

Generation Cognizant (GenC)

Channels – React v5 – Learning Guide

Learning Journey Guide

Java Track – Full



**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 4 Stages:

* Stage 1 – UI & Scripting Technology
* Stage 2 – Single Page Application
* Stage 3 – Service Development and Back End
* Stage 4 – Deployment
* Integrated Development Project (IDP)



**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.
* Get mentored by SME, whose motivation and guidance will help you accelerate in the learning journey.
* 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.
* Towards the end of this training program, GenCs will be completed their first real-time project.

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**Know Your Service Line – Digital Experience -Channels**

**Service Lines**

Service lines can simply be defined as a modern organizational structure strategy for resource planning and allocation for any size of business. Typically, traditional organizational structure models are more vertically aligned -- think of an employee who has several bosses in the hierarchical ladder before being directly under the company’s owner or president. Conversely, service lines follow a more horizontal continuum approach, where the company is strategically segmented into more manageable departments. The service line approach tends to focus more on the requirements of customers, which often results in noticeable increases in the customer satisfaction rate.

**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](https://cognizant.tekstac.com/login/index.php), which you can login with SSO.

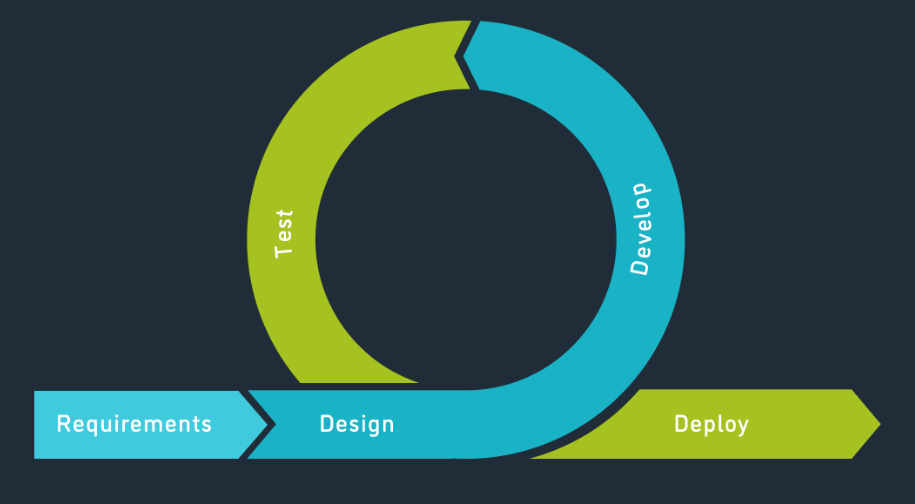
**Flipped Classroom**

**Integrated Development Project (IDP)**

**What is Integrated Development Project (IDP)?**

Integrated Development Project is an approach wherein the learner experiences the entire software development processes in an incremental fashion as part of the GenC Training. The IDP implementation is purely based on **Agile Software Development** methodologies and inspired from **PBL (Project-Based Learning)** which is learning while doing. It gives learners the opportunity to gain a deeper understanding of a topic through problem-solving using real-world examples and challenges.

Following is the Agile Development Methodology at high-level.

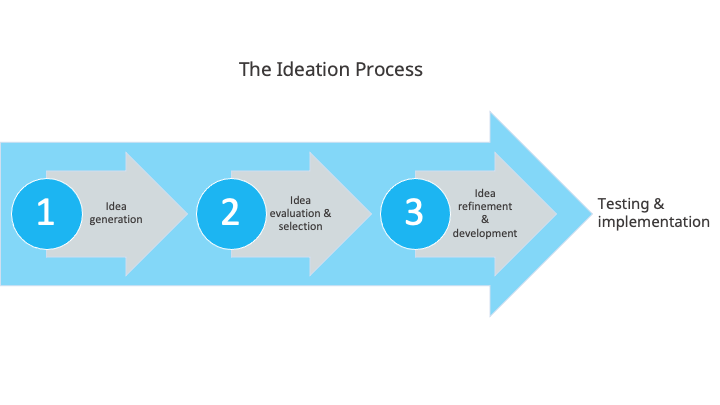


**Stages of IDP**

Following are the four seminal phases of IPD.

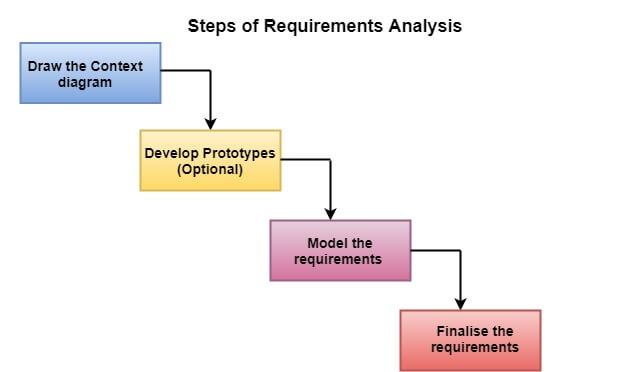
**Phase 1: Ideation**

Ideation is the creative process of generating, developing, and communicating ideas. It’s important to note that these ideas don’t have to be completely new. You can ideate to solve specific problems, look into new ways of implementing a solution, or even collect feedback and evaluate ideas.



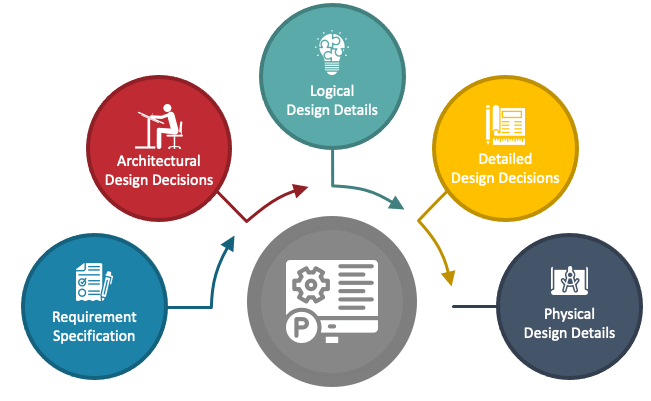
**Phase 2: Requirement Analysis**

Requirement’s analysis, also called requirements engineering, is the process of determining user expectations for a new or modified product. These features, called requirements, must be quantifiable, relevant and detailed. In software engineering, such requirements are often called functional specifications.



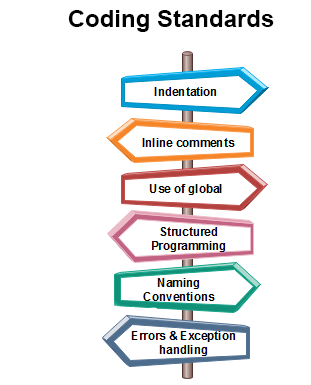
**Phase 3: Project Design**

Project design is a process to transform user requirements into some suitable form, which helps the programmer in software coding and implementation.



**Phase 4: Project Development**

Once the system design phase is over, the next phase is development. In this phase, developers start build the entire system by writing code using the chosen programming language. In this phase, tasks are divided into units or modules and assigned to the various developers. It is the longest phase of the Software Development Life Cycle process.



**Recommended Program Sequence**

The learning journey starts with **5 days of Icebreaker sessions** followed by technical learning that contains **4 stages**, and a **Project that you’ll do alongside the learning.**

* Stage 1 – UI & Scripting Technology
* Stage 2 – Single Page Application
* Stage 3 – Service Development and Back End
* Stage 4 – Deployment
* Integrated Development Project (IDP)

**Stage 1: Foundational Skills**

**Stage 2 - Deep Learnings**

**Stage 2 - Deep Learnings**

**Stage 2 - Deep Learnings**

**Stage 2 - Deep Learnings**

**Stage 2 - Deep Learnings**

**Stage 2 - Deep Learnings**

**Stage 2 - Deep Learnings**

**Stage 1 Assessment**

**Stage 2 - Deep Learnings**

**Stage 2 - Deep Learnings**

**Stage 2 - Deep Learnings**

**Stage 2 - Deep Learnings**

**Stage 2 - Deep Learnings**

**Stage 2 - Deep Learnings**

**Stage 2 - Deep Learnings**

**Stage 2: Single Page Application Development**

**Stage 2 - Deep Learnings**

**Stage 2 - Deep Learnings**

**Stage 2 - Deep Learnings**

**Stage 2 - Deep Learnings**

**Stage 2 - Deep Learnings**

**Stage 2 - Deep Learnings**

**Stage 2 - Deep Learnings**

**Interim Evaluation (Project + Technical)**

**Stage 3: Service Development and Back End**

**Stage 3 – FSE Module**

**Stage 3 – FSE Module**

**Stage 3 – FSE Module**

**Stage 3 – FSE Module**

**Stage 3 – FSE Module**

**Stage 3 – FSE Module**

**Stage 3 – FSE Module**

**Stage 4: Deployment**

**Stage 3 – FSE Module**

**Stage 3 – FSE Module**

**Stage 3 – FSE Module**

**Stage 3 – FSE Module**

**Stage 3 – FSE Module**

**Stage 3 – FSE Module**

**Stage 3 – FSE Module**

**Final Evaluation (Project + Technical)**

**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:**

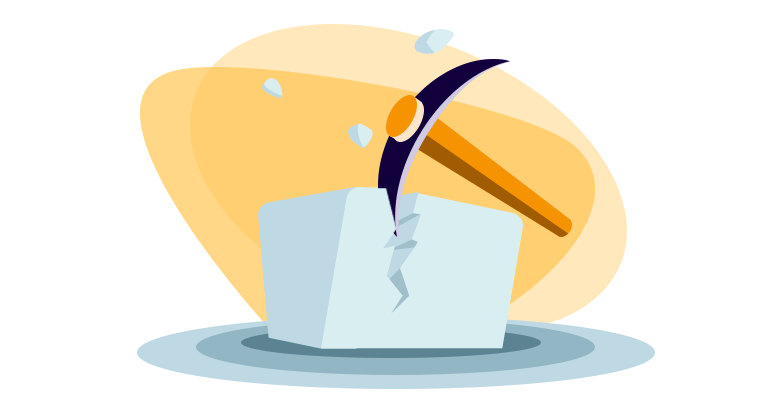
For the final evaluation, the GenC will participate in a video interview conducted by a Tech SME from the BU. This evaluation aims to assess the GenC's knowledge and expertise in all the skills covered throughout the entire training program. Similar to the interim evaluation, this assessment will involve 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**



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…

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 – Foundational Technology Skills**

**Overview**

**Stage 1** deals with foundational technology skills that help GenCs to get start with their software engineering career. We provide unique learning experience to learners by including diversified learning content and learning methodologies that are based on adult learning principles. At the end of this stage, there will be a **Stage1 Assessment** which determines the direction of the learning journey of a GenC at Cognizant.

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

* HTML5, CSS3
* Bootstrap
* Adv Javascript/ES6
* Type Script
* JSON Manipulation / Rest API consumption
* SPA, PWA, Hybrid, AMP Concepts

**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.

**Integrated Development Project (IDP) Roadmap**

|  |  |  |  |
| --- | --- | --- | --- |
| **Phases** | **Duration** | **Activities** | **Deliverables** |
| Phase1: Ideation/Brainstorm | 6 Days | 1. Project Ideation by Forming the PoD 2. Conducting various brainstorming sessions and generate project ideas 3. Finalize the project idea | 1. Project abstract and a title |

**Stage 1 -> Course 1 -> Agile Duration: 1 Day**

**Agile Fundamentals**

**Course Overview**

In the **Course 1** of the **Stage 1**, learners will be introduced to the basics of **Agile methodology**. Agile is an approach to project management and software development that emphasizes flexibility, collaboration, and customer satisfaction. It involves adaptive planning, iterative development, early delivery, and continuous improvement. Agile methodologies, like Scrum and Kanban, focus on delivering value to the customer and responding to change effectively.

**Learning Objectives**

After completing this course, GenCs will be able to:

* Understand the principles and values of Agile methodology.
* Describe the benefits of using Agile in software development.
* Explain the differences between Agile and traditional project management approaches.
* Identify the key roles and responsibilities in Agile teams.
* Describe the iterative and incremental nature of Agile development.
* Explain the importance of customer collaboration and feedback in Agile.
* Describe common Agile practices, such as user stories, sprints, and retrospectives.
* Identify common Agile frameworks, such as Scrum, Kanban, and Extreme Programming (XP).
* Explain how Agile principles can be applied in different project environments.

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| **Day 1** |

**Agile Methodology**

**Key Topics:** Introduction to Agile, Agile Manifesto, Scrum Framework, Agile Estimation and Planning, Agile User Stories, Agile Metrics and Reporting

**Continuous Learning: Technical Enablement**

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Learn about Agile process from the below Udemy course.

[Agile Fundamentals: Including Scrum & Kanban](https://apc01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fcognizant.udemy.com%2Fcourse%2Fagile-fundamentals-scrum-kanban-scrumban%2F&data=05%7C02%7CKanimozhi.Selvakumar%40cognizant.com%7C834f7a4b280146a48be908dd36fcda21%7Cde08c40719b9427d9fe8edf254300ca7%7C0%7C0%7C638727183047825952%7CUnknown%7CTWFpbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUsIlYiOiIwLjAuMDAwMCIsIlAiOiJXaW4zMiIsIkFOIjoiTWFpbCIsIldUIjoyfQ%3D%3D%7C0%7C%7C%7C&sdata=G1PDUCvgrXwIO5p7Cu1k%2FmfoNd9PsaenWOvFiGN1qII%3D&reserved=0)A red letter on a white background

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* + Go through the given sections and implement examples along with the author of this course

**Stage 1 -> Course 2 -> HTML5, CSS3, JavaScript Duration: 1 Day**

**Course Overview**

The **Course 2** of the **Stage 1** provides a comprehensive introduction to the core technologies of modern web development, including HTML5, CSS3, and JavaScript. GenCs will explore foundational concepts and advanced topics, enabling them to design and build responsive, user-friendly websites. By mastering essential tools and techniques, GenCs will develop the skills needed to create dynamic, interactive web applications that leverage modern web standards.

**Learning Objectives**

After completing this module, GenCs will be able to

* Understand the structure and syntax of HTML5.
* Utilize elements and attributes to create well-structured web pages.
* Implement navigation and manage user interactions using events.
* Design interactive forms with Web Forms 2.0 for enhanced user input.
* Employ Web Storage and Web SQL Database to manage client-side data efficiently.
* Integrate geolocation features to build location-aware applications.
* Apply CSS3 selectors to target and style HTML elements effectively.
* Customize visual appearances using advanced styling techniques.
* Utilize the Box Model to manage layout and spacing.
* Explore advanced CSS3 features to enhance user interfaces.
* Explain the role and importance of JavaScript in web development.
* Set up the development environment and embed JavaScript into web pages.
* Work with JavaScript syntax, data types, and operators.
* Implement control flow structures like loops and conditional statements.
* Define and invoke functions for modular programming.
* Describe the Document Object Model (DOM) and its significance.
* Manipulate HTML elements and attributes dynamically.
* Implement event-driven programming for interactive user experiences.
* Create and manipulate objects and arrays.
* Understand and work with JSON for data representation and exchange.
* Utilize asynchronous JavaScript concepts like callbacks, promises, and async/await.
* Implement error handling strategies to ensure robust applications.
* Explore ES6 features such as arrow functions, template literals, and destructuring.

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| **Day 2** |

**HTML5, CSS3**

**Key Topics: HTML 5 -** Introduction, Getting Started, Elements & Attributes, Navigation, Events, Web Forms 2.0, Web Storage, Web SQL Database, Geo location, **CSS3** - Introduction, Selectors, Styling,

**Continuous Learning: Technical Enablement**

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| C:\Users\125546\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\7FDA4829.tmp | [The HTML & CSS Bootcamp 2025 Edition](https://cognizant.udemy.com/course/html-and-css-bootcamp)   * Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope. * **Section 1:** Introduction * **Section 2:** HTML Basics * **Section 3:** More HTML * **Section 4:** Working With Forms * **Section 5:** Other Elements * **Section 6:** CSS Basics * **Section 7:** The World of CSS Colors * **Section 8:** Styling Text * **Section 9:** More Text Styling * 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 following set of hands-on given in the Learning Path at Tekstac.

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* Newberry Library
* Jasper Sports Academy
* Calculator
* 4\*4 Sudoku

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| **Day 3** |

**CSS3, JavaScript**

**Key Topics: CSS3 -** Box Model, Advanced Concepts

**Continuous Learning: Technical Enablement**

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| C:\Users\125546\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\7FDA4829.tmp | [The HTML & CSS Bootcamp 2025 Edition](https://cognizant.udemy.com/course/html-and-css-bootcamp)   * Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope. * **Section 11:** The Box Model * **Section 18:** Positioning * 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 following set of hands-on given in the Learning Path at Tekstac.

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* Whatsapp Chat

**Additional Learning**

Explore about **Chrome Developer Tools** from the below given Udemy course

|  |  |
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| 4FCA95A2 | [Devtools Pro: The Basics of Chrome Developer Tools](https://cognizant.udemy.com/course/devtools-2017-the-basics-of-chrome-developer-tools/) |

**Technical Quiz**

Attempt the technical quiz in the Learning Path at Tekstac to check your knowledge level of HTML5 and CSS3.

* HTML 5, CSS3

**Code Challenge (For Practice Only)**

Attempt the following Code Challenge through the Learning Path at Tekstac to check your skill level in HTML5 and CSS3. You need to score 70% or higher to clear this challenge.

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

* Assess-Type-1: Code Challenge - HTML5 and CSS3

**JavaScript**

**Key Topics:** Introduction to JavaScript, JavaScript Basics, DOM Manipulation and Events, JavaScript Objects and Arrays

**Continuous Learning: Technical Enablement**

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| --- | --- |
| 4FCA95A2 | [JavaScript - The Complete Guide 2025 (Beginner + Advanced)](https://cognizant.udemy.com/course/javascript-the-complete-guide-2020-beginner-advanced)   * Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope.   + **Section 1:** Introduction   + **Section 2:** Basics: Variables, Data Types, Operators & Functions   + **Section 3:** Efficient Development & Debugging   + **Section 4:** Working with Control Structures (if Statements, Loops, Error Handling)   + **Section 6:** More on Functions   + **Section 7:** Working with the DOM (Browser HTML Code) in JavaScript   + **Section 14:** Working with Events   + **Section 8:** More on Arrays & Iterables   + **Section 9:** More on Objects   + **Section 10:** Classes & Object-oriented Programming (OOP) * 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 following set of hands-on given in the Learning Path at Tekstac.

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* + - Counting Game
    - Event Reservation Portal
    - Fitness Centre
    - Display Student Details
    - Product Code Validation

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| **Day 4** |

**JavaScript**

**Key Topics:** Advanced JavaScript Concepts

**Continuous Learning: Technical Enablement**

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| 4FCA95A2 | [JavaScript - The Complete Guide 2025 (Beginner + Advanced)](https://cognizant.udemy.com/course/javascript-the-complete-guide-2020-beginner-advanced)   * Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope.   + **Section 16:** More on Numbers & Strings   + **Section 17:** Async JavaScript: Promises & Callbacks   + **Section 18:** Working with Http Requests * 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 following set of hands-on given in the Learning Path at Tekstac.

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* + - SignUp Form validation
    - Schedule Upcoming Match

**Technical Quiz**

Attempt the technical quiz in the Learning Path at Tekstac to check your knowledge level of JavaScript.

* Java Script

**Code Challenge (For Practice Only)**

Attempt the following Code Challenge through the Learning Path at Tekstac to check your skill level in JavaScript. You need to score 70% or higher to clear this challenge.

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* Assess-Type-1: Code Challenge - JavaScript

**Stage 1 -> Course 4 -> Bootstrap**

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| **Day 5** |

**Course Overview**

The **Course 4** of the **Stage 1** provides a comprehensive introduction to Bootstrap 5, the world's most popular front-end framework for building responsive, mobile-first websites. GenCs will explore the fundamental concepts and tools that Bootstrap 5 offers, empowering them to design and develop modern, dynamic web interfaces efficiently. From understanding the layout and grid system to leveraging essential components, utilities, and helpers, this course will equip them with the skills to create visually appealing and user-friendly web pages. Additionally, GenCs will learn how to customize and extend Bootstrap to meet specific project requirements while mastering responsive design principles.

**Learning Objectives**

After completing this course, GenCs will be able to:

* Describe the purpose and features of Bootstrap 5 as a front-end framework.
* Design responsive web layouts using the Bootstrap grid system.
* Implement advanced layout techniques for complex web pages.
* Incorporate common UI elements like navigation bars, modals, buttons, and cards to enhance interactivity and usability.
* Use Bootstrap utilities and helper classes to streamline the styling and functionality of web pages.
* Develop web pages that adapt seamlessly to different devices and screen sizes.
* Leverage responsive breakpoints effectively for design adjustments.
* Modify default themes and styles to align with specific design requirements.
* Integrate Bootstrap with custom CSS and JavaScript to extend its functionality.

**Bootstrap**

**Key Topics:** Introduction to Bootstrap 5, Layout and Grid System

**Continuous Learning: Technical Enablement**

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| 4FCA95A2 | [The Ultimate Bootstrap Guide - Bootstrap 5 from Scratch](https://cognizant.udemy.com/course/the-complete-bootstrap-5-course-for-beginners-step-by-step)   * Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope.   + **Section 1:** Getting Started with Bootstrap 5   + **Section 2:** Layouts in Bootstrap 5 * 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. |

**Continuous Learning: Technical Enablement**

[Beginner VS Code](https://cognizant.udemy.com/course/beginner-vs-code/)

* + Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope.
  + 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 following set of hands-on given in the Learning Path at Tekstac.

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* Ohm's Law

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| **Day 6** |

**Bootstrap**

**Key Topics:** Essential Components, Utilities and Helpers

**Continuous Learning: Technical Enablement**

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| 4FCA95A2 | [The Ultimate Bootstrap Guide - Bootstrap 5 from Scratch](https://cognizant.udemy.com/course/the-complete-bootstrap-5-course-for-beginners-step-by-step)   * Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope.   + **Section 5:** Components in Bootstrap 5   + **Section 6:** Helpers in Bootstrap 5   + **Section 7:** Utilities in Bootstrap 5 * 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 following set of hands-on given in the Learning Path at Tekstac.

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* Sticky Notes
* Portfolio
* Library Home Page
* Hi-Tech Digital world

**Bootstrap**

**Key Topics:** Responsive Design, Customization and Extensions

**Continuous Learning: Technical Enablement**

* [Responsive Web Design - Media Queries](https://www.w3schools.com/css/css_rwd_mediaqueries.asp)
* [Responsive Web Design - Images](https://www.w3schools.com/css/css_rwd_images.asp)
* [Bootstrap 5 Navbar Responsive behaviors Toggler](https://www.geeksforgeeks.org/bootstrap-5-navbar-responsive-behaviors-toggler/)
* [How to theme, customize, and extend Bootstrap with Sass](https://getbootstrap.com/docs/5.0/customize/overview/)
* [Bootstrap Dash](https://www.bootstrapdash.com/blog/bootstrap-css-styles)

**Stage 1 -> Course 5 -> Advance Javascript, Typescript**

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| **Day 7,8** |

**Adv JavaScript / ES6**

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| C:\Users\125546\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\7FDA4829.tmp | [ES6 Javascript: The Complete Developer's Guide](https://cognizant.udemy.com/course/javascript-es6-tutorial/)   * Learn the sections listed below in this Udemy course and complete the corresponding hands-on coding given below   + Section 1: Introduction   + Section 2: The ‘for-each’ Helper   + Section 3: The ‘map’ Helper   + Section 4: The ‘filter’ Helper   + Section 5: The ‘find’ Helper   + Section 6: The ‘every and some’ Helper   + Section 7: The ‘reduce’ Helper |

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| **Day 9,10** |

**Adv JavaScript / ES6**

 [ES6 Javascript: The Complete Developer's Guide](https://cognizant.udemy.com/course/javascript-es6-tutorial/)

* Learn the sections listed below in this Udemy course and complete the corresponding hands-on coding given below
  + Section 8: Const/Let
  + Section 9: Template Strings
  + Section 10: Arrow Functions
  + Section 11: Enhanced Object Literals
  + Section 12: Default Function Argument
  + Section 13: Rest and Spread Operator
  + Section 14: Destructing
  + Section 15: Classes
  + Section 16: Generators
  + Sections 17: Promise and Fetch

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| **Day 11,12** |

**Continuous Learning: Technical Enablement**

Learn JSON Manipulation / Rest API consumption

 [JSON - Beginners Guide to learning JSON with JavaScript](https://cognizant.udemy.com/course/learn-json-course/)

* Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope.
* 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.

**Additional Learnings**

* [REST API Consumption](https://www.freecodecamp.org/news/how-to-use-rest-api/)
* [SPA](https://medium.com/@NeotericEU/single-page-application-vs-multiple-page-application-2591588efe58)
* [PWA](https://web.dev/learn/pwa/progressive-web-apps/)
* [Hybrid](https://www.upwork.com/resources/hybrid-app)
* [AMP](https://instapage.com/blog/amp)
* [RWD Introduction](https://www.w3schools.com/css/css_rwd_intro.asp)
* [RWD Viewport](https://www.w3schools.com/css/css_rwd_viewport.asp)
* [Media Queries](https://www.w3schools.com/css/css_rwd_mediaqueries.asp)

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| **Day 13** |

**Type Script**

**Continuous Learning: Technical Enablement**

Learn the basics of Type Script

 [Mastering TypeScript - 2025 Edition](https://cognizant.udemy.com/course/learn-typescript/)

* Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope.
* 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 following set of hands-on given in the Learning Path at Tekstac.

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

* + - [Weightlifting Competition](https://cognizant.tekstac.com/mod/vpl/view.php?id=5808)
    - [Anniversary Celebration](https://cognizant.tekstac.com/mod/vpl/view.php?id=5809)
    - [Bookstore Inventory Management](https://cognizant.tekstac.com/mod/vpl/view.php?id=5810)
    - [Student Grade Management System](https://cognizant.tekstac.com/mod/vpl/view.php?id=5811)

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| **Day 14** |

**Type Script**

**Continuous Learning: Technical Enablement**

Learn the basics of Type Script

 [Mastering TypeScript - 2025 Edition](https://cognizant.udemy.com/course/learn-typescript/)

* Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope.
* 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 following set of hands-on given in the Learning Path at Tekstac.

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

* [TechWorks - Enum](https://cognizant.tekstac.com/mod/vpl/view.php?id=5812)
* [T20 Score Analysis](https://cognizant.tekstac.com/mod/vpl/view.php?id=5813)
* [Number-String Game - Rest](https://cognizant.tekstac.com/mod/vpl/view.php?id=5814)

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| **Day 15** |

**Type Script**

**Continuous Learning: Technical Enablement**

Learn the basics of Type Script

 [Mastering TypeScript - 2025 Edition](https://cognizant.udemy.com/course/learn-typescript/)

* Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope.
* 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 following hands-on given in the Learning Path at Tekstac.

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

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| * [Type-based Process](https://cognizant.tekstac.com/mod/vpl/view.php?id=5815) * Lucky Wish |

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| **Day 16,17** |

**Type Script**

**Continuous Learning: Technical Enablement**

Learn the basics of Type Script

 [Mastering TypeScript - 2025 Edition](https://cognizant.udemy.com/course/learn-typescript/)

* Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope.
* 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.

**Additional Hands-On**

Complete the following mandatory hands-on given in the Learning Path at Tekstac.

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

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| * Toggle List & Card Gird View Using JS, ES5 & 6 |

**Mock Assessment**

* Take the mock assessment to become familiar with the assessment platform and the format of the questions used in the **Stage 1 Assessment**. Ensure you submit your solutions and check their correctness against the test cases.

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| **Day 18** |

**IDP - High Level Design**

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| --- | --- |
| reminder-bot · GitHub Topics · GitHub | **Submit your Design Document and Prototype** |

30

**Stage 1 – Assessment**

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| **Day 19** |

**Stage 1 Assessment**

* This day will be dedicated for the Stage 1 Assessment and Result Publishing

**Assessment Overview**

* **Assessment Type**: Skill-Based Assessment (SBA) + Knowledge-Based Assessment
* **Duration**: 180 minutes
* **Number of Questions**: 17 (HTML5, CSS3 - 2, JavaScript - 2, TypeScript, Bootstrap – 10 )
* **Modules Covered**:
  + HTML5, CSS3
  + JavaScript
  + Bootstrap, Typescript
* **Maximum Attempts**: 3

**Stage 2 – Single Page Application Development (SPA)**

**SPA - React**

**Overview**

**Stage 2** deals with SPA Web frameworks and tools that are seminal while developing/maintaining various software applications. We provide unique learning experience to learners by including diversified learning content and learning methodologies that are based on adult learning principles.

As part of Stage 2 of your training, the following skills will be covered.

* React
* Build Tools - Linters and formatters – ESLint
* Build Tools - Module Builders – WebPack
* Build Tools - Task Runners - Gulp / npm Scripts
* Unit Test Development - Jasime Karma, Protractor

**Course Overview**

The **Course 3** of the **Stage 2** This course provides a comprehensive introduction to modern front-end development using React and back-end development with Node.js. Designed for aspiring developers, the curriculum emphasizes building dynamic, responsive, and efficient web applications. Students will learn the fundamentals of React, including JSX, components, state management, and routing, as well as advanced topics such as hooks, context API, Redux, and testing. Through hands-on projects and real-world scenarios, learners will gain the technical expertise and problem-solving skills needed for a successful career in web development.

**Learning Objectives**

After completing this course, GenCs will be able to:

* Set up a development environment for React projects and understand the basics of JSX.
* Develop modular and reusable components using props, state, and event handling.
* Utilize React Hooks to manage state and side effects effectively.
* Implement navigation using React Router and build forms with controlled components.
* Leverage Context API for simple state management across components.
* Implement advanced state management solutions using Redux.
* Handle data fetching and asynchronous operations effectively within React applications.
* Write and execute unit tests to ensure the reliability and functionality of React components.
* Understand the fundamentals of Node.js and its core modules.
* Explore the basics of asynchronous programming in Node.js to handle back-end functionality.

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| **Day 20** |

**React (v18)**

**Key Topics:** Introduction to React and Setting Up the Environment, TypeScript Essentials for React

**Continuous Learning: Technical Enablement**

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| 4FCA95A2 | [React - The Complete Guide 2025 (incl. Next.js, Redux)](https://cognizant.udemy.com/course/react-the-complete-guide-incl-redux/)   * Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope. * **Section 1:** Getting Started * **Section 2:** JavaScript Refresher * **Section 32:** React + TypeScript * 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 21** |

**React (v18)**

**Key Topics:** State and Event Handling, React Hooks, Component Lifecycle and Effects

**Continuous Learning: Technical Enablement**

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| 4FCA95A2 | [React - The Complete Guide 2025 (incl. Next.js, Redux)](https://cognizant.udemy.com/course/react-the-complete-guide-incl-redux/)   * Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope. * **Section 4:** React Essentials - Deep Dive * **Section 11:** Handling Side Effects & Working with the useEffect() Hook * 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 following set of hands-on given in the Learning Path at Tekstac.

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* [Stock securities-component](https://cognizant.tekstac.com/mod/vpl/view.php?id=16881)
* [Display Current Date and Time](https://cognizant.tekstac.com/mod/vpl/view.php?id=16882)
* [Share market-statistics](https://cognizant.tekstac.com/mod/vpl/view.php?id=16883)
* [One Spot Furniture -component](https://cognizant.tekstac.com/mod/vpl/view.php?id=16884)

**Offline Hands-On (Additional Practice)**

* Try out the offline hands-on exercises given in the learning path on **React.**

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| **Day 22** |

**React (v18)**

**Key Topics:** React Router and Navigation, Forms and Controlled Components

**Continuous Learning: Technical Enablement**

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| 4FCA95A2 | [React - The Complete Guide 2025 (incl. Next.js, Redux)](https://cognizant.udemy.com/course/react-the-complete-guide-incl-redux/)   * Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope. * **Section 22:** Building a Multi-Page SPA with React Router * **Section 17:** Working with Forms & User Input * **Section 18:** Handling Forms via Form Action * 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 following set of hands-on given in the Learning Path at Tekstac.

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* + - [Telecom-statistics](https://cognizant.tekstac.com/mod/vpl/view.php?id=16885)
    - [Apple Inc. Market - state](https://cognizant.tekstac.com/mod/vpl/view.php?id=16887)

**Offline Hands-On (Additional Practice)**

* Try out the offline hands-on exercises given in the learning path on **React**.

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| **Day 23** |

**React (v18)**

**Key Topics:** Context API for State Management, Advanced State Management with Redux

**Continuous Learning: Technical Enablement**

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| 4FCA95A2 | [React - The Complete Guide 2025 (incl. Next.js, Redux)](https://cognizant.udemy.com/course/react-the-complete-guide-incl-redux/)   * Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope. * **Section 10:** React's Context API & useReducer - Advanced State Management * **Section 20:** Diving into Redux (An Alternative To The Context API) * **Section 21:** Advanced Redux * 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 following set of hands-on given in the Learning Path at Tekstac.

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* + - [Stock Securities-Props](https://cognizant.tekstac.com/mod/vpl/view.php?id=16888)
    - Stock Securities-double and array props

**Offline Hands-On (Additional Practice)**

* Try out the offline hands-on exercises given in the learning path on **React**.

**AI Learnings**

This AI course is designed to equip learners with:

[**Fundamentals of Generative AI [101-Basics]**](https://cognizantlearning.sumtotal.host/rcore/c/pillarRedirect?isDeepLink=1&relyingParty=LM&url=https%3A%2F%2FCOGNIZANTLEARNING.sumtotal.host%2Flearning%2Fcore%2Factivitydetails%2FViewActivityDetails%3FUserMode%3D0%26ActivityId%3D2048054%26ClassUnderStruct%3DFalse%26CallerUrl%3D%2Flearning%2Flearner%2FHome%2FGoToPortal%3Fkey%3D0%26SearchCallerURL%3Dhttps%253A%252F%252FCOGNIZANTLEARNING.sumtotal.host%252Fcore%252FsearchRedirect%253FViewType%253DList%2526SearchText%253DELRNG01863%2526startRow%253D0%26SearchCallerID%3D2) **(Activity Code: ELRNG01863)**

* The foundational knowledge and skills required to harness the power of Generative AI.
* The ability to identify opportunities for innovation and implementation of AI within their organizations.
* The skills to drive organizations toward a future of enhanced creativity and competitive advantage using AI techniques.

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| **Day 24,25** |

**React (v18)**

**Key Topics:** Asynchronous Operations and Data Fetching

**Continuous Learning: Technical Enablement**

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| 4FCA95A2 | [React - The Complete Guide 2025 (incl. Next.js, Redux)](https://cognizant.udemy.com/course/react-the-complete-guide-incl-redux/)   * Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope. * **Section 15:** Sending Http Requests (e.g., Connecting to a Database) * 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 following set of hands-on given in the Learning Path at Tekstac.

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| A red sign with a exclamation mark  Description automatically generated | Do not copy paste the code. Write the code yourself. |

* F[unTimeTicket - PropTypes](https://cognizant.tekstac.com/mod/vpl/view.php?id=16890)

**Offline Hands-On (Additional Practice)**

* Try out the offline hands-on exercises given in the learning path on **React.**

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| **Day 26** |

**React (v18)**

**Key Topics:** Testing in React

**Continuous Learning: Technical Enablement**

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| 4FCA95A2 | [React - The Complete Guide 2025 (incl. Next.js, Redux)](https://cognizant.udemy.com/course/react-the-complete-guide-incl-redux/)   * Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope. * **Section 31:** Testing React Apps (Unit Tests) * 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 following set of hands-on given in the Learning Path at Tekstac.

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| A red sign with a exclamation mark  Description automatically generated | Do not copy paste the code. Write the code yourself. |

* + - [Quote For the Day - Event](https://cognizant.tekstac.com/mod/vpl/view.php?id=16891)
    - [Tech Valley- Styles](https://cognizant.tekstac.com/mod/vpl/view.php?id=16893)
    - [Stock Securities -Report- keys and styles-Final](https://cognizant.tekstac.com/mod/vpl/view.php?id=16894)

**Code Challenge (For Practice Only)**

Take on the following Code Challenge in the Tekstac Learning Path to assess your skill level in Angular. You will have 3 attempts, and you must score 70% or higher to pass this challenge.

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* Assess-Type-1: Code Challenge - React

**Offline Hands-On (Additional Practice)**

* Try out the offline hands-on exercises given in the learning path on **React**.

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| **Day 27** |

**React (v18)**

**Continuous Learning: Technical Enablement**

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| 4FCA95A2 | [React - The Complete Guide 2025 (incl. Next.js, Redux)](https://cognizant.udemy.com/course/react-the-complete-guide-incl-redux/)   * Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope. * 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 following set of hands-on given in the Learning Path at Tekstac.

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| A red sign with a exclamation mark  Description automatically generated | Do not copy paste the code. Write the code yourself. |

* + - [Style table using External CSS -Final](https://cognizant.tekstac.com/mod/vpl/view.php?id=16895)
    - [Course Details with Form\_Final](https://cognizant.tekstac.com/mod/vpl/view.php?id=16897)
    - [Student Details using Map\_Final](https://cognizant.tekstac.com/mod/vpl/view.php?id=16898)

**Offline Hands-On (Additional Practice)**

* Try out the offline hands-on exercises given in the learning path on **React**.

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| **Day 28** |

**React (v18)**

**Continuous Learning: Technical Enablement**

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| 4FCA95A2 | [React - The Complete Guide 2025 (incl. Next.js, Redux)](https://cognizant.udemy.com/course/react-the-complete-guide-incl-redux/)   * Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope. * 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 following set of hands-on given in the Learning Path at Tekstac.

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| A red sign with a exclamation mark  Description automatically generated | Do not copy paste the code. Write the code yourself. |

* + - [Sort Applicants List\_Final](https://cognizant.tekstac.com/mod/vpl/view.php?id=16899)
    - [Search for Course availability](https://cognizant.tekstac.com/mod/vpl/view.php?id=16900)
    - [Router- Final](https://cognizant.tekstac.com/mod/vpl/view.php?id=16903)

**Offline Hands-On (Additional Practice)**

* Try out the offline hands-on exercises given in the learning path on **React**.

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| **Day 29** |

**React (v18)**

**Key Topics:** Introduction to Node.js, Core Node.js Modules, Asynchronous Programming Basics

**Continuous Learning: Technical Enablement**

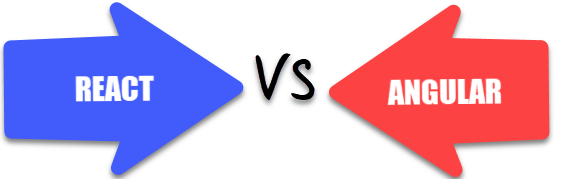
|  |  |
| --- | --- |
| 4FCA95A2 | [React Testing Library and Jest: The Complete Guide](https://cognizant.udemy.com/course/react-testing-library-and-jest/)   * Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope. * Ensure 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. |

**Offline Hands-On (Additional Practice)**

* Try out the offline hands-on exercises given in the learning path on **React**.

**Additional Learning Resource**

**Difference between React and Angular**



|  |  |  |
| --- | --- | --- |
| **Parameters** | **React** | **Angular** |
| **Type** | React is a JavaScript library, and it is much older compared with Angular. | Angular is a complete framework. |
| **Use of libraries** | React js can be packaged with other programming libraries. | Angular is a complete solution in itself. |
| **Learning curve** | It is easier to grasp compared Angular. However, it is difficult to learn when augmented with Redux. | Learning Angular is not easy for beginners. Thus, it requires lots of training. |
| **Community support** | When it comes to community support React doesn’t offer much. | It has a viable and dependable community support system |
| **Installation time** | React takes longer to set up. But, it is really fast for delivering projects and building apps. | Angular is easy to set up but may lead to an increase in coding time which also results in delayed project deliveries. |
| **Best feature** | It gives you the freedom to choose the tools, architecture, and libraries, for developing an app. | It offers a limited amount of freedom and flexibility. |
| **Data binding** | React language uses one-way data binding, which means that the Ul elements can’t be changed without updating the corresponding model state. | Angular, on the other hand, uses the two-way data binding method. It helps you to ensure that the model state automatically changes when any change is made. |
| **Testing & Debugging** | It requires a set of tools to perform different types of testing. | The testing and debugging for a complete project is possible with a single tool. |
| **Documentation** | Although it is also undergoing regular updates, the documentation is relatively faster. | Due to the ongoing development process, the documentation is slower. |
| **Updates** | Updates in React are simple because scripts help in the migration. | It plans updates every six months, which gives some time to make needed changes for migration. |
| **Application Types** | Use this app if you want to develop Native apps, hybrid apps, or web apps | You should use this framework If you want to develop a SPA (Single Page Application) and mobile apps. |
| **Ideal for** | Ideal for modern web development and native- rendered apps for Android and iOS devices. | Ideal to use when you want to develop large-scale, feature-rich applications. |
| **Model** | It is based on Virtual DOM | Based on MVC (Model View Controller) |
| **Written in** | JavaScript | Typescript |
| **Community Support** | Facebook developers community | A large community of developers and supporters |
| **Language preference** | JSX – JavaScript XML | TypeScript |
| **Companies Using** | Facebook, Uber Technologies, Instagram, Netflix, Pinterest, etc. | Wepay, Beam, Auto Trader, Mesh, Streamline Social, etc. |
| **Template** | JSX + J% (ES5/ES6) | HTML + TypeScript |
| **Abstraction** | Strong | Medium |
| **Adding Javascript library to the source code** | Possible | Not possible |
| **Restriction** | React gives you an option to choose without putting any performance penalty. | An angular framework is very sensitive, which means that it restricts you from using large models. |
| **Use of code** | React allows you to manage the code according to your desired format. | Angular comes with many ready to use elements. However, it mainly comes from a specific provider. |

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| **Day 30** |

**Angular (v16)**

**Continuous Learning: Technical Enablement**

**Build Tools**

* [Linters and formatters](https://www.freecodecamp.org/news/using-prettier-and-jslint/)
* [WebPack](https://www.geeksforgeeks.org/what-is-webpack/)
* **Task Runners** 
  + [Gulp](https://www.tutorialspoint.com/gulp/index.htm)
  + [npm Scripts](https://www.geeksforgeeks.org/introduction-to-npm-scripts/)

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| **Day 31,32** |

**React (v18)**

**Key Topics:** Debugging React Applications with Chrome DevTools, Debugging with Visual Studio Code

**Additional Continuous Learning: Technical Enablement**

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| --- | --- |
| 4FCA95A2 | [Devtools Pro: The Basics of Chrome Developer Tools](https://cognizant.udemy.com/course/devtools-2017-the-basics-of-chrome-developer-tools)   * Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope. * **All** Sections * 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. |

**Continuous Learning: Technical Enablement**

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| --- | --- |
| 4FCA95A2 | [React - The Complete Guide 2025 (incl. Next.js, Redux)](https://cognizant.udemy.com/course/react-the-complete-guide-incl-redux/)   * Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope. * **Section 7:** Debugging React Apps * 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. |

**Offline Hands-On (Additional Practice)**

* + Try out the offline hands-on exercises given in the learning path on **React.**

**AI Knowledge**

[**GENERATIVE AI QUICK ASSESSMENT FOR ELEARNING QUIZ [101-BASICS]**](https://apc01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fcognizantlearning.sumtotal.host%2FCore%2FpillarRedirect%3FrelyingParty%3DLM%26url%3Dcore%252Factivitydetails%252FViewActivityDetails%253FActivityId%253D2068119%2526UserMode%253D0&data=05%7C02%7CKanimozhi.Selvakumar%40cognizant.com%7C70b4a7bce6d94970372b08dc6a8152b9%7Cde08c40719b9427d9fe8edf254300ca7%7C0%7C0%7C638502350875679043%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C0%7C%7C%7C&sdata=8Fs5H%2BZ5bmwxnJFqxagnWcOVvxJ1WtNR1NFuWbJaaSY%3D&reserved=0)

* This assessment is to assess the knowledge of associates on Generative AI tools and concepts at a Beginner proficiency

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| **Day 33-35** |

**Practice case study**

**Note:** Trainer must share a case study for the skills covered in the milestone.

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| **Day 36** |

**React (v18)**

**Continuous Learning: Technical Enablement**

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| 4FCA95A2 | [React - The Complete Guide 2025 (incl. Next.js, Redux)](https://cognizant.udemy.com/course/react-the-complete-guide-incl-redux/)   * Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope. * 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. |

**Integrated Capability Test (ICT) (For Practice Only)**

Attempt the following Integrated Capability Test (ICT) through the Learning Path at Tekstac for checking your skill level on Stage 1 skills majorly database and application programming skills. The duration of the ICT will be 4 hrs. and you have to secure 70% in order to clear this practice test.

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

* Integrated Capability Test (ICT) – SAP

**IDP – Project Activities**

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| **Day 37,38** |

**IDP – Development**

* These two days will be spent on project development – SPA Front End UI Design and Development

|  |
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| **Day 39** |

**IDP – Review**

* These two days will be spent on project demo & review – SPA Front End UI Design and Development

**Interim Evaluation**

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| **Day 40 & Day 41** |

**Interim Project Evaluation & Interim Technical Evaluation**

* Interim evaluation will be conducted on these days

**Stage 3 –** **Service Development and Back End**

**Stage 3** deals with Service, DB and Deployment. We provide unique learning experience to learners by including diversified learning content and learning methodologies that are based on adult learning principles.

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

|  |
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| **Day 42 – Day 51** |

**Node JS / Express**

**Key Topics:** Introduction to Node.js, Core Node.js Modules, Asynchronous Programming Basics

**Continuous Learning: Technical Enablement**

|  |  |
| --- | --- |
| C:\Users\690417\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\4FCA95A2.tmp | [The Complete Node.js Developer Course (3rd Edition)](https://cognizant.udemy.com/course/the-complete-nodejs-developer-course-2/) |

* + Learn the below sections covered in this Udemy course and complete the corresponding hands-on coding given below.
    - Section 1: Welcome
    - Section 2: Installing and Exploring Node.js
    - Section 3: Node.js Module System
    - Section 4: File System and Command Line Args
    - Section 5: Debugging Node.js
    - Section 6: Asynchronous Node.js
    - Section 7: Web Servers
    - Section 8: Accessing API from Browser
    - Section 9: Application Deployment
    - Section10: MongoDB and Promises

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| **Day 52 – Day 58** |

**Mongo DB**

Learn about Mongo DB

**Continuous Learning: Technical Enablement**

|  |  |
| --- | --- |
| C:\Users\690417\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\4FCA95A2.tmp | [The Complete Developers Guide to MongoDB](https://cognizant.udemy.com/course/the-complete-developers-guide-to-mongodb/learn/lecture/6039188#overview) |

* + Learn the below sections covered in this Udemy course and complete the corresponding hands-on coding given below.
    - Section 1: Lets Start
    - Section 2: OSX Setup
    - Section 3: Windows Setup
    - Section 4: A Quick ES6 refresher
    - Section 5: Core Fundamentals of MongoDB
    - Section 6: A Test-driven experience
    - Section 7: Mongo Operators
    - Section 8: Handling Relational Data
    - Section 9: Thinking about Schema design
    - Section10: Mongoose Middleware
    - Section11: Handling big collections with Pagination
    - Section12: Putting your skills to the test

**Hands-On**

Complete the following mandatory hands-on given in the Learning Path at Tekstac.

|  |  |
| --- | --- |
| A red sign with a exclamation mark  Description automatically generated | Do not copy paste the code. Write the code yourself. |

* [Add an Employee into Collection](https://cognizant.tekstac.com/mod/vpl/view.php?id=22368)
* [Update Many Employees](https://cognizant.tekstac.com/mod/vpl/view.php?id=22370)
* [Remove Fields](https://cognizant.tekstac.com/mod/vpl/view.php?id=22373)
* [Delete an Employee](https://cognizant.tekstac.com/mod/vpl/view.php?id=22374)
* [Employees Details Based On Hired Year](https://cognizant.tekstac.com/mod/vpl/view.php?id=22379)
* [Employees Monthly Salary](https://cognizant.tekstac.com/mod/vpl/view.php?id=22381)
* [Employee Details](https://cognizant.tekstac.com/mod/vpl/view.php?id=22386)
* [Total Salary](https://cognizant.tekstac.com/mod/vpl/view.php?id=22388)

**Hands-On**

[NodeJS, Express JS - Server Side Gird using Handle bar template](https://cognizant.tekstac.com/mod/assign/view.php?id=4390)

**Additional Hands-On**

* + - [Analyst Details](https://cognizant.tekstac.com/mod/vpl/view.php?id=22385)
    - [Display all indexes](https://cognizant.tekstac.com/mod/vpl/view.php?id=22410)
    - [Publisher-Specific Book Counts](https://cognizant.tekstac.com/mod/vpl/view.php?id=22403)
    - [Clerk And Salesrep Salary Details](https://cognizant.tekstac.com/mod/vpl/view.php?id=22401)
    - [User Defined Index](https://cognizant.tekstac.com/mod/vpl/view.php?id=22393)

**Integrated Capability Test (ICT) (For Practice Only)**

Attempt the following Integrated Capability Test (ICT) through the Learning Path at Tekstac for checking your skill level on Stage 1 skills majorly database and application programming skills. The duration of the ICT will be 4 hrs. and you have to secure 70% in order to clear this practice test.

|  |  |
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| A red sign with a exclamation mark  Description automatically generated | Do not copy paste the code. Write the code yourself. |

* Integrated Capability Test (ICT) - Service, DB and deployment

**IDP – Project Activities**

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| **Day 59 - 61** |

**IDP – Development & Review**

* These four days will be spent on project development activities

**Stage 4 – Deployment**

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**Stage 4** deals with Deployment. We provide unique learning experience to learners by including diversified learning content and learning methodologies that are based on adult learning principles. Below set of aspects covered in this stage.

* GIT
* Docker / load Balancer
* Jenkins CI /CD
* Web Servers - Cloud (AWA or Azure) / informatic
* Performance / Security / Debugging Tools
* Best Practices / Code Quality
* IDP - Service Development, Back End & Deployment, Integration and Demo

**Overview**

The **Course 1** of the **Stage 4** provides a comprehensive understanding of Git, a powerful version control system widely used in software development. Participants will learn the foundational concepts and advanced techniques necessary to effectively manage and collaborate on projects using Git. The course is structured to guide learners from working locally with Git to mastering collaborative workflows, including branching, merging, and rebasing. By the end of this course, participants will be well-equipped to handle real-world version control challenges and streamline their development processes.

**Learning Objectives**

After completing this course, GenCs will be able to:

* Grasp fundamental Git concepts, including repositories, versioning, and the role of Git in software development workflows.
* Set up and initialize local Git repositories.
* Track changes and manage versions using essential Git commands like add, commit, and log.
* Navigate through commit history and revert changes when necessary.
* Connect local repositories to remote services like GitHub or GitLab.
* Push and pull changes to and from remote repositories.
* Understand and resolve common conflicts during collaborative workflows.
* Create and manage branches for feature development and bug fixes.
* Merge changes effectively to maintain a stable codebase.
* Rebase commits to keep a clean and linear project history.

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| **Day 62** |

**GIT**

**Key Topics:** Introduction, Working Locally with Git, Working Remotely with Git, Branching, Merging, and Rebasing with Git

**Continuous Learning: Technical Enablement**

|  |  |
| --- | --- |
| 4FCA95A2 | [Git Complete: The definitive, step-by-step guide to Git](https://cognizant.udemy.com/course/git-complete)   * Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope. * **Section 1:** Introduction * **Section 2:** Installation * **Section 3:** Git Quick Start * **Section 6:** Basic Git Commands * **Section 8:** Comparisons * **Section 9:** Branching and Merging * 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 63,64** |

**Docker/Load Balancer,Jenkins CI/CD**

**Key Topics:** Docker, CI/CD and DevOps Basics with Jenkins

**Continuous Learning: Technical Enablement**

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Docker is containerization tool Which are completely isolated environments. As in they have their own processes or services their own network interfaces their own mounts just like Virtual machine

except they all share the same OS kernel.

t

What is Docker and why we use it? [Click Here](https://www.ibm.com/topics/docker#:~:text=Docker%20is%20an%20open%20source,that%20code%20in%20any%20environment.)

Docker - [Docker](https://docs.docker.com/get-started/)

Note: The GenC need not implement Docker Hands-on. Trainer to show the demo of the usage on need basis as per scope.

Load Balancing - [Load Balancing](https://www.cloudflare.com/en-gb/learning/performance/what-is-load-balancing/)

|  |  |
| --- | --- |
| 4FCA95A2 | [Jenkins: Jobs, Pipelines, CI/CD and DevOps for Beginners](https://cognizant.udemy.com/course/jenkins-ci-cd-pipelines-devops-for-beginners)   * Walkthrough the following Udemy course sections and focus on the corresponding topics within our training curriculum's technical scope. * **Section 1:** Introduction * **Section 2:** Implementing Continuous Integration (CI) with Jenkins * **Section 3:** Implementing Continuous Deployment (CD) with Jenkins * **Section 5:** Continuous Deployment to Amazon Web Services (AWS) |

* 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 65-67** |

Web Servers - Cloud (AWS or Azure) / informatica

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* + - [Cloud Computing Tutorial](https://www.tutorialspoint.com/cloud_computing/index.htm)
    - [AWS vs Azure](https://www.geeksforgeeks.org/aws-vs-azure-which-one-you-should-choose/)
    - [Informatica Cloud](https://www.javatpoint.com/informatica-cloud)

Note: Trainer to conduct facilitation session on these topics as per scope.

**Performance / Security / Debugging Tools, Best Practices / Code Quality**

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**Lombok**

* + - [Lombok @Log4j, @Slf4j and Other Log Annotations](http://www.javabyexamples.com/lombok-log4j-slf4j-and-other-log-annotations)
    - [Project Lombok](https://projectlombok.org/)

**SonarQube**

* [clean code for teams and enterprises with {SonarQube}](https://www.sonarqube.org/)
* [How to Quickly Get Started with Sonar](https://dzone.com/articles/how-quickly-get-started-sonar)

**IDP Integration**

* Service Development, Back End & Deployment, Integration and Demo

**Final Evaluation**

|  |
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| **Day 68- 70** |

**Final Evaluation (Project + Technical)**

* Final evaluation will be conducted on these days.

How to learn each day?

Every day it is recommended that you will complete approximately 4-5 hours of self-paced Udemy content as recommended in this learner handbook.   
  
You will also have SME connects each day where you will cover content on each of the topics and listed and be able to ask any specific questions you may have.   
  
It is important that you complete the hands-on exercises and assessments mentioned in the daily plan through the Tekstac platform as this is how your understanding and knowledge will be assessed along with your Teams Business Aligned Project.

You will also have regular connects with the Learning and Development team who will be able to support you to resolve any technical issues faced on your learning journey.

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**

|  |  |
| --- | --- |
| man staring at white sky taken at daytime | 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**

|  |  |
| --- | --- |
| woman covering her face with white book | 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**

|  |  |
| --- | --- |
| person holding pile of books near face | 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 |

**FAQs**

1. **Who can participate in this program?**

**Ans:** Students who have enrolled for Full Internship Program (or) the Cognizant on-boarded GenCs can participate in this program.

1. **Is there any pre-learning I should do?**

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

1. **What is Code Challenge?**

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

1. **What is Integrated Capability Test (ICT)?**

**Ans:** A case study problem statement will be provided to you that you may need to solve using the combination of skills learned in the given stage.

1. **How many attempts are provided for the Coding challenge and ICTs?**

**Is it open all the time for practice?**

**Ans:** The coding challenges and ICTs are open from day 1, and a maximum of 3 attempts will be provided.

1. **What are the entry criteria for Stage 1 Assessment?**

**Ans:** The eligibility criterion for the Stage 1 Assessment is 100% hands-on completion and attempt in the CC & ICT.

1. **What skills are covered in the Stage 1 Assessment?**

**Ans:** The skills of Stage 1 are covered in this assessment. Maximum THREE attempts will be provided to pass with a minimum score of 70%

1. **What if I fail in the Interim evaluation?**

**Ans:** Your coach will notify your performance in the Interim evaluation. However, you can continue with the learning.

1. **How many chances will I get in the Final evaluation?**

**Ans:** You’ll get 2 chances in the Final evaluation which covers ALL the skills in the learning journey.

1. **Will we be provided with Projects to work on?**

**Ans:** Yes, we will provide the requirement specifications. You will need to implement them by forming a PoD (Pod of Developers). The implementation will be reviewed during both the interim evaluation and the final evaluation.

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

**Ans:** Coach is your point of contact.