EPAM COE Training Curriculum

Module 01 -   Version Control Systems & Build Automation tool

S.No	Lesson	Learning Objectives	Reference Links
1.	Version Control with GIT	The Need of Version Control Systems, Type of Repositories → Centralized Vs Distributed, Branches, Check in, Checkout. Conflict, Merge, Tags, Reverting changes, Basics of Branching strategy	https://git-scm.com/docs/gittutorial
2.	Maven	• Features of Maven, Objectives' of Maven , maven life cycle • Providing guidelines for best practices development	https://maven.apache.org/

Module 02 - Core Java

S.No	Lesson	Learning Objectives	Reference Links
1.	Java Platform and Fundamentals ,OOP's ,Collections	• JDK, JRE, JVM, Memory (Heap, Stack) • Object, Class, Inheritance, Polymorphic, Abstraction, Encapsulation, Difference between Abstract and Interface Constructor rules in inheritance, Access modifiers in the inheritance chain • The problem with Arrays Why should you need collection Collection Framework overview Sorting, Searching, Iterating, Differences in various interfaces and implementations Hashcode/Comparator/Comparable Collection with Iteration order : Lists Collection with Uniqueness : Sets Collection with Modification order : Stacks, Queues, Deques Collection with Pairs : Maps	
2.	Java Annotations and Generics	• Understanding annotation and creating custom annotation • Usage of Generics	https://docs.oracle.com/javase/tutorial/java/annotations/ https://docs.oracle.com/javase/tutorial/java/generics/index.html

3.	Java 8 - Lambdas & Functional Interfaces, Streams, Optionals and DateTime		https://www.oracle.com/technical-resources/articles/java/ma14-java-se-8-streams.html https://docs.oracle.com/javase/tutorial/collections/streams/index.html https://www.baeldung.com/java-8-streams-introduction https://docs.oracle.com/javase/tutorial/java/javaOO/lambdaexpressions.html https://docs.oracle.com/javase/8/docs/api/java/util/Optional.html https://www.oracle.com/technical-resources/articles/java/jf14-date-time.html
4.	Logging & Log4J	Understanding of Logging and working with Log4J	https://logging.apache.org/log4j/2.x/ https://howtodoinjava.com/log4j/ https://logging.apache.org/log4j/1.2/apidocs/org/apache/log4j/PatternLayout.html
5.	XML	Understanding of XML elements and Schema	https://www.w3schools.com/xml/

Module 03 - Advanced Java

S.No	Lesson	Learning Objectives	Reference Links
1	JPA/Hibernate	Working with Java Persistence API to connect to databases using Hibernate	https://docs.oracle.com/javaee/6/tutorial/doc/bnbpz.html
2.	Multi-Threading	Understanding of Multi-Threading	https://docs.oracle.com/cd/E19455-01/806-5257/6je9h032e/index.html
3.	Concurrency, Executors framework and ForkJoin pool	Understanding of Executors framework	https://docs.oracle.com/javase/tutorial/essential/concurrency/index.html https://docs.oracle.com/javase/tutorial/essential/concurrency/executors.html
4.	JavaScript Object Notation	Understanding and Implementation of JSON	https://www.javatpoint.com/json-tutorial https://www.w3schools.com/js/js_json_intro.asp https://www.baeldung.com/java-org-json https://www.tutorialspoint.com/json/json_java_example.htm

Module 04 - Spring Framework

S.No	Lesson	Learning Objectives	Reference Links
1.	Introduction to Spring Core		https://docs.spring.io/spring-framework/docs/current/spring-framework-reference/core.html https://docs.spring.io/spring-framework/docs/5.0.0.RC2/spring-framework-reference/overview.html
2.	Spring Boot		https://docs.spring.io/spring-boot/docs/current/reference/html/ https://docs.spring.io/spring-boot/docs/current/reference/html/common-application-properties.html
3.	Spring MVC		https://docs.spring.io/spring/docs/current/spring-framework-reference/web.html https://spring.io/guides/gs/serving-web-content/ JSP: https://docs.oracle.com/javaee/5/tutorial/doc/bnagx.html https://docs.oracle.com/javaee/5/tutorial/doc/bnake.html
4.	Spring Data		https://docs.spring.io/spring-data/jpa/docs/current/reference/html/#repositories https://docs.spring.io/spring-data/jpa/docs/current/reference/html/#reference https://spring.io/guides/gs/accessing-data-jpa/

5.	REST Architecture & Maturity Model	Understanding of REST Architecture and Richardson Maturity Model	https://restfulapi.net/rest-architectural-constraints/
6.	Spring REST		https://spring.io/guides/gs/rest-service/ https://spring.io/guides/gs/consuming-rest/