


# Cognizant Academy

## Generation Cognizant (GenC)

### Learner Handbook

#### (Quality Engineer with Selenium and Java)



### Why do we need this GenC learning Program?

Gen C learning program engages young talents with a comprehensive learning pathway, giving the millennials an opportunity to interact with Subject Matter Experts (SME), understand the corporate environment, and groom themselves.

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 2 Stages:

- Stage 1 – QEA Basics (6 weeks)
- Stage 2 – Selenium with Digital Technologies (7 weeks – Inclusive of the Project)  
Business Aligned Project

### 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.
- Get mentored by SME, whose motivation and guidance will help you accelerate in the learning journey.
- This program is applicable to Interns as well as GEN Cs.

# 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.

## Flipped Classroom

### Self-Learning Time

- Go through the Learning Objectives
- Try to accomplish the learning objectives by accessing learning resources

### Practice Time

- Get guidance from Subject Matter Expert
- Deep dive on to the learning concepts and solve a problem statement

## Recommended Program Sequence

The learning journey contains 2 stages, followed by a Business Aligned Project.

- Stage 1 – QEA Basics
- Stage 2 – Selenium with Digital Technologies
- Business Aligned Project will provide you an experience of real time problem solving in Agile methodology.

### Stage 1 – QEA Basics

#### Week 1

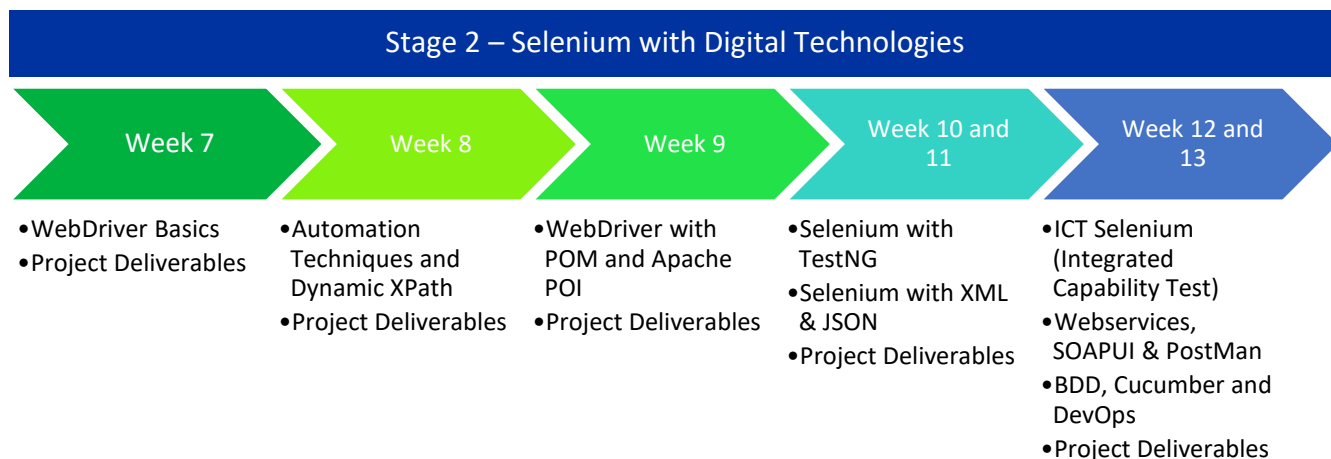
- Functional Testing
- Basics of Automation Concepts
- ICT - Functional Testing(Integrated Capability Test)

#### Week 2, 3 & 4

- Programming with Java
- ICT - Java(Integrated Capability Test)

#### Week 5 & 6

- WebUI
- JavaScript
- Data Source(SQL, XML, JSON)



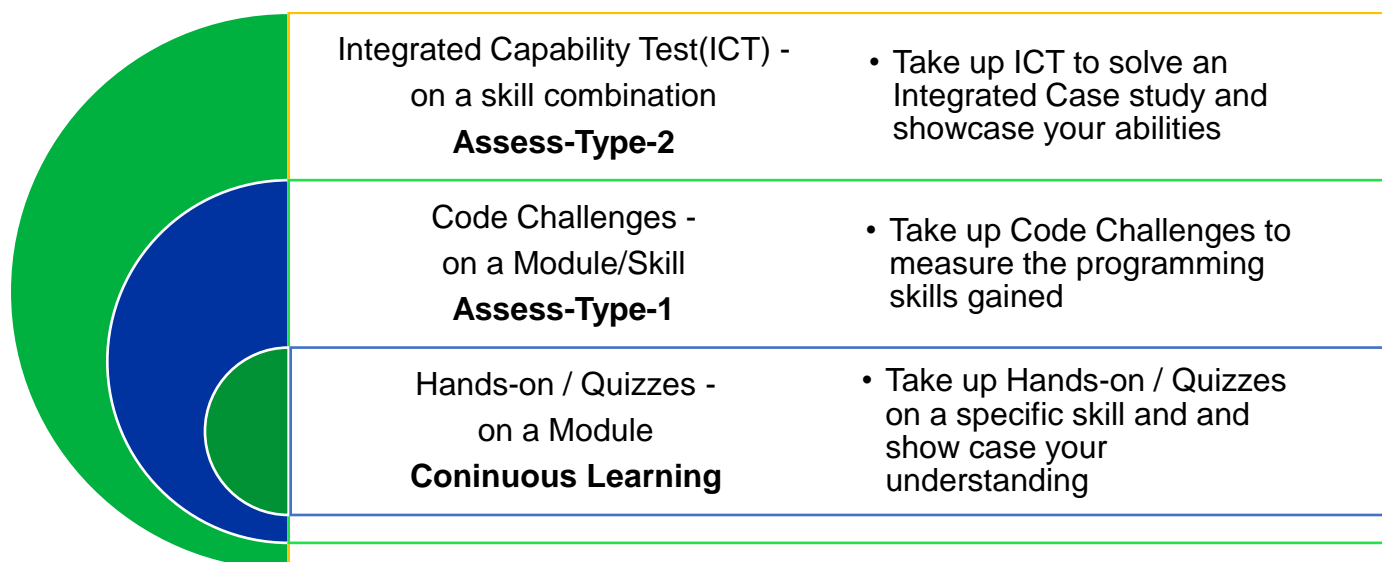
## Key Learning Components of the Program

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.

# Schedule – Stage 1: Week 1

Week 1 will be focusing on Functional Testing Fundamentals.

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.

## Day 1

### Functional Testing

#### Continuous Learning: Technical Enablement

Learn the basics of Agile Fundamentals and Software Testing Life Cycle



#### [The Complete 2022 Software Testing Bootcamp](#)

Refer below sections in this Udemy course and complete the corresponding learnings.

Section 1: Introduction

Section 2: Basic Concepts of Software Testing

Section 3: Test Scenario Writing

Section 4: Test Case Writing

Section 5: Test Execution & Bug Reporting

Section 6: Testing Reports: Test Progress & Test Summary Report

## Day 2

### Functional Testing

#### Continuous Learning: Technical Enablement

Learn the basics of Software Testing Life Cycle



#### [The Complete 2022 Software Testing Bootcamp](#)

Refer below sections in this Udemy course and complete the corresponding learnings.

Section 8: Basics of Agile & Agile Testing

Section 9: How to use JIRA for Agile Testing

Section 11: API Testing

Section 13: Performance Testing

Section 24: Black Box Test Techniques

Section 25: White Box Test Techniques[Advanced]

## Day 3

### Functional Testing

#### Continuous Learning: Technical Enablement

Learn the basics of Software Testing Life Cycle



[The Complete 2022 Software Testing Bootcamp](#)

Refer below sections in this Udemy course and complete the corresponding learnings.

#### Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Hotel Booking

Deliverables Expected:

Deliverable 1: Identify four test scenarios for the mentioned requirement

Deliverable 2: Write all the test cases using the appropriate testing techniques wherever applicable

Deliverable 3: Log the below mentioned defects effectively with all the details, relating the requirement mentioned such that the developers would understand.

## Day 4

### Functional Testing

#### Continuous Learning: Technical Enablement

Learn the basics of Software Testing Life Cycle



[The Complete 2022 Software Testing Bootcamp](#)

Rehearse the sections based on need and complete the corresponding learnings.

#### Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Students Enquiry Form

Deliverables Expected:

Deliverable 1: Identify four test scenarios for the mentioned requirement

Deliverable 2: Write all the test cases using the appropriate testing techniques wherever applicable

Deliverable 3: Log the below mentioned defects effectively with all the details, relating the requirement mentioned such that the developers would understand.

#### Additional Learning:

##### Technical Quizzes:

Quiz 1 - Functional Testing

## Day 5

### Functional Testing

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

Functional Testing

## Stage 1: Weeks 2, 3 & 4

Weeks 2, 3 & 4 will be focusing on Java Programming

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 6

## 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 \(Covers the latest Java 15\)](#)

- 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

- Highest Placement
- Display Characters
- Fuel Consumption Calculator

#### Additional Hands-on

- Bill Generation
- Movie Ticket Calculation

## Day 7

### Core Java

#### Continuous Learning: Technical Enablement

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

#### Learn and Practice



##### [Core Java Made Easy \(Covers the latest Java 15\).](#)

- 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 \(Covers the latest Java 15\).](#)

- 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 8

### 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 \(Covers the latest Java 15\).](#)

- 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
- Divide two numbers - Use finally

## Day 9

### 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 \(Covers the latest Java 15\).](#)

- Polymorphism
- Encapsulation
- Object class methods

#### **Continuous Learning: Technical Hands-on**

##### **Mandatory Hands-on**

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

##### **Additional Learning:**

##### **Technical Quizzes:**

- Quiz - Java Operator, Control flow statement

### Core Java

#### 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 \(Covers the latest Java 15\).](#)

- 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

### Core Java

#### 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 \(Covers the latest Java 15\).](#)

- Collections with Generics
  - Collections Introduction
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  - Restricting the ArrayList Type
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  - Using HashSet
  - Different Set Classes
  - Iterator
  - ListIterator
  - Comparable and Comparator
  - Create a StringBuffer Comparator

#### Continuous Learning: Technical Hands-on

##### Mandatory Hands-on

- Register a Candidate - User defined Exception(with throw and throws)
- Array Manipulation - Use try with multi catch
- Insurance Bazaar

##### Additional Hands-on

- Count of Each Words

### Core Java

#### 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 \(Covers the latest Java 15\).](#)

- Collections with Generics
  - 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

- Number of New Words
- Phone Book Manipulation

##### Additional Hands-on

- Book Manipulation

### 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 \(Covers the latest Java 15\).](#)

- 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

- Employee Promotion
- Retrieving Data from file

##### Additional Hands-on

- Visitors Details

##### Additional Learning:

##### Technical Quizzes:

- Quiz - Applying Object Oriented Concepts in java

## Day 14

### 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 \(Covers the latest Java 15\).](#)

- 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
- Fruit Basket Estimation

##### Additional Hands-on

- Participant List Manipulation
- College Account

##### Additional Learning:

##### Technical Quizzes:

- Quiz 3 - Collections Framework

## Day 15

### Core Java

#### Continuous Learning: Technical Enablement



[Core Java Made Easy \(Covers the latest Java 15\).](#)

Refer section : Java 8 Features - Streams. Asynchronous and Parallel Programming in Java 8

Go through web pages for learning below specific topics  
[Asynchronous and Parallel Programming](#)

### **Assess-Type-1: Code Challenge:**

Assess-Type-1: Code Challenge - Group 1

## **Day 16**

### **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

## **Day 17**

### **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

## Day 18

### 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

- Search for Trains – JDBC
- Player Selection System\_JDBC

### Additional Hands-on

- Retrieve customer count based on loan type\_JDBC

## Day 19

### 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 ID and Price of mobiles with in the range\_JDBC

#### **Assess-Type-1: Code Challenge:**

Assess-Type-1: Code Challenge - Group 2

## Day 20

### **Core Java and WebUI - HTML and XPath**

Learn the basics of WebUI : HTML Basics

#### **Continuous Learning: Technical Enablement**



### [Build Websites from Scratch with HTML & CSS](#)

Refer only sections 1, 2, 3, 4, 5, 6 & 7 to learn HTML fundamentals with CSS

Learn the basics of WebUI : XPath Basics



### [Master XPath and CSS Selectors for Selenium WebDriver](#)

Refer section 1, 2, 3, 4 and 5 in this Udemy course and complete the corresponding learnings.

Section 1: Locating Elements

Section 2: XPath Basics

Section 3: XPath Axis

Section 4: CSS Selectors Basics

Section 5: CSS Selectors Advance

#### **Assess-Type-2: ICT**

Assess-Type-2: Integrated Capability Test (ICT) - QAQE - JAVA ASSESSMENT

## Schedule – Stage 1: Week 5

Week 5 will be focusing on WebUI : JavaScript and HTML/CSS

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.

### Day 21

#### WebUI - HTML and XPath

Learn the basics of WebUI : HTML Basics

##### Continuous Learning: Technical Enablement



[Build Websites from Scratch with HTML & CSS](#)

Refer only sections 1, 2, 3, 4, 5, 6 & 7 to learn HTML fundamentals with CSS.

Learn the basics of WebUI : XPath Basics

5



[Master XPath and CSS Selectors for Selenium WebDriver](#)

Refer section 1, 2, 3, 4 and 5 in this Udemy course and complete the corresponding learnings.

Section 1: Locating Elements

Section 2: XPath Basics

Section 3: XPath Axis

Section 4: CSS Selectors Basics

Section 5: CSS Selectors Advance

##### Continuous Learning: Technical Hands-on

Mandatory Hands-on

- HTML-Xpath-condition: StudentRegistration
- HTML-Xpath: CommodityDetails2
- HTML-Xpath: CommodityDetails1

## Day 22

### WebUI - HTML and XPath

#### Continuous Learning: Technical Hands-on Mandatory Hands-on

- HTML-Xpath-function: StudentRegistration
- HTML-Xpath: AddressBook
- HTML-Xpath: Cargo\_Shipping\_Cost
- HTML-Xpath: CSS selector
- HTML-Xpath: Label\_PartialXPath

## Day 23

### Web UI - Javascript

#### Continuous Learning: Technical Enablement

Learn the basics of WebUI: JavaScript Basics



#### [Accelerated JavaScript Training](#)

Refer section 1, 2, 3 and 4 in this Udemy course and complete the corresponding learnings.

Section 1: Getting Started

Section 2: Language Basics

Section 3: Types & Scopes

Section 4: Arrays

#### Continuous Learning: Technical Hands-on

##### Mandatory Hands-on

- Print Fibonacci Series
- Ugly Number

## Day 24

### Web UI - Javascript

#### Continuous Learning: Technical Enablement

Learn the basics of WebUI: JavaScript Basics



#### [Accelerated JavaScript Training](#)

Refer section 5, 6 7, 8 & 9 in this Udemy course and complete the corresponding learnings.

Section 5: Objects

Section 6: Errors & Debugging

Section 7: Functions

Section 8: Built-in Objects & Functions

Section 9: Working with the Window and Document Object Model (DOM)

#### Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Asset Summary
- Customer Details
- Payment Information
- Total Expense

#### Additional Learning:

#### Technical Quizzes:

Quiz 1 - Java script

## Day 25

#### Assess-Type-1: Code Challenge

Assess-Type-1: Code Challenge 1 - Java script

## Schedule – Stage 1: Week 6

Week 6 will be focusing on DataSource – SQL, XML and JSON.

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.

### Day 26

#### Datasource - SQL

##### Continuous Learning: Technical Enablement

Learn the basics of SQL



[SQL for Beginners: Learn SQL using MySQL and Database Design](#)

Refer sections 1, 2, 3, 4, 5, 6 and 7 in this Udemy course and complete the corresponding learnings.

Section 1: Course Introduction

Section 2: Installation and Setup

Section 3: Data Definition Language

Section 4: More On Alter Table

Section 5: Data Manipulation

Section 6: Selecting from a Table

Section 7: Selecting From Multiple Tables

### Day 27

#### Datasource - SQL

##### Continuous Learning: Technical Enablement

Learn the basics of SQL



## [SQL for Beginners: Learn SQL using MySQL and Database Design](#)

Refer sections 8, 9, 10, 11 and 12 in this Udemmy course and complete the corresponding learnings.

Section 8: Database Design

Section 9: Creating a Cinema Booking System Database

Section 10: Aggregate Functions

Section 11: Subqueries

Section 12: MySQL Functions - String Functions and Date Functions

### **Continuous Learning: Technical Hands-on**

Mandatory Hands-on

- Insert Records - Department
- Department name based on block number
- Student and their Department Based on City
- Concatenating Details
- Hotels that took order based on month
- Rental details based on return date

### **Additional Learning:**

#### **Technical Quizzes:**

Quiz 2 - Database concepts

Day 28

## **Datasource - SQL**

### **Continuous Learning: Technical Enablement**

Learn the basics of SQL



## [SQL for Beginners: Learn SQL using MySQL and Database Design](#)

Refer sections 13 and 14 in this Udemmy course and complete the corresponding learnings.

Section 13: Challenges

Section 14: Extra Information -Source code, and other stuff

## Continuous Learning: Technical Hands-on

### Mandatory Hands-on

- No of time rented by each car
- Total sale daywise
- Maruthi car owner details
- Cars not taken for rent

### Additional Learning:

### Technical Quizzes:

Quiz 3 - ANSI SQL

## Day 29

## Datasource - SQL

## Continuous Learning: Technical Enablement

Learn the basics of XML and JSON



[Learn API Technical Writing: JSON and XML for Writers](#)

Refer sections 1, 2, 3 and 4 in this Udemy course and complete the corresponding learnings.

Section 1: Introduction

Section 2: JSON

Section 3: XML

Section 4: Final Words

## Continuous Learning: Technical Hands-on

### Mandatory Hands-on

- Well Formed XML - Employee Detail
- Well Formed XML - Department Details

- Well Formed XML - Department Details -2
- Well Formed XML - Hotel Information
- Well Formed XML - Multiple Department Details

## Day 30

### Datasource - XML

#### Continuous Learning: Technical Enablement

Learn the basics of XML and JSON



[Learn API Technical Writing: JSON and XML for Writers](#)

Revisit the sections in this Udemy course and complete the corresponding learnings.

#### Assess-Type-1: Code Challenge

Assess-Type-1: Code Challenge 2 - DDL, DML & Select Statement

Assess-Type-1: Code Challenge 3 - JOINS and SUBQUERIES

Assess-Type-1: Code Challenge 4 - Scalar, Aggregate

#### Assess-Type-1: Code Challenge

Assess-Type-1: Code Challenge 5 – XML

## Schedule – Stage 2: Week 7

Week 7 will be focusing on Selenium configuration and WebDriver Basics

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.

#### Business Aligned Project (Mini Project/ Main Project/ Hackathon)

As the selenium learning starts, the project details (Mini project, Main project and the Hackathon) will be given for the learners so that they can parallel keep doing the project activities along with the rest of the learnings.



The given Mini/ Main Project and the Hackathon are expected to be completed on or before the end week of the program.

Project Evaluation will be based on:

- Source Code
- Functionality Completion, Usage of Features, Code Quality
- Demo of Output

**Note:**

Mini Project is an individual team member activity. Project Requirement is available in the platform

Main project is a group activity – your cohort would be divided into groups. Each group will get one project requirement from BU Project team (Internal CTS CAS Team). Because Project requirement is not available in platform.

Hackathon is a group activity. Project requirement is available in the platform.

## Day 31

### Automation Concepts, Selenium configuration, WebDriver Basics

#### Continuous Learning: Technical Enablement

Learn the basics of WebDriver Basics



[Selenium WebDriver MasterClass \(Basic + Advance + Architect\)](#)

Refer section 12 in this Udemy course and complete the corresponding learnings.

Section 12: Selenium WebDriver Basics : Start With Selenium

## Day 32

### Automation Concepts, Selenium configuration, WebDriver Basics

#### Continuous Learning: Technical Enablement

Learn the basics of WebDriver Basics



[Selenium WebDriver MasterClass \(Basic + Advance + Architect\)](#)

Refer section 12 in this Udemy course and complete the corresponding learnings.

Section 12: Selenium WebDriver Basics : Start With Selenium

## Continuous Learning: Technical Hands-on

### Mandatory Hands-on

- Object Identification By name

## Day 33

## Automation Concepts, Selenium configuration, WebDriver Basics

### Continuous Learning: Technical Enablement

Learn the basics of WebDriver Basics



[Selenium WebDriver MasterClass \(Basic + Advance + Architect\)](#)

Refer section 13 in this Udemy course and complete the corresponding learnings.

Section 13: Concepts of WebElement in Selenium

### Continuous Learning: Technical Hands-on

#### Mandatory Hands-on

- IdLocator
- All Web elements
- PageNavigation

## Day 34

## Automation Concepts, Selenium configuration, WebDriver Basics

### Continuous Learning: Technical Enablement

Learn the basics of WebElement



[Selenium WebDriver MasterClass \(Basic + Advance + Architect\)](#)

Refer section 13 in this Udemy course and complete the corresponding learnings.

Section 13: Concepts of WebElement in Selenium

### Continuous Learning: Technical Hands-on

#### Mandatory Hands-on

- Form Registration Basic

- Form Registration Advanced

#### Additional Hands-on

- User Registration PrintOptions - Basic Web Elements
- AgentRegistration Error Message - Basic Web Elements
- Login Servlet - Basic Web Elements

#### Additional Learning:

#### Technical Quizzes:

Quiz 1 - Automation Concepts, Selenium configuration, WebDriver Basics

## Day 35

### Automation Concepts, Selenium configuration, WebDriver Basics

#### Assess-Type-1: Code Challenge

Assess-Type-1: Code Challenge - Automation Concepts, Selenium configuration, WebDriver Basics

## Schedule – Stage 2: Week 8

Week 8 will be focusing on Automation Techniques and Dynamic XPath

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.

## Day 36

### Selenium Automation Techniques, Dynamic XPath

#### Continuous Learning: Technical Enablement

Learn the basics of Automation Techniques and Dynamic XPath



[Selenium WebDriver MasterClass \(Basic + Advance + Architect\)](#)

Refer section 14, 15 and 16 in this Udemy course and complete the corresponding learnings.

Section 14: Become Genius in XPath: Create Dynamic XPaths

Section 15: Become Pro In CSS Selector

Section 16: Waits in Selenium WebDriver

### Selenium Automation Techniques, Dynamic XPath

#### Continuous Learning: Technical Enablement

Learn the basics of Automation Techniques and Dynamic XPath



[Selenium WebDriver MasterClass \(Basic + Advance + Architect\)](#)

Refer section 17, 18 and 19 in this Udemy course and complete the corresponding learnings.

Section 17: Master in Selenium WebDriver Part 1

Section 18: Master in Selenium WebDriver Part 2

Section 19: Master in Selenium WebDriver Part 3

#### Continuous Learning: Technical Hands-on

Mandatory Hands-on

- CSSLocator
- AbsoluteXPathLocator

### Selenium Automation Techniques, Dynamic XPath

#### Continuous Learning: Technical Enablement

Learn the basics of Automation Techniques and Dynamic XPath



[Selenium WebDriver MasterClass \(Basic + Advance + Architect\)](#)

Refer section 20 in this Udemy course and complete the corresponding learnings.

Section 20: Professional Selenium Script Preparation: Real Life Projects Live Automation

#### Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Relative XPath Locator
- Handling RegEx Selenium
- XPath Ancestor

#### Additional Hands-on

- StudentRegistration - Dynamic Xpath
- CommodityDetails - Dynamic Xpath
- CustomerRegistration - Dynamic Xpath
- Registration, Invalid - Dynamic Xpath

## Day 39

### Selenium Automation Techniques, Dynamic XPath

#### Continuous Learning: Technical Enablement

Learn the basics of Automation Techniques and Dynamic XPath



[Selenium WebDriver MasterClass \(Basic + Advance + Architect\)](#)

Refer section 20 in this Udemy course and complete the corresponding learnings.

Section 20: Professional Selenium Script Preparation: Real Life Projects Live Automation

#### Continuous Learning: Technical Hands-on

#### Mandatory Hands-on

- Work with Alerts
- Work with Javascript Executor
- Multiple Window
- Drag and Drop with Slider

#### Additional Learning:

#### Technical Quizzes:

Quiz 1 - Selenium Automation Techniques, Dynamic XPath

## Day 40

### Selenium Automation Techniques, Dynamic XPath

#### Assess-Type-1: Code Challenge

Assess-Type-1: Code Challenge 1 - Selenium Automation Techniques, Dynamic XPath

## Schedule – Stage 2: Week 9

Week 9 will be focusing on Selenium WebDriver with POM and ApachePOI

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.

### Day 41

#### Selenium Webdriver with POM and ApachePOI

##### Continuous Learning: Technical Enablement

Learn the basics of WebDriver with POM and ApachePOI



[Selenium WebDriver MasterClass \(Basic + Advance + Architect\)](#)

Refer section 21 in this Udemy course and complete the corresponding learnings.

Section 21: Selenium : Data Driven Framework Implement From Scratch

### Day 42

#### Selenium Webdriver With POM and ApachePOI

##### Continuous Learning: Technical Enablement

Learn the basics of WebDriver with POM and ApachePOI



[Selenium WebDriver MasterClass \(Basic + Advance + Architect\)](#)

Refer section 22 in this Udemy course and complete the corresponding learnings.

Section 22: Selenium Framework with Page Object Model (POM)

##### Continuous Learning: Technical Hands-on

Additional Hands-on

- AgentRegistration – ApachePOI

Mandatory Hands-on

- Applying POI - 1
- Applying POI – 2

## Day 43

### Selenium Webdriver With POM and ApachePOI

#### Continuous Learning: Technical Enablement

Learn the basics of WebDriver with POM and ApachePOI



[Selenium WebDriver MasterClass \(Basic + Advance + Architect\)](#)

Refer section 22 in this Udemy course and complete the corresponding learnings.

Section 22: Selenium Framework with Page Object Model (POM)

#### Continuous Learning: Technical Hands-on

Additional Hands-on

- FormRegistration, ReadExcelBySheetName - ApachePOI

Mandatory Hands-on

- Applying POI With POM – 1

## Day 44

### Selenium Webdriver With POM and ApachePOI

#### Continuous Learning: Technical Enablement

Learn the basics of WebDriver with POM and ApachePOI



[Selenium WebDriver MasterClass \(Basic + Advance + Architect\)](#)

Refer section 22 in this Udemy course and complete the corresponding learnings.

Section 22: Selenium Framework with Page Object Model (POM)

#### Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Applying POI with POM – 2

Additional Hands-on

- InvoiceUpdates - ApachePOI

- ShippingDetails – ApachePOI

### Additional Learning:

#### Technical Quizzes:

Quiz 1 - Selenium Webdriver With POM and ApachePOI

## Day 45

### Selenium Webdriver With POM and ApachePOI

#### Assess-Type-1: Code Challenge

Assess-Type-1: Code Challenge 1 - Selenium Webdriver With POM and ApachePOI

## Schedule – Stage 2: Week 10

Week 10 will be focusing on Selenium with TestNG

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.

## Day 46

### Selenium with TestNG

#### Continuous Learning: Technical Enablement

Learn the basics of Selenium with TestNG



[Selenium WebDriver MasterClass \(Basic + Advance + Architect\)](#)

Refer section 11 in this Udemy course and complete the corresponding learnings.

Section 11: TestNG Framework :Test Management



## Day 47

### Selenium with TestNG

#### Continuous Learning: Technical Enablement

Learn the basics of Selenium with TestNG



[Selenium WebDriver MasterClass \(Basic + Advance + Architect\)](#)

Refer section 11 in this Udemy course and complete the corresponding learnings.

Section 11: TestNG Framework :Test Management

Mandatory Hands-on

- TestNG Annotations – 1
- TestNG Annotations – 2

## Day 48

### Selenium with TestNG

#### Continuous Learning: Technical Enablement

Learn the basics of Selenium with TestNG



[Selenium WebDriver MasterClass \(Basic + Advance + Architect\)](#)

Refer section 11 in this Udemy course and complete the corresponding learnings.

Section 11: TestNG Framework :Test Management

#### Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Shipment Cost - TestNG with DataProvider

Additional Hands-on

- AddressBook – TestNG

## Day 49

### Selenium with TestNG

#### Continuous Learning: Technical Enablement

Learn the basics of Selenium with TestNG



[Selenium WebDriver MasterClass \(Basic + Advance + Architect\)](#)

Refer section 11 in this Udemy course and complete the corresponding learnings.

Section 11: TestNG Framework :Test Management

#### Continuous Learning: Technical Hands-on

Additional Hands-on

- ShipmentCharge - TestNG
- Shopify With Dataprovider - TestNG
- UserDetails - TestNG

#### Additional Learning:

##### Technical Quizzes:

Quiz 1 - Selenium with TestNG

## Day 50

### Selenium with TestNG

#### Assess-Type-1: Code Challenge

Assess-Type-1: Code Challenge 1 - Selenium with TestNG

## Schedule – Stage 2: Week 11

Week 11 will continue focusing Selenium with TestNG

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.

Day 51

### Selenium with TestNG

#### Continuous Learning: Technical Enablement

Learn the basics of Selenium with Datasource XML Parsing



[Learn API Technical Writing: JSON and XML for Writers](#)

Refer sections 1, 2, 3 and 4 in this Udemy course and complete the corresponding learnings.

Section 1: Introduction

Section 2: JSON

Section 3: XML

Section 4: Final Words

Rehearse the below Lend a hand enablement given in platform

- XMLParser\_Enablement

Followed by refer “Lend-a-Hand” code template with solution

- XML Parsing
- XMLParser\_Solution Explanation

## Day 52

### Selenium with TestNG

#### Continuous Learning: Technical Enablement

Learn the basics of Selenium with Datasource XML Parsing



[Learn API Technical Writing: JSON and XML for Writers](#)

Refer sections 1, 2, 3 and 4 in this Udemy course and complete the corresponding learnings.

Section 1: Introduction

Section 2: JSON

Section 3: XML

Section 4: Final Words

#### Continuous Learning: Technical Hands-on

Mandatory Hands-on

- XMLParsing -1
- Work With XML and POM - 1
- Work With XML and POM - 2 (Commodity)
- Work With XML and POM - 3(Discount Calculator)

## Day 53

### Selenium with TestNG

#### Continuous Learning: Technical Enablement

Learn the basics of Selenium with Datasource XML Parsing



[Learn API Technical Writing: JSON and XML for Writers](#)

Refer sections 1, 2, 3 and 4 in this Udemy course and complete the corresponding learnings.

Section 1: Introduction

Section 2: JSON

Section 3: XML

Section 4: Final Words

## **Continuous Learning: Technical Hands-on**

Mandatory Hands-on

- Work With XML and POM - 4(Shipment Detail)
- Work With XML and POM - 5(Customer Registration)

Day 54

## **Selenium with TestNG**

### **Continuous Learning: Technical Enablement**

Learn the basics of Selenium with Datasource JSON Parsing

Rehearse the below Lend a hand enablement given in platform

- JSONParsing\_Enablement

Followed by refer “Lend-a-Hand” code template with solution

- JSON Parsing
- Json Solution Explanation

### **Continuous Learning: Technical Hands-on**

Mandatory Hands-on

- JSONParsing - 1

### **Additional Learning:**

#### **Technical Quizzes:**

Quiz 2 - Selenium with different DataSource

## Day 55

### Selenium with TestNG

#### Continuous Learning: Technical Hands-on

##### Mandatory Hands-on

- Work With JSON and POM - 1
- Selenium Mock ICT

## Schedule – Stage 2: Week 12

Week 12 will be focusing on Selenium with BDD, Cucumber and WebServices

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.

## Day 56

### Digital technologies

#### Continuous Learning: Technical Enablement

Learn webservices testing with SOAPUI.



[WebServices/Rest API Testing with SoapUI +Real time Projects](#)

Refer sections 1, 2, 3, 4,5, 6, 7 and 8 in this Udemy course and complete the corresponding learnings.

Section 1-8: SOAP UI tool basic features, REST API, JSON Assertions, End-to-End framework design

#### Continuous Learning: Technical Hands-on

##### Mandatory Hands-on

- Simple SOAP UI web services project with WSDL
- Simple SOAP UI web services project with WADL

## Day 57

### Digital technologies

#### Continuous Learning: Technical Enablement

Learn webservices testing with SOAPUI.



##### [POSTMAN API Testing - Step by Step for Beginners](#)

Refer sections 1 to 13 in this Udemy course and complete the corresponding learnings.

Section 1-13: Collections, Variables, Environments, Test script creation, Data Driven testing, Authorization, Command line and JENKINS, Workspaced, monitors, Documentation, Remote Execution, SOAP UPI testing, API chaining and Mock API.

#### Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Teamplayers

## Day 58

### Digital technologies

#### Continuous Learning: Technical Enablement

Learn SOAPUI Concepts.



##### [WebServices/Rest API Testing with SoapUI +Real time Projects](#)

Refer sections 1, 2, 3, 4,5, 6, 7 and 8 in this Udemy course and complete the corresponding learnings.

Section 1-8: SOAP UI tool basic features, REST API, JSON Assertions, End-to-End framework design

#### Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Creation of new PostMan request with collection

## Day 59

### Digital technologies

#### Continuous Learning: Technical Enablement

Learn POSTMAN Concepts.



[POSTMAN API Testing - Step by Step for Beginners](#)

Refer sections 1 to 13 in this Udemy course and complete the corresponding learnings.

Section 1-13: Collections, Variables, Environments, Test script creation, Data Driven testing, Authorization, Command line and JENKINS, Workspaced, monitors, Documentation, Remote Execution, SOAP UPI testing, API chaining and Mock API.

#### Assess-Type-1: Code Challenge

Assess-Type-1: Code Challenge 1 - WebServices

#### Additional Learning:

#### Technical Quizzes:

Quiz 1 – WebServices

## Day 60

### Digital technologies

#### Continuous Learning: Technical Enablement

Learn BDD and Cucumber Concepts.



[Selenium WebDriver MasterClass \(Basic + Advance + Architect\)](#)

Refer sections 26 to 29 in this Udemy course and complete the corresponding learnings.

Section 26 - 29: Cucumber BDD framework, BDD framework using datadriven concept, Tags, Hooks, Page object model.

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

Selenium ICT



## Schedule – Stage 2: Week 13

Week 13 will be focusing on Selenium with BDD, Cucumber and DevOps

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.

### Day 61

#### Digital technologies

##### Continuous Learning: Technical Enablement

Learn BDD and Cucumber Concepts.



[Selenium WebDriver MasterClass \(Basic + Advance + Architect\)](#)

Refer sections 26 to 29 in this Udemy course and complete the corresponding learnings.

Section 26 - 29: Cucumber BDD framework, BDD framework using datadriven concept, Tags, Hooks, Page object model.

##### Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Simple cucumber project with php travels
- Simple cucumber project using data table
- Simple cucumber project using scenario outline

### Day 62

#### Digital technologies

##### Continuous Learning: Technical Enablement

Learn BDD and Cucumber Concepts.



[Selenium WebDriver MasterClass \(Basic + Advance + Architect\)](#)

Refer sections 10 in this Udemy course and complete the corresponding learnings.

Section 10: Project Build Tool Maven.

## Continuous Learning: Technical Hands-on

### Mandatory Hands-on

- Mavenization using Eclipse M2E plugin Options and CLI commands

## Day 63

### Digital technologies

## Continuous Learning: Technical Enablement

Learn Jenkins and GIT.

•  [Selenium WebDriver MasterClass \(Basic + Advance + Architect\)](#)

Refer sections 24 in this Udemy course and complete the corresponding learnings.

Section 24: JENKINS + GIT.

## Continuous Learning: Technical Hands-on

### Mandatory Hands-on

- GIT installation & commands implementation
- Install Jenkins and Creation of new job

## Day 64

### Digital technologies

## Continuous Learning: Technical Enablement

Learn GRID.

•  [Selenium WebDriver MasterClass \(Basic + Advance + Architect\)](#)

Refer sections 10, 24 to 29, 31 in this Udemy course and complete the corresponding learnings.

Section 31: Selenium Grid & Parallel Test Execution.

Section 10: Project Build Tool:Maven

Section 24 to 29: JENKINS + GIT, Cucumber BDD

Section 31: Selenium GRID

## Continuous Learning: Technical Hands-on

Mandatory Hands-on

- Setup Grid and parallel execution

### Technical Quizzes:

Quiz 2 - Cucumber and DevOps

Day 65

## Business Aligned Project (Mini Project/ Main Project/ Hackathon)

The deliverables of the Mini/ Main project and the Hackathon will be evaluated by the BU SME.

Project Evaluation will be based on:

- Source Code
- Functionality Completion, Usage of Features, Code Quality
- Demo of Output

## Schedule – Business Aligned Project

**Overall Duration:** Should start in parallel with the Stage 2 learnings and delivery during the 12th week of the training program.

There are 3 component as Project Deliverables.

- Mini Project
- Main Project
- Hackathon

The outcomes of doing **Mini Project** are:

- Enables learners to know on the environment setup
- Any web application is taken and learner try to automate given scenario using Selenium APIs

- Exhibits learner skills on automation of real time applications for smaller requirement.

The outcomes of doing **Main Project** are:

- Collaborate and deliver as a Team
- Align to the BU real business problem
- Build automation test suite.
- Implement the Hybrid automation frameworks (Prototype) with all mandatory features.
- Automating good coverage of Regression Test Cases.

The outcomes of doing **Hackathon** are:

- Explore the Innovative Implementations.
- Implement the Hybrid automation frameworks (Prototype) with all mandatory features.
- Implement Best practices such as creating **Smoke and Regression suite**.
- Implement **Maven** on the created automation test scripts
- Explore **Jenkins** to execute the test scripts periodically on Selenium Grid.
- Explore Selenium **Grid** to run test scripts on different platforms and against different browsers.
- Integrate Jenkins with version controller (**GIT**) and scheduled builds to run automatically.

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

Coach is your point of contact.