Introduction to Git

Git is a distributed version control system used to track changes in source code during software development. It is designed to handle everything from small to very large projects with speed and efficiency.

Configure Git

Set your username and email:

```
git config --global user.name "Your Name"
git config --global user.email "your.email@example.com"
```

Check your configuration:

```
git config --list
```

Basic Commands

- Initialize a Repository

```
git init
```

- Clone a Repository

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

- Check Status

```
git status
```

- Add Files to Staging Area

```
git add <filename>
git add .
```

- Commit Changes

```
git commit -m "Commit message"
```

- Push Changes

```
git push origin <branch-name>
```

- Pull Changes

```
git pull
```

Branching and Merging

- Create a New Branch

```
git branch <branch-name>
```

- Switch to a Branch

```
git checkout <branch-name>
```

- Create and Switch to a New Branch

```
git checkout -b <branch-name>
```

- Merge a Branch

```
git checkout <target-branch>
git merge <source-branch>
```

- Delete a Branch

```
git branch -d <branch-name>
```