* Introduction to REST Web Services **Duration: 2 Hours**
  + Why Web Services?
  + Service-Oriented Architecture
  + Web Services History
  + Types of Web Services
  + The SOAP Vision
  + The REST Vision
  + Why/What are HTTP, XML and JSON?
  + Real time example of Web Services
  + Web Services Architecture
* Introduction & Installation of necessary applications/tools **Duration: 4 Hours**
  + Maven Introduction & Installation of Maven Build Tool
  + GIT & Tortoise GIT Client
  + Apache Tomcat
  + Eclipse
  + Fiddler
  + Postman REST Client
  + SOAP UI
  + XML Validator
  + JSON Path
  + XML Path or XPath
  + Junit
* Creating the First Restful Web Services using Apache Jersey **Duration: 4 Hours**
  + Creating Web Service Producer Application
  + Creating Web Service Consumer Application
  + Accessing Web Service Producer Application using Consumer i.e Standalone Java Application (using HttpClient), Browser, SOAP UI & Postman
* Introduction to XML **Duration: 2 Hours**
  + Why XML
  + Elements & Attributes
  + XML Schema [DTD & XSD]
  + PCDATA & CDATA
  + Introduction to XPath
  + XML Parsers
  + XML to Java Object and Vice-versa using JAXB example
* Introduction to JSON **Duration: 2 Hours**
  + Why JSON
  + JSON Syntax
  + JSON Data & Values
  + JSON Objects
  + JSON Arrays
  + JSON versus XML
  + JSON to Java Object and Vice-versa using Jackson example
* Introduction to JAXB API & its Annotations **Duration: 2 Hours**
  + @XmlRootElement
  + @XmlElement
  + @XmlAttribute
  + @XmlType
  + @XmlElementWrapper
  + @XmlAccessorType
  + @XmlTranient
* JAXB Marshalling and Unmarshalling **Duration: 2 Hours**
  + JAXBContext Class
  + Marshaller
  + Unmarshaller
* Introduction to Jackson Framework **Duration: 2 Hours**
  + Marshalling using Jackson
  + Unmarshalling using Jackson
* JAX-RS API Introduction **Duration: 2 Hours**
  + Root Resource Classes
  + Resource Methods
  + Root Resource Classes with Interfaces
  + Root Resource Classes with Super Classes
* JAX-RS Annotations **Duration: 8 Hours**
  + @Path
  + @<Resource\_Method\_Designators>
    - @GET
    - @POST
    - @PUT
    - @DELETE
    - @HEAD
    - @OPTIONS
  + @<\*>Param
    - @PathParam
    - @QueryParam
    - @FormParam
    - @HeaderParam
    - @CookieParam
    - @MatrixParam
    - @BeanParam
  + @DefaultValue
  + @Produces
  + @Consumes
  + @FormDataParam
  + @ApplicationPath
* JAX-RS API Classes & Interfaces **Duration: 8 Hours**
  + MediaType
  + JAXB and JSON JAX-RS Handlers
  + Generating Complex Responses using “Response” Object
  + Request
  + ResponseBuilder
  + Status
  + HttpHeaders
  + Application
* Uploading & Downloading Files (Dealing with Large Binary Objects) **Duration: 2 Hours**
  + Uploading files using Jersey Framework
    - @FormDataParam Annotation
    - FormDataContentDisposition Class
  + Downloading files using JAX-RS API
* Authentication in Web Services **Duration: 8 Hours**
  + Why Authentication?
  + Types of Authentication
  + More about Authentication
    - Basic Authentication
    - JWT Tokens
    - OAuth / OAuth 2.0
* Testing REST Web Services **Duration: 16 Hours**
  + Testing REST Services (GET, POST, PUT, PATCH, DELETE, OPTIONS) using SOAP UI / Postman
  + Writing Junit Test cases for GET, POST, PUT, PATCH, DELETE and OPTIONS requests
  + Logging Request & Response Data
  + Validate JSON response using JSONPath
  + Validate XML response using XMLPath / XPath and XSD