Cognizant Academy

Generation Cognizant (GenC) Student Handbook (Java Track)

Why do we need this Academy enablement Program?

Academy enablement program engages young talents with a comprehensive learning pathway, giving these millennials an opportunity to interact with Subject Matter Experts (SME) and understand the corporate environment and groom themselves even before they join us.

Cognizant emphasizes on Learner Autonomy where students take charge of their own learning, with the available tools and resources. More focus is on "learning" than "teaching". Get ready to embark your own learning adventure!

Program at a glance

Learning consisting of 3 Stages and Business Aligned Project:

- Stage 1 – Core Programming Fundamentals (5 weeks)
- Stage 2 – Deep Dive (5 weeks)
- Stage 3 – Niche Skills
- Business Aligned Project (2 weeks)

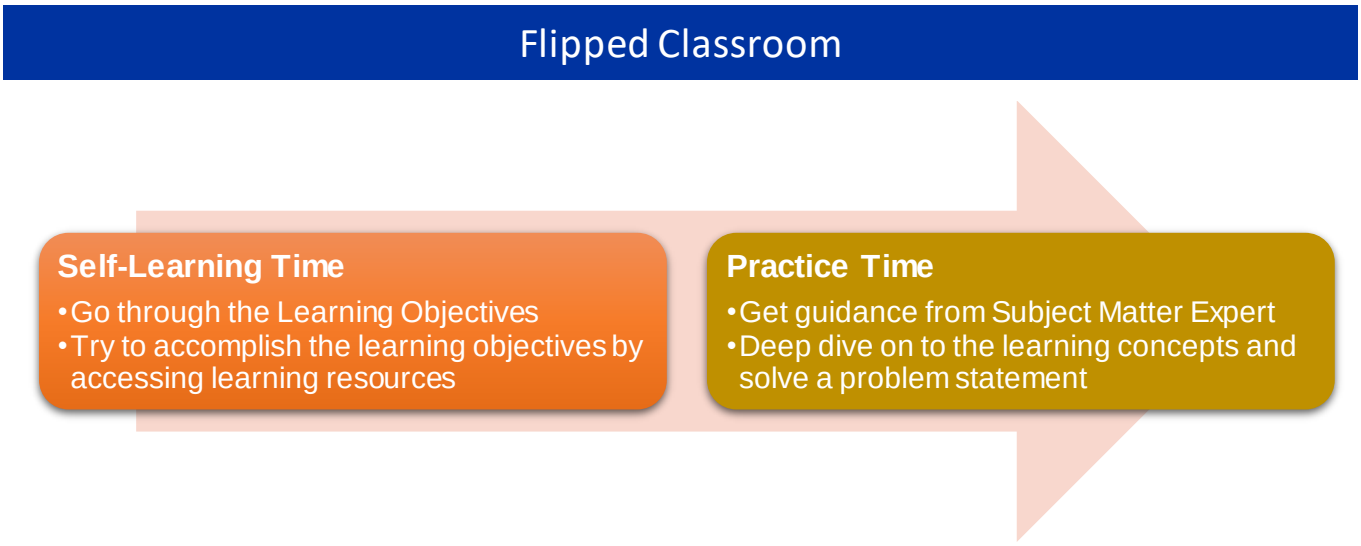
Program Highlights

- The complete learning journey is formalized using adult learning principles, where problem solving and applying the skills gained are given more importance than conceptual learning.
- Learner Autonomy is encouraged via Flipped Classroom, where the learning platform offers world class learning resources, and students would not be constrained by tutelage of an instructor.
- In stage 3, the learner will be mentored in advanced skills by expert trainers.
- Get mentored by SME, whose motivation and guidance will help you accelerate in the learning journey.

Learning Journey with Flipped Classroom

This program encourages you to be more autonomous learners during guided self-learning hours, completing the learning objectives on your own pace and style, and get ready for the hands-on practice time.

The complete learning path is set in the GEN C Learn Platform, which you can login with SSO.



Recommended Program Sequence

The learning journey starts with 6 days Icebreaker sessions followed by a technical learning. The learning journey contains 3 stages, followed by a Business Aligned Project aka My First POD Engagement(MFPE).

- Stage 1 – Refresher on Core Programming Fundamentals
- Stage 2 – Deep Dive into Skill Frameworks
- Stage 3 – Niche skills | Advanced skills
- Business Aligned Project will provide you an experience of real time problem solving in Agile methodology.

IceBreaker

Week 1

- Corporate Induction
- Talent Manager Connect
- Cognizant Agenda Session on Core Values
- Leader Talks (Academy) and many more...

Week 2

- Behavioral Skills
- Agile Workshop
- DevOps Workshop
- Behavioral Session

Stage 1 - Core Programming Fundamentals

Week 1

- Web Designing with HTML5/CSS3
- JavaScript
- Behavioral Skills

Week 2

- Programming with Database
- Behavioral Skills

Weeks 3,4, 5

- Programming in Java, JDBC
- Behavioral Skills

Stage 1 Integrated Capability Test(ICT) in Week 5

- Solve Challenges using combination of all skills in Stage 1

Stage 2 - Deep Learnings

Week 6

- Spring Core, Maven

Week 7,8

- Spring Core
- JUnit and Mockito,Code Quality

Weeks 9

- Spring MVC and Spring Boot

Stage 2 Integrated Capability Test(ICT) in Week 10

- Solve challenges using Combination of all skills in Stage 2

Stage 3 – Niche Skills

Week 10, 11

- Spring REST with Spring
- Boot,Git, jQuery, Bootstrap

Week 12

- Bootstrap, Angular/React

Week 13

- Microservices
- Cloud
- Splunk

MFPE in week 14

- Solve a business problem using skills aquired from all three stages

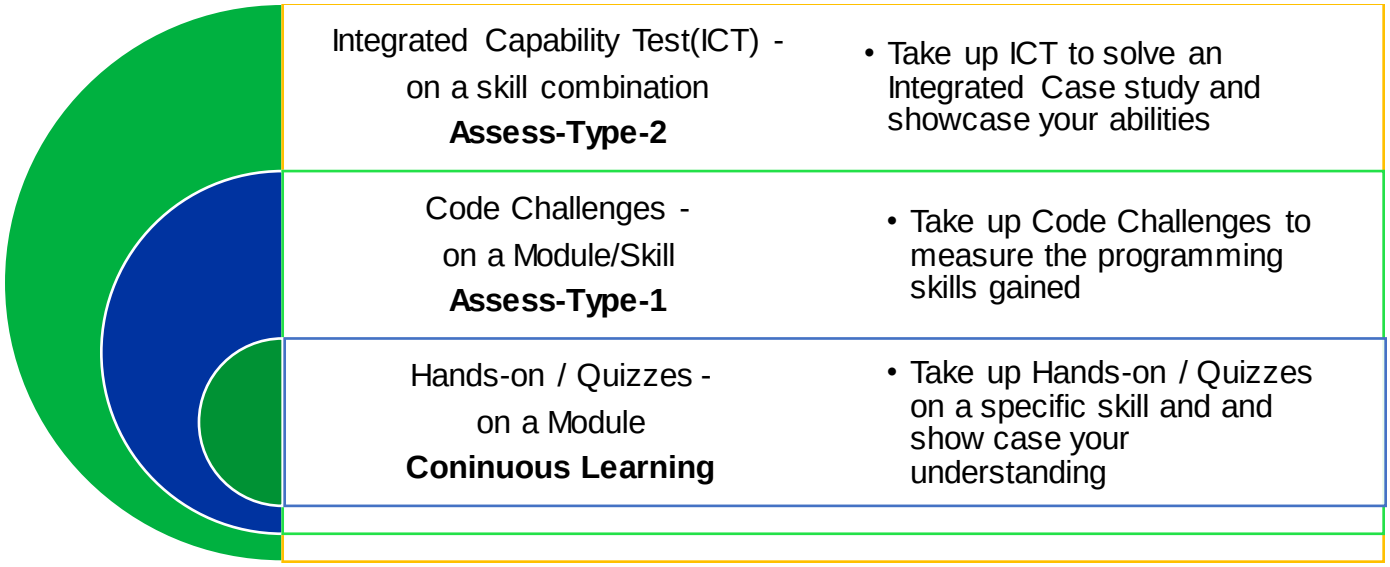
Key Learning Components of the Program

Cognizant has collaborated with Udemy to provide world class learning videos for the evolving future of work. These Udemy programs are woven in to a learning path, empowering you to plan and learn at your style.

The program also connects you with Subject Matter Experts to get the professional guidance on your queries in the learning journey.

The program continuously evaluates if you are able to apply those self-learnt skills to solve a business problem. Depicted below are the three key learning components, which are distributed across the learning journey for the purpose of continuous evaluation.

You have to score a minimum of 70% in each of the key components.



Note: Throughout the learning path, all the Mandatory Learning Components will attribute to the Performance Health Score. Additional Learning Components will help you to enhance your expertise level.

Icebreaker: Week 1

Ice breaker session will be conducted for a duration of 6 days. During the session, various topics related to Corporate Induction, Talent Management, Cognizant Agenda on Core Values, Leader Talks, Alumni, BU Mentor connects will be covered. Followed by icebreaker, there will be 2 days' workshop on **Agile and DevOps** skills conducted by an Agile SME which will help the learner to become familiar with agile practices during their **MFPE** phase.

Icebreaker Session

Following sessions will be covered during the 6 days of icebreaker

- Corporate Induction
- Talent Manager Connect
- Cognizant Agenda Sessions on Core Values
- Leader Talks (Academy) and many more…

Icebreaker: Week 2

Agile& DevOps

Day 7

Agile Workshop

Courses:

- Agile Enablement - Principles and Methodology[201 - INTERMEDIATE]
- Agile Methodology (eLearning)

Practice quiz on Agile basics

Day 8

DevOps.

Learn and Practice

AWS Essentials.

Day 9

Behavioral Training

Stage 1: Week 1

Week 1 will be focusing on HTML5, CSS3 and JavaScript along with Behavioral skills *

Udemy learnings are recommended in the Platform to understand the fundamental concepts. Apply the concepts learned and solve the Hands-on and Practice Case studies as recommended below.

Note: You'll find the hands-on and practice case study in the current learning path's module as per the names specified below.

Day 1

HTML5, CSS3

Continuous Learning: Technical Enablement

Learn the basics of HTML5 & CSS3

Responsive Web Design: HTML5 + CSS3 for Entrepreneurs 2018

- Learn the sections listed below in this Udemy course and complete the corresponding hands-on coding given below.
  - Lets Learn Some HTML 5
  - CSS3 & First Project
  - PROJECT: Awesome Landing Page Website
- Implement the examples along with the author.

Go through the below topics to enhance the learning.

- Visual Studio Code Features
- Google Chrome Developer tools

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Simple Calculator
- Learning Material Styling

Day 2

HTML5, CSS3

Continuous Learning: Technical Enablement

Go through web pages for learning below specific topics

- HTML5 Events
- HTML5 - Geo location

- HTML5 - Web Storage
- HTML5-Web SQL Database
- WEB Forms 2.0

RWD, Media Queries

- RWD Introduction
- Media Queries

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Feedback Details
- Bill Calculator
- Trainer Feedback Rating Chart

Additional Hands-on

- Rate Card For Boat Rai Calculator

Day 3

Behavioral Training:

- Behavioral Session

Javascript

Continuous Learning: Technical Enablement

Learn the basics of Javascript

Learn and Practice:

Javascript basics for beginners

- Learn the sections listed below in this Udemy course and complete the corresponding hands-on coding given below.
  - Getting Started
  - Basics
  - Operators
- Implement the examples along with the author.

Go through the below topics to enhance the learning.

- JavaScript HTML DOM, Form Validation, and String Methods
- Form Submission

- JSON
- Regular Expression
- Window alert() Method
- isNan() Function

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- ACTB Connection Portal
- EMI Calculator

Additional Hands-on

- Fixed And Reducing Interest Loan Estimator Calculator

Additional Learning:

Technical Quizzes:

Quiz: HTML 5 & CSS 3 & Javascript

Day 4

JavaScript

Additional Learning:

Technical Practice Case Study:

- Understand truYum use cases (truYum-use-case-specification.pdf)
- Go through Web UI specification of truYum (truYum-html-css-javascript-specification.pdf)
- Develop web pages using HTML, CSS and JavaScript for truYum

Day 5

Behavioral Training:

- Behavioral Session

Additional Learning:

Technical Practice Case Study (Contd.):

- Understand truYum use cases (truYum-use-case-specification.pdf)
- Go through Web UI specification of truYum (truYum-html-css-javascript-specification.pdf)
- Develop web pages using HTML, CSS and JavaScript for truYum

Assess-Type-1: Code Challenge

- All code challenges

Stage 1: Week 2

Week 2 will be focusing on SQL Programming along with Behavioral skills *

Udemy learnings are recommended in the Platform to understand the fundamental concepts. Apply the concepts learned and solve the Hands-on and Practice case study as recommended below.

Note: You'll find the hands-on and practice case study in the current learning path's module as per the names specified below.

Day 6

Database design

Continuous Learning: Technical Enablement

DDL Commands, DML Commands

Learn and Practice:

Sql for beginners

- Learn the sections listed below in this Udemy course and complete the corresponding hands-on coding given below.
    - Installation and Setup
    - Data Definition Language
    - More On Alter Table
    - Data Manipulation Language
    - Selecting from a Table

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Insert Records - Department
- Department name based on block number
- Delivery Partner details based on rating
- Car & owner details based on car type
- Hotels that took order based on month

Additional Hands-on

- Car rental system - Create Table
- Car rental system - add new column
- Hunger eats - change datatype
- Hunger eats - Change the field name

Day 7

Database design

Continuous Learning: Technical Enablement

Operators, Aggregate, String, Date Functions, Joins, Sub queries

Learn and Practice:

Sql for beginners

- Learn the sections listed below in this Udemy course and complete the corresponding hands-on coding given below.
    - Selecting From Multiple Tables
    - Database Design

- Aggregate Functions
- Subqueries
- MySQL Functions – String Functions and Date Functions

Go through web pages for learning below specific topics

RANK Function

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Student and their Department Based on City
- Concatenating Details
- Password generation
- Customers using HDFC BANK
- Rental details based on date

Additional Hands-on

- Total sale daywise
- Hotels not taken orders in a specific month
- Hotels that took order more than five times
- Maruthi car owner details
- Cars not taken for rent
- Customer mail details
- Order details
- Buses based on source and destination
- Number of tickets booked

Day 8

Behavioral Training:

- Behavioral Session

Database design

Continuous Learning: Technical Enablement

Learn and Practice:

Relational Database Design

- Go through the entire course

Go through web pages for learning below specific topics

Introduction to NoSQL

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- car rental system - Insert values
- Hunger eats - update table
- Customers having gmail id
- Car details based on type and name
- Hotel_info

Additional Hands-on

- No of time rented by each car
- Credential details

Day 9

Database design

Additional Learning:

Go through web pages for learning below specific topics

Introduction to NoSQL

Technical Practice Case Study:

- Go through SQL specification of truYum (truYum-sql-specification.doc)
- Create schema, table and queries for storing and retrieving data for truYum

Day 10

Behavioral Training:

- Behavioral Session

Additional Learning:

Technical Quizzes:

- Quiz: Database Concepts & ANSI SQL

Technical Practice Case Study(Contd):

- Go through SQL specification of truYum (truYum-sql-specification.pdf)
- Create schema, table and queries for storing and retrieving data for truYum

Assess-Type-1: Code Challenge

- All code challenges

Day 11

Additional Learning:

Technical Practice Case Study (Contd.):

- Go through SQL specification of truYum (truYum-sql-specification.doc)
- Create schema, table and queries for storing and retrieving data for truYum

Stage 1: Weeks 3, 4 & 5

Weeks 3, 4 & 5 will be focusing on Java Programming along with behavioral skills*

Udemy learnings are recommended in the Platform to understand the fundamental concepts. Apply the concepts learned and solve the Hands-on and Practice Case studies as recommended below

Note: You'll find the hands-on and practice case study in the current learning path's module as per the names specified below.

Day 12

Core Java

Continuous Learning: Technical Enablement

Overview, First Java Program, Variables, Datatypes, Literals, Operators, Expressions and Conditional Statements.

Learn and Practice

Java In-Depth: Become a Complete Java Engineer!.

- Java: A High-level Overview
- Skip installation steps.
- Implement the HelloWorld Program along with the author.

Core Java Made Easy.

- Datatypes, Literals, Variables, Type Conversion, Casting & Promotion
- Operators and Assignments
- Flow Control Statements
  - Flow Control Statements Introduction
  - IF-ELSE
  - Assignment 2: If Else Ladder

* Please refer the link for providing the user inputs from the console for Java samples.

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Display Characters
- Fuel Consumption Calculator
- Highest Placement

Additional Hands-on

- Bill Generation
- Movie Ticket Consumption Calculator

Day 13

Behavioral Training:

- Behavioral Session

Core Java

Continuous Learning: Technical Enablement

Overview, String, Arrays, Looping Statements, Methods, Class, Object, static.

Learn and Practice

Core Java Made Easy.

- Flow Control Statements
  - Switch,While,Do-While,For Loop, Break, Continue
- Static Members and their execution control flow.
- Non-Static Members and their execution control flow.

Java In-Depth: Become a Complete Java Engineer!.

- Classes, Objects and their Members.
  - Chapter Introduction
  - Class & Objects

Core Java Made Easy.

- String Handling
- Arrays

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Least offer
- String Concatenation
- Ticket Price Calculation – Static
- Student Details - Constructor

Additional Hands-on

- Increment Calculation

- Find Average Age

Day 14

Core Java

Continuous Learning: Technical Enablement

Access Modifiers, Packages, Inheritance, Abstraction.

Learn and Practice

Go through below mentioned sections and implement the examples along with the author.

Core Java Made Easy.

- Access Modifiers
- Packages
- Event Management Use case
- Inheritance
- Abstraction

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Contact Details of Hosteller
- Account Manipulation - Abstract class

Additional Hands-on

- Shape - Area Volume Calculator

Additional Learning:

Technical Quizzes:

- Quiz - Java Operator, Control flow statement
- Quiz - Applying Object Oriented Concepts in java

Day 15

Behavioral Training:

- Behavioral Session

Core Java

Continuous Learning: Technical Enablement

Polymorphism, Encapsulation, Interface, Object Methods

Learn and Practice

Go through below mentioned sections and implement the examples along with the author. Core Java Made Easy.

- Polymorphism
- Encapsulation
- Object class methods

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- BankAccountDetails
- Employee Loan Eligibility – Polymorphism
- Vehicle-Loan-Insurance - Use Interface

Day 16

Core Java

Continuous Learning: OOAD Workshop

The workshop will help in understanding a problem using real world concepts instead using adhoc function concepts. We intent to learn OOAD appraoch for the following reason. Promotes better understanding of user requirements, leads cleaner design flexibility.

Continuous Learning: Technical Enablement

Collection Framework, ArrayList, Map, Set.

Learn and Practice

Go through below mentioned sections and implement the examples along with the author.

Core Java Made Easy.

- Collections with Generics
  - Collections Introduction
  - List Introduction
  - ArrayList Hands On
  - Restricting the ArrayList Type
  - Inserting and Replacing Objects
  - addAll and contains Methods
  - size get and remove Methods
  - Set Introduction
  - Using HashSet
  - Different Set Classes
  - Iterator
  - ListIterator
  - Comparable and Comparator
  - Create a StringBuffer Comparator
  - Sort Strings by Length
  - Sorting Objects
  - Create a Object Comparator
  - Map Introduction
  - HashMap Demo
  - Arrays and Collections Classes
  - Collections Sort
  - Reversing a List
  - Arrays sort()
  - Array to List conversion
  - Generics
  - Generic class structure
  - Create your own Generic Class

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Insurance Bazaar
- Number of New Words
- Phone Book Manipulation

Additional Hands-on

- Count of Each Words
- Book Manipulation

Additional Learning:

Technical Quizzes:

- Quiz - Collections Framework

Day 17

Core Java

Continuous Learning: Technical Enablement

File Handling, Annotation, Threads and Garbage Collections, Exception Handling, Enums.

Learn and Practice

Go through below mentioned sections and implement the examples along with the author.

Core Java Made Easy.

- IO Streams (File IO)
  - IO Streams Introduction
  - Read a File Using FileInputStream
  - Copy A File using FileOutputStream
  - Using Reader And Writer
- Java Annotations
  - Introduction
  - Using @Deprecated
  - Using @Override
  - Using @SuppressWarnings
- Multithreading
- Garbage Collection & Types Of Objects
- Exception Handling and Assertions
- Enums

Continuous Learning: Technical Hands-on

Mandatory Hands-on

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- Array Manipulation - Use try with multi catch
- Employee Promotion
- Register a Candidate - User defined Exception(with throw and throws)
- Retrieving Data from file

Additional Hands-on

- Visitors Details
- Divide two numbers - Use finally

Day 18

Behavioral Training:

- Behavioral Session

Core Java

Continuous Learning: Technical Enablement

Java 8 Features - Lambda Expressions, Streams, Filters, java.time.

Learn and Practice

Go through below mentioned sections and implement the examples along with the author.

Core Java Made Easy.

- Java 8 Features

Java In-Depth: Become a Complete Java Engineer!.

- Date & Time API ~ Covers Java 8 & also Legacy API

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Mall Parking System
- Validate Name
- Travel Agency – Lamda
- Fruit Basket Estimation -Stream

Additional Hands-on

- Participant List Manipulation - Streams
- College Account

Day 19

Core Java

Continuous Learning: Technical Enablement

Java 8 Features - Streams and Optionals. Asynchronous and Parallel Programming in Java 8

Go through web pages for learning below specific topics
Asynchronous and Parallel Programming

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Employee Loan Eligibility
- Placement Enrollment Count
- Auditing

Additional Learning:

Technical Quizzes:

- Quiz - Advanced Java Concepts

Day 20

Behavioral Training:

- Behavioral Session

JDBC

Continuous Learning: Technical Enablement

Introduction, Connection, Statement, Prepared Statement, Callable Statement, Transactions and Meta Data.

Learn and Practice

Java Database Connection: JDBC and MySQL.

- Go through entire course.
- Implement the examples along with the author.

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Add Flight using JDBC
- Search for Trains – JDBC
- Player Selection System_JDBC

Assess-Type-1: Code Challenge

- All code challenges

Day 21

JDBC

Continuous Learning: Technical Enablement

Introduction, Connection, Statement, Prepared Statement, Callable Statement, Transactions and Meta Data.

Learn and Practice

Java Database Connection: JDBC and MySQL.

- Go through entire course.
- Implement the examples along with the author.

Continuous Learning: Technical Hands-on

Additional Hands-on

- Retrieve customer count based on loan type_JDBC
- Retrieve ID and Price of mobiles with in the range_JDBC

Day 22

Additional Learning:

Technical Practice Case Study:

TruYum Practice Case Study – Java
TruYum Practice Case Study – Jdbc

Day 23

Behavioral Training:

- Behavioral Session

Additional Learning:

Technical Practice Case Study(Contd):

TruYum Practice Case Study – Java
TruYum Practice Case Study – Jdbc

Day 24

Additional Learning:

Technical Practice Case Study(Contd):

TruYum Practice Case Study – Java
TruYum Practice Case Study – Jdbc

Assess-Type-2 Preparation

Mock Assess-Type-2

Day 25

Behavioral Training:

- Behavioral Session

Additional Learning:

Assess-Type-2 Preparation

Assess-Type-2: Integrated Capability Test (ICT)

- Java, JDBC, MySQL – 4 hours

Stage 2: Week 6

Week 6 will be focusing on Maven and Spring Core along with Behavioral skills *

Udemy learnings are recommended in the Platform to understand the fundamental concepts. Apply the concepts learned and solve the Hands-on and Practice Case studies as recommended below.

Note: You'll find the hands-on and practice case study in the current learning path's module as per the names specified below.

Day 26

Additional Learning:

Mock Interview

Day 27

Maven

Continuous Learning: Technical Enablement

Needs and benefits, Maven Project Creation, POM.xml, Build lifecycle, repositories, Scopes and Profiles.

Learn and Practice

Refer this document for Maven Installation and Web Project Creation.
Go through the below mentioned sections and perform maven build along with the author of this course.

Maven Crash Course.

- Introduction
- Maven Project Creation and Key Concepts
- Scopes
- Profiles

Spring Core

Continuous Learning: Technical Enablement

Setter Based Injection

Learn and Practice

Go through the below mentioned sections and implement examples along with the author of this course.

Spring Framework in Easy Steps

- Introduction
- Software Setup
  - Troubleshooting Maven Projects
- Setter Injection
  - Create a Maven Project
  - Create the Java Bean
  - Create the Spring Configuration
  - Create and run the test
  - Value as attribute
  - Using p:schema or p: namespace

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- DBConfig-SetterBasedInjection
- EZEE Transport

Day 28

Behavioral Training:

- Behavioral Session

Spring Core

Continuous Learning: Technical Enablement

Injecting collections, dependency check, Inner Beans and Scope.

Learn and Practice

Go through the below mentioned sections and implement examples along with the author of this course.
Spring Framework in Easy Steps

- Setter Injection
  - Injecting Collections
  - List - Create the Spring Bean
  - List - Create the Configuration file
  - List - Create the Test
  - Running the test and flow
  - Two More Things About List

Learn and Practice

Spring Framework in Easy Steps

- Dependency Check , Inner beans and Scopes

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- CurrencyConverter-Collections (Refer section 4.34 and 4.35 of Udemy course to implement this hands on)
- Customer-Address-Scope
- Customer-Address Inner Bean

Day 29

Spring Core

Continuous Learning: Technical Enablement

Constructor based Injection, Spring Core Concepts, Autowiring, and Usage of Properties.

Learn and Practice

Spring Framework in Easy Steps

- Constructor Injection
- Spring Core Concepts
- Using Properties

Learn and Practice

Spring Framework in Easy Steps

- Auto-Wiring

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Constructor Injection
- Engine Analysis
- Autowiring

Day 30

Behavioral Training:

- Behavioral Session

Spring Core

Continuous Learning: Technical Enablement

Stereotype Annotations, Injecting Interfaces

Learn and Practice

Spring Framework in Easy Steps

- Stereotype Annotations
- Injecting Interfaces

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- EBanking Hands on
- Passport Service

Additional Hands-on

- Patient Management

Assess-Type-1: Code Challenge

- All code challenges

Stage 2: Week 7 & 8

Week 7, 8 will be focusing on Maven and Spring Core, Junit and Code Quality along with Behavioral skills *

Udemy learnings are recommended in the Platform to understand the fundamental concepts. Apply the concepts learned and solve the Hands-on and Practice Case studies as recommended below.

Note: You'll find the hands-on and practice case study in the current learning path's module as per the names specified below.

Day 31

Spring Core

Continuous Learning: Technical Enablement

Aspect Oriented Programming (AOP) using Spring AOP and AspectJ.

Learn and Practice

Spring Framework in Easy Steps

- Spring AOP
- Implement the examples along with the author.

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Spring AOP Demo

Day 32

Spring Core

Continuous Learning: Technical Enablement

Spring JDBC

Learn and Practice

Spring Framework in Easy Steps

- Spring JDBC
- Implement the examples along with the author.

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Billing Software Application

Additional Hands-on

- EBill

Day 33

Behavioral Training:

- Behavioral Session

Spring Core

Continuous Learning: Technical Enablement

Spring JDBC

Learn and Practice

Spring Framework in Easy Steps

- Spring JDBC
- Implement the examples along with the author.

Day 34

JUnit

Continuous Learning: Technical Enablement

Writing basic tests, Assert Statements.

Learn and Practice

Learn Java Unit Testing with Junit & Mockito in 30 Steps

- Introduction
- Unit Testing with Junit
  - JUnit Step 1 : Why is Unit Testing Important?
  - JUnit Step 2 : Setting up your first JUnit
    Step 03 : First Successful JUnit. Green Bar and assertEquals
  - Step 04 : Refactoring Your First Junit Test
  - Step 05 : Second JUnit Example assertTrue and assertFalse
  - Step 06 : @Before @After
- Step 07 : @BeforeClass @AfterClass

Testing Exceptions, Comparing Arrays, Parameterized Tests, Test Suites

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Electricity Bill
- Testing using Assertion

Additional Hands-on

- Loan EMI Calculator

Day 35

Behavioral Training:

- Behavioral Session

JUnit

Continuous Learning: Technical Enablement

Learn and Practice

Learn Java Unit Testing with Junit & Mockito in 30 Steps

- Unit Testing with Junit
  - Step 08 : Comparing Arrays in Junit Tests
  - Step 09 : Testing Exceptions in Junit Tests
  - Step 10 : Testing Performance in Junit Tests
  - Step 11 : Parameterized Tests
  - Step 12 : Organize JUnits into Suites

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Parameterized HandsOn
- Product Login Test Suite

Test Driven Development

Continuous Learning: Technical Enablement

Test Automation, Test Code Optimization and Test Driven Development

Learn and Practice

Learn TDD in 24 Hours

- Getting started with automated tests.
- Taking care of the test code
- Test-Driven Development

Day 36

Mockito

Learn and Practice

Learn Java Unit Testing with Junit & Mockito in 30 Steps

- Getting Ready for Mockito
- Need For Mockito
- Mockito Basics

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Verify Call

Additional Hands-on

- Test Callback

Day 37

Mockito

Learn and Practice

Learn Java Unit Testing with Junit & Mockito in 30 Steps

- Getting Ready for Mockito
- Need For Mockito
- Mockito Basics

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Test Mock DB

Additional Hands-on

- Test Callback

Day 38

Behavioral Training:

- Behavioral Session

Code Quality

Continuous Learning: Technical Enablement

The concepts include importance of code quality and coding standards.

- PMD rulesets
- Checkstyle
- SONAR
- Findbugs

Mandatory Hands-on

- LMS Refactoring

Day 39

Additional Learning:

Technical Practice Case Study:

TruYum Practice case study – Spring Core and Junit

Day 40

Behavioral Training:

- Behavioral Session

Assess-Type-1: Code Challenge

- All code challenges

Stage 2: Week 9

Week 9 will be focusing on Spring MVC and Spring Boot along with behavioral skills.

Udemy learnings are recommended in the Platform to understand the fundamental concepts. Apply the concepts learned and solve the Hands-on and Practice Case studies as recommended below.

Note: You'll find the hands-on and practice case study in the current learning path's module as per the names specified below.

Day 41

Servlets and JSP

Continuous Learning: Technical Enablement

Overview, Understanding Servlets, Web Application Request Flow.

Learn and Practice

Java In-Depth: Spring MVC For Beginners - Build Java Web App in 25 Steps.

- Part 1: Basic Java Web Application with JSP and Servlets..

Spring MVC using Spring Boot

Continuous Learning: Technical Enablement

Spring initializer, https://start.spring.io,pom.xml, @SpringBootApplication, SpringApplication.run (), Controller,@RequestMapping,@ResponseBody

Learn and Practice

Learn Spring Boot in 100 Steps - Beginner to Expert.

- Web Application with Spring Boot
  - Introduction
  - Skip Installation steps.
  - Step 0 : Web Application with Spring Boot - Section Introduction
  - Step 01: Part 1 Basic Spring Boot Web Application Setup
  - Step 01: Part 2 Pom.xml, Spring Boot Application and application properties
  - Step 02: Part 1 First Spring MVC Controller, @ResponseBody, @Controller
  - Fastest Approach to Solve All Your Exceptions
  - Step 02: Part 2 Understanding HTTP Request Flow
  - Step 03: Demystifying some of the Spring Boot magic

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Age Calculator
- BodyMassIndex

Day 42

Spring Boot Web Application

Continuous Learning: Technical Enablement

View Resolver,@RequestParam, ModelMap,Dispatcher Servlet, Spring MVC Web request flow, Web Application Architecture, Session scope, Request scope,@SessionAttributes.

Learn and Practice

Learn Spring Boot in 100 Steps - Beginner to Expert.

- Web Application with Spring Boot
  - Step 04: Redirect to Login JSP -
  - @ResponseBody and View Resolver
  - Step 05: Show userid and password on welcome page - ModelMap and @R…
  - Step 06: DispatcherServlet and Spring MVC Flow
  - Step 07: Your First HTML form
  - Step 08: Add hard-coded validation of userid and password
  - Step 09: Magic of Spring
  - Step 10: Create TodoController and list-todos view. Make TodoService a @S…
  - Step 11: Architecture of Web Applications
  - Step 12: Session vs Model vs Request- @SessionAttributes
  - Step 13: Add new todo

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Zee Zee Login
- Bakingo Cake Service

Day 43, 44

Behavioral Training:

- Behavioral Session

Spring MVC using Spring Boot

Continuous Learning: Technical Enablement

JSTL tags, Spring MVC form tag library, Validations, initBinder

Learn and Practice

Learn Spring Boot in 100 Steps - Beginner to Expert.

- Web Application with Spring Boot
  - Step 14: Display Todos in a table
  - using JSTL Tags
  - Step 15: Bootstrap for Page Formatting using webjars
  - Step 16: Let's delete a Todo
  - Step 17: Format Add Todo Page and Adding Basic HTML5 form validation
  - Use modelAttribute instead of commandName

- Step 18: Part 1 Validations with
- Hibernate Validator - Using Command …
- Step 18: Part 2 Using JSR 349 Validations
- Step 19: Updating a todo
- Step 20: Let's add a Target Date for Todo - Use initBinder to Handle Date Fields

Step 25: Exception Handling

Spring MVC Internationalization (i18n) - implement internationalization using the Spring MVC framework.

Learn and Practice

Refer this document and implement the example.

Continuous Learning: Technical Hands-on

Mandatory Hands-on

- HolidayParty-Validations
- Front End-Internationalization

Day 45

Behavioral Training:

- Behavioral Session

Additional Learning:

Technical Quizzes:

- Quiz - Spring MVC and Spring Boot

Assess-Type-1: Code Challenge

- All code challenges

Day 46

Additional Learning:

Technical Practice Case Study:

TruYum Practice case study – Spring MVC

Day 47

Additional Learning:

Assess-Type-2 Preparation

Mock Interview

Mock Assess-Type-2

Stage 3: Week 10

Day 48,49

Behavioral Training:

- Behavioral Session

Spring REST with Spring Boot

Continuous Learning: Technical Enablement

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Day 50

Behavioral Training:

- Behavioral Session

Assess-Type-2: Integrated Capability Test (ICT)

Stage 3: Week 11

Day 51,52

Spring REST with Spring Boot

Continuous Learning: Technical Enablement

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Day 53,54

Git, jQuery

Continuous Learning: Technical Enablement

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Day 55

Bootstrap

Assess-Type-1: Code Challenge (Spring REST with Spring Boot)

Stage 3: Week 12

Day 56

Bootstrap

Day 57

Angular/React

Continuous Learning: Technical Enablement

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Day 58

Angular/React

Continuous Learning: Technical Enablement

<TBU>

Day 59

Angular/React

Continuous Learning: Technical Enablement

<TBU>

Day 60

Angular/React

Continuous Learning: Technical Enablement

<TBU>

Assess-Type-1: Code Challenge (Angular/React)

- All code challenges

Stage 3: Week 13

Day 61

Angular/React

Additional Learning:

Day 62,63

Microservices

Continuous Learning: Technical Enablement

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Day 64

Spring Cloud

Continuous Learning: Technical Enablement

<TBU>

Day 65

Splunk

Continuous Learning: Technical Enablement

<TBU>

Day 66

Splunk

Continuous Learning: Technical Enablement

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Knowledge Based Assessment (Microservices & Cloud)

Overall duration: 10 days

This Project phase will be executed in agile methodology, the duration of which is 10 days. With the matured Product backlog, High-level design document & Wireframes as base the POD team translates the backlog items into engineering design and logical units of work (tasks) and release it sprint wise. Project Evaluation will be based on:

- Contribution to Sprint Goal
- Sprint Participation
- User Story Completion
- Standards and Best Practices
- Confidence and Articulation

How to learn each day?

Each day has a set of learning objectives. These learning objectives can be met by going through the Udemy courses and by completing the hands on exercises mentioned in the daily plan.

The below strategies will help you decide the learning approach.

Learning Strategy & Approach

Find below few imaginary profiles. For each of these profiles we have defined a recommended learning approach. This is not an exhaustive list. The approaches below might help invent a new way of learning.

Profile #1

Harry Reacher

Engineering Discipline: Electronics

Skills: Python, Ruby on Rails, nginx

Project: Mining Crime Data to get Route Cause Insights

Learning Approach to Programming Languages: I do not want to waste my time learning. I am more practice oriented. I want to work on the problem immediately

What will work for me?

- Directly complete hands on exercises

- Refer Internet or Udemy Courses
- If hands on are implemented early, clarify your friends questions and troubleshoot their issues

Profile #2

Olivia Richards

Engineering Discipline: Computer Science

Skills: Java, C, C++

Project: Library Management System

Learning Approach to Programming Languages: I have interest, but I don't know where to start.

What will work for me?

- Go through the recommended Udemy Course
- Try completing the hands on exercises
- Get your clarifications solved with help from Tech SME
- Get help from other learners in your batch whom had already completed

Profile #3

Greg Anderson

Engineering Discipline: Civil

Skills: C

Project: Fiber reinforced concrete

Learning Approach to Programming Languages: I am scared of programming languages. I haven't got my hands dirty with coding

What will work for me?

- Go through the recommended Udemy Course
- Implement the coding along with the author of the Udemy Course
- Try completing the hands on exercises
- Clarify queries with SME
- Troubleshoot programming issues with help from SME or learner from your classroom whom had already completed

FAQ

1. Who can participate in this program?

   Students who have enrolled for Full Internship Program (or) the Cognizant on-boarded GEN Cs can participate in this program.

2. Is there any pre-learning I should do?

No. This program is open to all students from any academic discipline.

3. How will I know my RAG status?

   It will be shown to you in the GEN C learn Platform, in your Home Page.

4. What is Assess-type-1?

   A problem statement will be provided to you and you need to solve it using a single skill.

5. What is Assess-type-2?

   A case study problem statement will be provided to you, that you may need solve using the combination of Skills learnt in the given stage.

6. Whom do I reach out in case of any queries?

   Coach is your point of contact.