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| **Restful Web Services using JAX-RS API**   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | **Duration:**   * 4 Weekends - 8 full days – 10 AM to 6 PM * Hours Breakup  |  |  |  |  |  | | --- | --- | --- | --- | --- | | Morning Session 1st Half | 10:00 AM | to | 11:30 AM | 1 Hour 30 Min | | Tea Break | 11:30 AM | to | 12:00 PM | 30 Min | | Morning Session 2nd Half | 12:00 PM | to | 1:30 PM | 1 Hour 30 Min | | Lunch Break | 1:30 PM | to | 2:30 PM | 1 Hour | | Evening Session 1st Half | 2:30 PM | to | 4:00 PM | 1 Hour 30 Min | | Tea Break | 4:00 PM | to | 4:30 PM | 30 Min | | Evening Session 2nd Half | 4:30 PM | to | 6:00 PM | 1 Hour 30 Min |   Total number of hours per day : **6 Hours**  Total number of hours for course : **48 Hours**  **Benefits:**   * Along with learning Restful Web services using JAX-RS API, you’ll also learn   + - XML & JAXB API     - JSON & Jackson Framework * You’ll learn/update/refine your Java knowledge (like Annotations, Inner Classes and Enum’s) * You’ll get exposed to many other widely used development tools (see below) * By the end of the course you’ll be doing/having live web service examples which interact with many web application as listed below using Restful web services   + - Google Maps     - Freegeoip     - openweathermap.org     - Many More …   **Tools Used:**   * Maven Build Tool * GIT Repository & Tortoise GIT Client * Apache tomcat as the web server * Eclipse * Fiddler * Postman REST Client * XML Validator * XJC & Schemagen  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | **Additional Information**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Contact:** | | Pushpa () / Kavya () | | | | **Instructors:** | | | Praveen D (J2EE Tutor of JSpider Basavangudi) | | **Location:** | Floor 2 - Puttanna chetty complex,  Bull Temple Road, Basavangudi,  Bengaluru, Karnataka - 560004 URL: <http://www.jspiders.com/basavanagudi-full> | | | | |   **Schedule and Pricing**  Below are the details about this activity including schedule and pricing information.   |  |  |  | | --- | --- | --- | | **Start Date:** | Saturday, November 11, 2017 10:00 AM IST | | | **End Date:** | | Saturday, November 11, 2017 10:00 AM IST | | **Estimated Cost:** | INR 5000/- | | | |  |   **Prerequisites:**  This course requires pre-requisite knowledge. It is your responsibility to be appropriately prepared. If you need additional training to ensure sufficient knowledge, we recommend you to join **Core Java & J2EE course**.   * Experience with JAVA programming language * Experience of developing web applications using servlet and JSP * Basic knowledge of XML * Web URL Structure * HTTP Protocol, its structure & HTTP Methods * **Candidate need to bring Laptop for practising in class room**   **Restful Web Services Table of Contents**  **Introduction Class**   * Overview of Web Services   + Why Web Services?   + Service-Oriented Architecture   + Web Services History   + Types of Web Services   + The SOAP Vision   + The REST Vision   + Why/What for HTTP, XML and JSON?   + Real time example of Web Services   + Web Services Architecture   **Day 1**   * Installation of necessary applications/tools   + Maven Introduction & Installation of Maven Build Tool   + GIT & Tortoise GIT Client   + Apache Tomcat   + Eclipse   + Fiddler   + Postman REST Client   + XML Validator * Creating the First Restful Web Services using Apache Jersey   + Creating Web Service Producer Application   + Creating Web Service Consumer Application   + Accessing Web Service Producer Application using Consumer (Standalone Java Application), Browser & Postman   **Day 2**   * Introduction to XML   + 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   + Why JSON   + JSON Syntax   + JSON Data & Values   + JSON Objects   + JSON Arrays   + JSON versus XML   + JSON to Java Object and Vice-versa using Jackson example   **Day 3**   * Introduction to JAXB API   + About Java Annotations   + Creating & using our own Annotations * JAXB Annotations   + @XmlRootElement   + @XmlElement   + @XmlAttribute   + @XmlType   + @XmlElementWrapper   + @XmlAccessorType   + @XmlTranient * JAXB Marshalling and Unmarshalling   + JAXBContext Class   + Marshaller   + Unmarshaller * Introduction to Jackson Framework   + Marshalling using Jackson   + Unmarshalling using Jackson   **Day 4**   * HTTP Protocol   + HTTP Protocol Structure   + Key headers & elements of HTTP Request & Response   + “Accept”, “Content-Type”, "Content-Disposition", “Cache-Control” Headers   + HTTP Status Codes   + Differences between HTTP & HTTPS * URI, URL & URN * JAX-RS API Introduction   + Root Resource Classes   + Resource Methods   + Root Resource Classes with Interfaces   + Root Resource Classes with Super Classes * JAX-RS Annotations   + @Path   + @<Resource\_Method\_Designators>     - @GET     - @POST     - @PUT     - @DELETE     - @HEAD     - @OPTIONS   + @<\*>Param     - @PathParam     - @QueryParam     - @FormParam     - @HeaderParam     - @CookieParam     - @MatrixParam     - @BeanParam   + @DefaultValue   + @Produces   + @Consumes   + @FormDataParam   + @ApplicationPath   + @Provider   + @Context   **Day 5**   * JAX-RS API Classes & Interfaces   + MediaType   + JAXB and JSON JAX-RS Handlers   + Builder Design Pattern   + Java’s Inner Classes   + Java’s Enum   + Generating Complex Responses using “Response” Object   + Request   + ResponseBuilder   + Status   + HttpHeaders   + Application   **Day 6**   * HTTP Content Negotiation   + JAX-RS and Content Negotiation   + Leveraging Content Negotiation     - Using Accept Header     - URL suffix for content negotiation * Handling Cookies in Restful Web Services   + Sending Cookie as part of the Response   + Getting Cookie from the Request * Uploading & Downloading Files (Dealing with Large Binary Objects)   + Uploading files using Jersey Framework     - @FormDataParam Annotation     - FormDataContentDisposition Class   + Downloading files using JAX-RS API * Deployment and Integration   + Deployment within JAX-RS-Aware Containers   + Deployment within a JAX-RS-Unaware Container   **Day 7**   * JAX-RS Client API Classes & Interfaces   + Client   + ClientBuilder   + WebTarget   + Invocation.Builder   + GenericType   **Day 8**   * Exception Handling in Restful web services * JAX-RS Entity Providers * JAX-RS Filters and Interceptors | |  |  |  |  | | --- | |  | |
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