

### Spring Batch

<b>Course Name</b>	Spring Batch
<b>Course Duration</b>	20 hrs
<b>Course Timings</b>	2 pm – 6 pm
<b>Course Start Date</b>	4 <sup>th</sup> February 2019
<b>Course End Date</b>	8 <sup>th</sup> February 2019
<b>Mode of Training</b>	Webinar
<b>Hardware Requirement required for the participant</b>	<ul style="list-style-type: none"><li>• Core I5 with 4GB RAM or more</li><li>• Windows</li></ul>
<b>Software Requirement required for the participant</b>	<ul style="list-style-type: none"><li>• JDK 8</li><li>• Spring Tool Suite (STS) 3.9.7</li><li>• Tomcat 8.x</li><li>• MySQL Community Server 5.7</li><li>• MySQL Workbench 6.x and above</li></ul>
<b>Course Pre-requisites</b>	<ul style="list-style-type: none"><li>• All attendees must have at least one year of full-time Java and JEE development experience.</li><li>• Prior experience with Servlets and JSP is recommended.</li><li>• Should be familiar with Core Spring</li></ul>
<b>Course Objectives</b>	<ul style="list-style-type: none"><li>• Learn the core principles of Spring, Dependency Injection (DI), and Inversion of Control</li><li>• Understand the Spring container and API</li><li>• Master the fundamentals of Spring Batch development for processing batch jobs</li><li>• Ensure the integrity of groups of Spring Batch operations by using transactions</li><li>• Intercept step execution with listeners</li><li>• Understand the relationship between Spring Batch and Spring Integration</li></ul>
<b>Agenda - Day 1</b>	<ul style="list-style-type: none"><li>• Introduction to Spring<ul style="list-style-type: none"><li>◦ History and Evolution</li><li>◦ Spring Platform and Sub Projects</li><li>◦ Architecture and Components</li></ul></li><li>• Introduction to Spring Core<ul style="list-style-type: none"><li>◦ Dependency Injection (DI) / Inversion of Control (IoC)</li><li>◦ IoC Container Overview</li><li>◦ Bean Overview - Naming and Instantiating Beans</li><li>◦ Configuration Metadata - XML Based</li><li>◦ Bean Factory, Application Context</li></ul></li></ul>
<b>Agenda - Day 2</b>	<ul style="list-style-type: none"><li>• Dependency Injection and Bean Management<ul style="list-style-type: none"><li>◦ Constructor Injection, Setter Injection</li><li>◦ Injecting Primitives, Collections, Property Files</li><li>◦ Bean Lifecycle Management and Scopes</li><li>◦ Auto wiring, Depends On, Bean Definition Inheritance</li></ul></li><li>• Metadata Configuration and Component Scanning<ul style="list-style-type: none"><li>◦ Component Scanning Overview</li><li>◦ Annotation Based Configuration</li><li>◦ Java Based Configuration</li></ul></li></ul>

<b>Agenda - Day 3</b>	<ul style="list-style-type: none"> <li>• Introduction to Spring Batch <ul style="list-style-type: none"> <li>○ Background</li> <li>○ Use cases</li> <li>○ Architecture</li> <li>○ Batch Processing Principles</li> <li>○ Batch Processing Strategies</li> </ul> </li> <li>• Spring Batch Concepts <ul style="list-style-type: none"> <li>○ Job</li> <li>○ Step</li> <li>○ Execution Context</li> <li>○ Job Repository</li> <li>○ Job Launcher</li> <li>○ Item Reader</li> <li>○ Item Writer</li> <li>○ Item Processor</li> </ul> </li> <li>• Configuring and Running a Job <ul style="list-style-type: none"> <li>○ XML based configuration</li> <li>○ Java based configuration</li> <li>○ Restartability</li> <li>○ Intercepting Job Execution with listeners</li> <li>○ Transaction Support</li> <li>○ Running Job from command line</li> </ul> </li> </ul>
<b>Agenda - Day 4</b>	<ul style="list-style-type: none"> <li>• Design and Configure a Step <ul style="list-style-type: none"> <li>○ Chunk Oriented Processing</li> <li>○ Commit Interval</li> <li>○ Restart, Skip, Retry</li> <li>○ Transaction Support</li> <li>○ Intercepting Step Execution with listeners</li> <li>○ Tasklet</li> <li>○ Step Flow Control - Sequential, Conditional, Split, Stop</li> <li>○ Scope</li> </ul> </li> <li>• Reading and Writing with Item Reader and Writer <ul style="list-style-type: none"> <li>○ Flat Files</li> <li>○ XML</li> <li>○ Multi File Input</li> <li>○ Database</li> </ul> </li> <li>• Data Processing with Item Processor</li> <li>• Item Stream</li> <li>• Exception Handling</li> </ul>
<b>Agenda - Day 5</b>	<ul style="list-style-type: none"> <li>• Launch Batch Jobs from Web Container</li> <li>• Launch Batch Jobs through Messages</li> <li>• Scaling and Parallel Processing <ul style="list-style-type: none"> <li>○ Multi -threaded Step</li> <li>○ Parallel Steps</li> <li>○ Remote Chunking</li> <li>○ Partitioning</li> </ul> </li> <li>• Common Batch Patterns</li> <li>• Spring Batch Integration</li> </ul>