

**GenC HR**

CMT-C , Unix & Advanced Java Handbook

Full Stack Prep-up

Learning Guide

Java Track

**Program at a glance**

ISG CMT-C , Unix & Advanced Java Program has 3 stages:

* Stage 1 – JUnit, Design Principles and Patterns, Data Structures and Algorithms, C Programming, Unix
* Stage 2 - Spring Core, Maven, Spring REST and Microservices with Spring Boot and Cloud Services
* Final Project

**Program Highlights**

**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 implemented 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 Subject Matter Experts, whose motivation and guidance will help you accelerate in the learning journey.
* Higher order framework concepts would be dealt with Trainer support in Instructor Led training mode.

**Learning Journey through Flipped Classroom**

The learning path is set in the [GEN C Learn Platform](https://cognizant.tekstac.com/login/index.php), which you can login with SSO.

**Flipped Classroom**

Flipped Classroom

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Flipped Classroom

Flipped Classroom

**Key Learning and Evaluation Components of the Program**

**Self-Learning via Udemy**

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

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

The program doesn’t ONLY concentrate on the technical skilling, but also on the shaping up of the behavioral skills. **39 hours of Behavioral learning** would be done in ILT mode, with few Self-paced learning modules too.

At the conclusion of Stage 3, there will be an interim evaluation during which learners will be assessed based on the technical skills covered up to that point and their progress in project deliverables. Towards the end of Stage 4, a final evaluation will take place, which will cover the entire scope of the training.

**Program Completion Criteria**

**RAG as PHS (Performance Health Status)**

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

**Interim Evaluation:**

During the interim evaluation, the GenC will undergo a video interview on the learning platform. This interview will be conducted by a Tech SME from the BU. The purpose of this evaluation is to assess the GenC's knowledge and understanding of the skills covered in the training program up to the halfway point. It also encompasses an evaluation of the GenC's progress in their Integrated Development Project (IDP). The evaluation will involve a technical discussion as well as an assessment of the IDP progression to gauge the GenC's proficiency in the skills learned thus far.

**Final Evaluation:**

For the final evaluation, the GenC will participate in a video interview conducted by a Tech SME from the BU. This evaluation aims to assess the GenC's knowledge and expertise in all the skills covered throughout the entire training program. Similar to the interim evaluation, this assessment will involve a technical discussion via a video interview on the learning platform, along with a project evaluation to assess the GenC's capabilities and their IDP's progress. It serves as a comprehensive evaluation of the GenC's skills and capabilities acquired during the training.

The above evaluation components will attribute to the **Performance Health Status** **(PHS)** of a GenC. Additional Learning Components like Hands-On, Quizzes, CCs, and ICTs will help you to enhance your expertise level.

**Mandatory Hands-On Exercise Completion**

* Completion of 100% of the hands-on exercises is mandatory to qualify for the Interim, and Final evaluations.

**Icebreaker Sessions**

Icebreaker

Icebreaker

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| Icebreaker session will be conducted for a duration of initial **5 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, technical training will kick start.  **Following sessions will be covered during the 5 days of icebreaker**   * Corporate Induction * Talent Manager Connect * Cognizant Agenda Sessions on Core Values * Leader Talks (Academy) and many more… | 5 Icebreaker Activities for a Creative Meeting Introduction - Beekast blog |

**Learning Recommendation**

A recommended day-wise schedule is provided below for the learning, with the learning content for the day, the practice hands-on and extended hands-on to be done for the day or any other activities are listed.

**How and From Where to Learn?**

* Udemy learnings are recommended in the Platform to understand the fundamental concepts. In addition to this, you can also learn from any other sources as they are mentioned in this handbook.

**Stage 1: JUnit, Design Principles and Patterns, Data Structures and Algorithms, C Programming, Unix**

As part of **Stage 1** of your training, the following skills will be covered.

* Getting Started with JUnit
* Advanced JUnit Features
* Design Principles and Patterns
* Data Structures and Algorithms
* C Programming
* Unix Programming

**How and From Where to Learn?**

* You can learn from the sources as they are mentioned in this learning guide.

**Stage 1 -> Milestone 1 -> JUnit**

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| **Day 1 to 3** |

**Refresher - Core Java**

**Key Topics:** Java Basics, Object Oriented Programming Concepts, Packages, Interfaces, Abstract Classes, Inner Classes, Exception Handling, Strings, I/O, Collections and Generics, Date/Time API, Standard Libraries,Multithreading, JDBC, Lambda Expressions

**Refresher – ANSI SQL using MySQL, HTML5, CSS3, Javascript**

Go through the learning given in the attached document

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| **Day 4 to 6** |

**TDD using JUnit and Mockito**

**Continuous Learning: Technical Enablement**

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| 4FCA95A2 | [Learn Java Unit Testing with Junit & Mockito in 30 Steps](https://cognizant.udemy.com/course/mockito-tutorial-with-junit-examples/)   * Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope. * **Section 2:** Unit Testing with JUnit * Ensure that you learn these topics through self-learning and practice alongside the course instructor. It is NOT necessary to cover every topic comprehensively within each section. |

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| **Day 7** |

**JSON**

* [Overview](https://www.tutorialspoint.com/json/json_overview.htm)
* [Syntax](Https://www.tutorialspoint.com/json/json_syntax.htm)
* Data [Types](https://www.tutorialspoint.com/json/json_data_types.htm)
* [Objects](https://www.tutorialspoint.com/json/json_objects.htm)
* [Stringify](https://www.w3schools.com/js/js_json_stringify.asp)

**YAML**

* [Introduction](https://www.tutorialspoint.com/yaml/yaml_introduction.htm)
* [Basics](https://www.tutorialspoint.com/yaml/yaml_basics.htm)

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| **Day 8** |

**Unit Testing - JUnit**

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| 4FCA95A2 | [Learn Java Unit Testing with Junit & Mockito in 30 Steps](https://cognizant.udemy.com/course/mockito-tutorial-with-junit-examples/)   * Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope. * **Section 2:** Unit Testing with JUnit * Ensure that you learn these topics through self-learning and practice alongside the course instructor. It is NOT necessary to cover every topic comprehensively within each section. |

**Stage 1 -> Milestone 2 -> Design Principles and Patterns**

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| **Days 9, 10 ,11** |

**SOLID Principles**

**Key Topics:** SOLID Principles

**Continuous Learning: Technical Enablement**

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| C:\Users\690417\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\36B80265.tmp | [Design Patterns in Java](https://cognizant.udemy.com/course/design-patterns-java)   * Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope. * **Section 2:** SOLID Design Principles * Ensure that you learn these topics through self-learning and practice alongside the course instructor. It is NOT necessary to cover every topic comprehensively within each section. |

**Hands-On**

Complete the hands-on given in the Udemy course while you learn.

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|  | Do not copy paste the code. Write the code yourself. |

**Stage 1 -> Milestone 3 -> Data Structures and Algorithms**

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| **Day 12** |

**Data Structures and Algorithms**

**Key Topics:** Linear Data Structure- Array, Linked list, Algorithm- Searching, Sorting, Pattern Searching

**Learn and Practice**

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| C:\Users\690417\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\36B80265.tmp | [Algorithms Data Structures in Java #1 (+INTERVIEW QUESTIONS)](https://cognizant.udemy.com/course/algorithms-and-data-structures/)   Refer section listed below in this Udemy course and follow the instructor for guided hands on.   * Introduction * Arrays * Linked Lists |
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| **Day 13** |

**Data Structures and Algorithms**

**Key Topics:** Algorithm- Searching, Sorting, Pattern Searching

**Learn and Practice**

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| C:\Users\690417\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\36B80265.tmp | [Algorithms Data Structures in Java #2 (+INTERVIEW QUESTIONS)](https://cognizant.udemy.com/course/algorithms-and-data-structures/)   Refer section listed below in this Udemy course and follow the instructor for guided hands on.   * Substring Search * Strings * Basic Sorting Algorithm |

**Stage 1 -> Milestone 4 -> C Programming**

<Trainer driven>

<To be Updated>

**Stage 1 -> Milestone 5 -> Unix and Shell Scripting**

<Trainer driven>

<To be Updated>