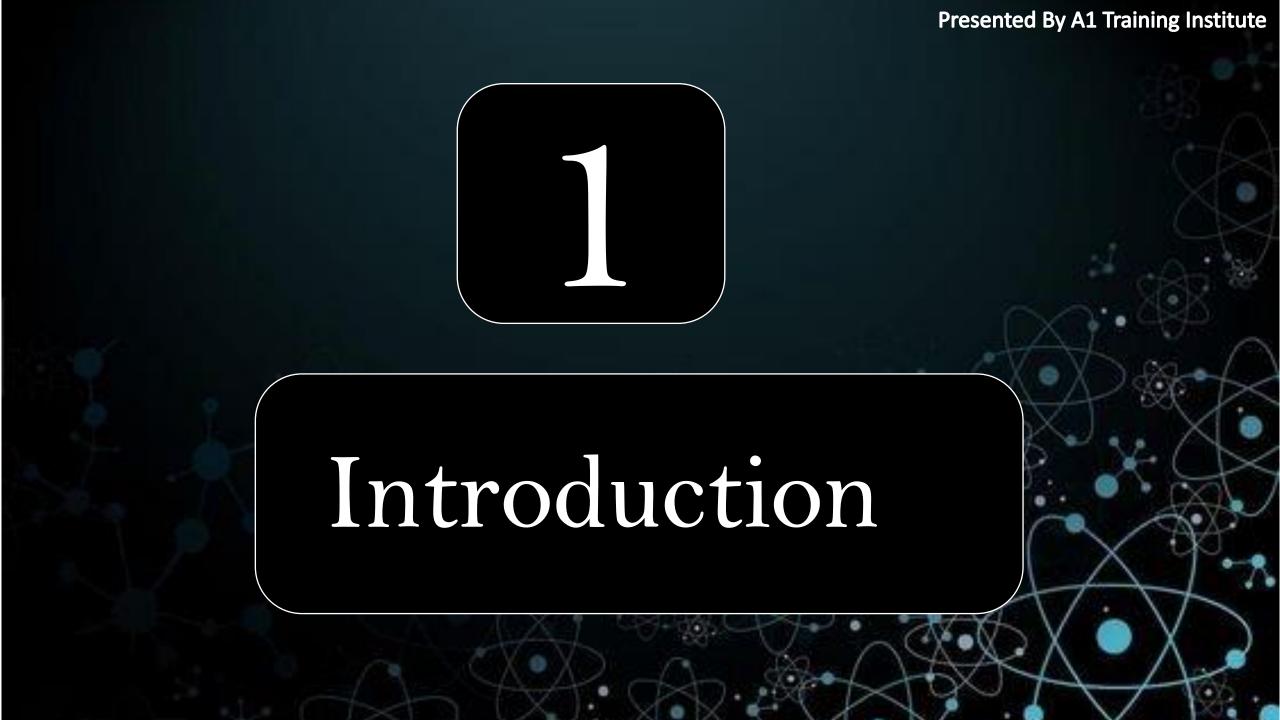
Introduction Git Commands

Version Control with Git



Introduction

What is Git?

Git is a distributed version control system used to track changes in source code during software development.

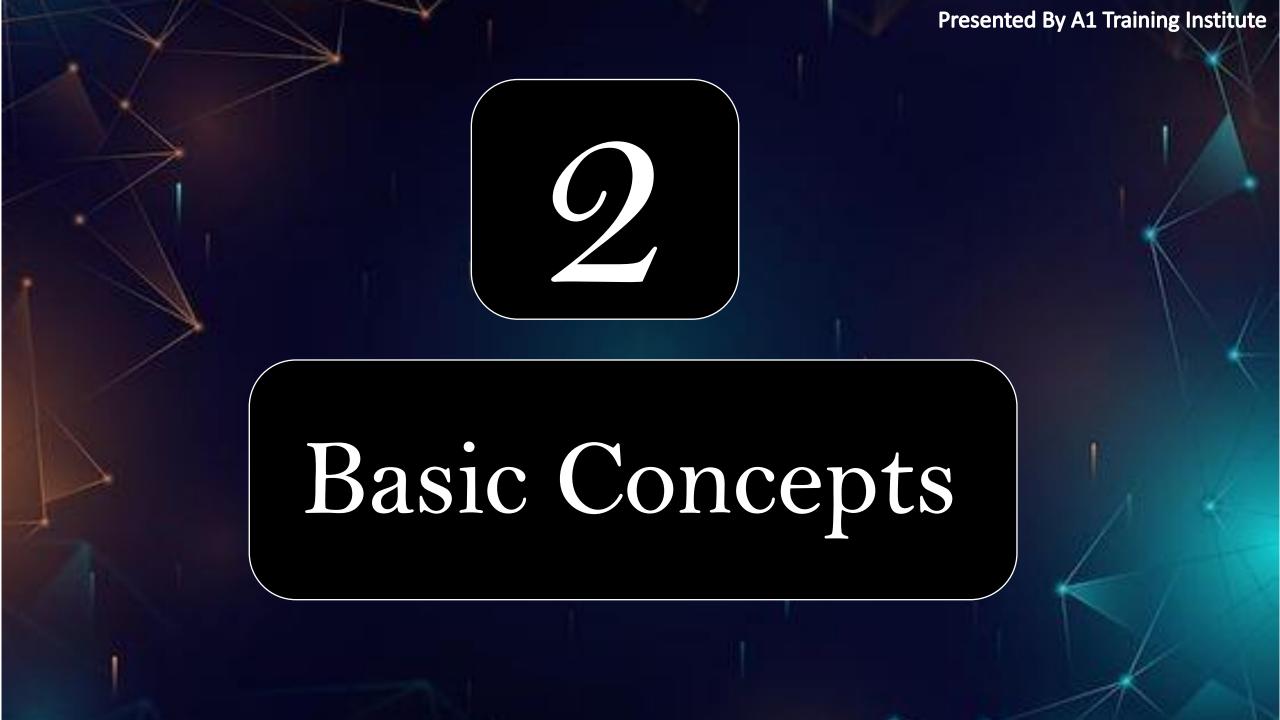
Importance of Version Control:

- •Helps in collaboration
- •Maintains history of changes
- Facilitates experimentation

Introduction

Objectives of the Presentation

- Understand basic Git commands
- •Learn how to use Git for version control
- •Explore best practices in Git usage



Repository

· A directory where Git tracks changes in files.

Working Directory

• The files you see in your editor or IDE.

Staging Area

• Files added to this area are marked for the next commit.

Local Repository

Your personal copy of the project's history

Basic Concepts

Key Commands

- commit
- push
- pull
- fetch
- merge





Setting Up Git

Installing Git

- Windows: Download from git-scm.com
- macOS: Install via Homebrew: brew install git
- Linux: Install via package manager: sudo apt-get install git (Debian/Ubuntu), sudo yum install git (Fedora)

Configuring Git

git config --global user.name "Your Name"

git config --global user.email "you@example.com"

Initializing a Repository

git init



Basic Commands

Cloning a Repository

git clone https://github.com/user/repository.git

Checking Status

git status

Basic Commands

Adding Changes

git add filename git add .

Committing Changes

git commit -m "Commit message"

Basic Commands

Viewing Commit History

git log



Branching & Merging

Branching & Merging

Creating Branches

git branch branch-name

Switching Branches

git checkout branch-name

Branching & Merging

Merging Branches

git merge branch-name

Deleting Branches

git branch -d branch-name

Pushing Changes

git push origin branch-name

Pulling Changes

git push origin branch-name

Fetching Changes

git fetch origin

Resolving Conflicts:

- •Occurs when changes in the local repository and the remote repository conflict.
- •Manually edit the conflicting files to resolve issues.

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Advanced Commands

Stashing Changes

git stash git stash pop

Rebasing

git rebase branch-name

Tagging

git tag v1.0.0 git push origin v1.0.0

Resetting

git reset ---hard commit-hash