

Day - 1

Introduction and Basics

- **Introduction to Version Control and Monorepos**

- Overview of version control systems
- Introduction to monorepos: concept, advantages, and challenges
- Comparing monorepos with polyrepos

- **Git Fundamentals**

- Basic Git commands and workflows
- Understanding commits, branches, merges, and rebases
- Best practices in commit messages and keeping a clean history

- **Setting Up a Monorepo**

- Structure of a monorepo: Components and directory organization
- Tools for managing monorepos (e.g., Lerna, Yarn Workspaces)
- Configuring Git for monorepo use: hooks, submodules, and subtree merges

- **Practical Exercise**

- Setting up a basic monorepo on participants' machines
- Executing basic Git operations within a monorepo framework
- Group activity: Initialize a monorepo and commit initial project structure

Day - 2

Advanced Usage and Collaborative Workflows

- **Branch Management and Code Reviews**

- Managing branches in a monorepo: strategies and tools
- Conducting effective code reviews
- Integration with CI/CD pipelines

- **Scaling a Monorepo**

- Performance optimization in monorepos
- Handling large binary files with Git LFS
- Dealing with common scalability issues

- **Advanced Tools and Scripts**

- Automating tasks with Git hooks and custom scripts
- Using advanced Git commands for monorepo management
- Tools for visualization and managing dependencies

- **Group Project**

- Participants work in teams to simulate a real-world workflow in a monorepo
- Implementing a new feature from planning to deployment using a branching strategy
- Review and feedback session: sharing insights and challenges faced