware.....	1-16
1.8.4	Point-to-point Queuing Middleware.....	1-17
1.9	Message Oriented Middleware (MOM)	1-18
1.9.1	Features of Message Oriented Middleware (MOM).....	1-18
1.9.2	Java Message Service (JMS).....	1-19
1.10	XML Document Structure.....	1-20
1.11	XML URIs and Namespaces.....	1-22
1.12	Simple and Complex Types	1-23
1.13	Document Navigation and Transformation	1-23
1.14	Introduction to SOAP.....	1-24
1.15	Advantages and Disadvantages of SOAP.....	1-25
1.16	SOAP Message Structure	1-26
1.16.1	SOAP Message Elements	1-27
1.17	SOAP Communication Model.....	1-30
1.17.1	RPC Style SOAP Services	1-30
1.17.2	Document (Message)-Style SOAP Services.....	1-31
1.18	SOAP over HTTP.....	1-31
1.19	What are Service Registries?.....	1-32
1.20	Service Discovery	1-33

1.20.1	Types of Service Discovery.....	1-33
1.21	What is UDDI (Universal Description, Discovery and Integration) ?.....	1-34
1.21.1	UDDI - Data Structures.....	1-34
1.21.2	Working of UDDI Registry.....	1-36
1.22	WSDL and UDDI.....	1-36
1.22.1	Mapping WSDL to UDDI Schemas.....	1-37
1.23	Using Web Services with the UDDI Registry.....	1-37
1.24	UDDI Deployment Possibilities.....	1-38
1.25	Introduction to Software Architecture.....	1-39
1.25.1	Attributes of System Quality.....	1-39
1.26	What is Service-Oriented Architecture (SOA) ?.....	1-40
1.26.1	The Basic Principles of Service Orientation.....	1-40
1.27	Service Roles in an SOA.....	1-41
1.28	Service-oriented Design and Development Principles.....	1-42
1.28.1	Service Coupling.....	1-43
1.28.2	Service Cohesion.....	1-43
1.28.3	Service Granularity.....	1-43
1.29	Web Services Development Lifecycle.....	1-44
1.30	The Service Planning Phase.....	1-44
1.31	The Service Analysis Phase.....	1-45
1.31.1	Portfolio, Cost Estimation and Cost Benefit Analysis.....	1-46
1.31.2	Service Identification and Scoping.....	1-46
1.31.3	Service Gap and Realization Analysis.....	1-47
1.32	The Service Design Phase.....	1-47
1.32.1	Specifying Service Policies.....	1-48
1.32.2	Services Integration Model.....	1-48
1.33	The Service Construction Phase.....	1-49
1.34	The Service Test Phase.....	1-49
1.35	The Service Provisioning Phase.....	1-49
1.36	The Service Deployment Phase.....	1-50

UNIT - II

➤ Chapter 2 : The REST Architectural Style		2-1 to 2-22
2.1	Introducing HTTP.....	2-1
2.1.1	The HTTP Request Circle :.....	2-2
2.1.2	XHR - XML Http Request :.....	2-2
2.2	The Core Architectural Elements of a RESTful System.....	2-4
2.2.1	Separation of Client and Server.....	2-4
2.2.2	Statelessness.....	2-4
2.2.3	Communication between Client and Server.....	2-5
2.3	Description and Discovery of RESTful Web Services.....	2-6
2.3.1	RESTful Web Services.....	2-6
2.4	Java Tools and Frameworks for Building RESTful Web Services.....	2-13