

### ### Installation of VS Code:

## 1.Steps to Download and Install Visual Studio Code on Windows 11:

### 1. Download:

- Open a web browser and go to the [Visual Studio Code website](https://code.visualstudio.com/).
- Click on the "Download for Windows" button. This will download the installer (`.exe` file).

### 2. Install:

- Once the download is complete, open the installer.
- Follow the prompts in the installation wizard:
  - Accept the license agreement.
  - Select the installation location.
  - Choose whether to create a desktop icon and other optional tasks.
  - Click on "Next" and then "Install".
- After the installation completes, click "Finish" to launch VS Code.

### Prerequisites:

- Windows 11.
- Administrative privileges to install software.
- Optionally, install Git for Windows if you plan to use Git for version control.

## 2.First-time Setup:

### Initial Configurations and Settings:

#### 1. Settings Sync:

- Go to `File > Preferences > Settings Sync` and enable it to sync settings across devices.

## 2. Theme:

- `File > Preferences > Color Theme` to choose a preferred theme.

## 3. Font Size:

- `File > Preferences > Settings`, search for `font size` and adjust according to preference.

## 4. Extensions:

- Click on the Extensions view icon on the Sidebar or press `Ctrl+Shift+X` to open the Extensions view.

- Install essential extensions like:

- Prettier - Code formatter

- ESLint

- Live Server

- GitLens

# 3. User Interface Overview:

## Main Components of the VS Code User Interface:

### 1. Activity Bar:

- Located on the left side. Provides access to views like Explorer, Search, Source Control, Run and Debug, and Extensions.

### 2. Side Bar:

- Displays different views like the File Explorer, Source Control, or Extensions depending on the selection in the Activity Bar.

### 3. Editor Group:

- Central area where files are opened and edited. Multiple files can be opened in tabs, and you can split the editor into multiple groups for side-by-side editing.

#### 4. Status Bar:

- Located at the bottom. Shows information about the current file, such as line number, errors, warnings, and encoding.

## 4. Command Palette:

#### Accessing the Command Palette:

- Press `Ctrl+Shift+P` or `F1`.

#### Common Tasks:

- `> Open File`: Quickly open a file.
- `> Save All`: Save all open files.
- `> Git: Clone`: Clone a Git repository.
- `> View: Toggle Integrated Terminal`: Open the integrated terminal.

## 5. Extensions in VS Code:

#### Role of Extensions:

- Enhance functionality, support additional languages, tools, and debuggers.

#### Finding, Installing, and Managing Extensions:

- Open Extensions view with `Ctrl+Shift+X`.
- Search for an extension by name.
- Click `Install` to add it to VS Code.
- Manage extensions by clicking on the gear icon next to an installed extension.

### **Essential Extensions for Web Development:**

- Prettier
- ESLint
- Live Server
- Path Intellisense
- GitLens

## **6.Integrated Terminal:**

### **Opening and Using the Integrated Terminal:**

- Open with `Ctrl+`` or through the `View > Terminal` menu.
- Supports multiple terminals, allowing you to run commands directly within VS Code.

### **Advantages:**

- Access to terminal without leaving the editor.
- Supports multiple terminal instances.
- Allows integration with other tools and extensions.

## **7. File and Folder Management:**

### **Creating, Opening, and Managing Files and Folders:**

- Use the Explorer view to navigate and manage files.
- Right-click in the Explorer to create new files or folders.
- Open files by double-clicking them or using `Ctrl+P` to quickly find and open.

### **Efficient Navigation:**

- Use the breadcrumbs at the top of the editor for easy navigation.

- Use `Ctrl+Tab` to switch between recent files.
- Use `Ctrl+P` to quickly open files by name.

## 8.Settings and Preferences:

### Customizing Settings:

- Access settings via `File > Preferences > Settings` or `Ctrl+,`.
- Use the search bar to find specific settings.

### Examples:

- **Change Theme:** `File > Preferences > Color Theme`.
- **Change Font Size:** Search for `font size` in settings and adjust.
- **Change Keybindings:** `File > Preferences > Keyboard Shortcuts`.

## 9. Debugging in VS Code:

### Setting Up and Starting Debugging:

- Open the Run and Debug view from the Activity Bar.
- Click `create a launch.json file` to configure debugging.
- Set breakpoints by clicking in the gutter next to the line numbers.
- Start debugging by pressing `F5`.

### Key Debugging Features:

- Breakpoints
- Watch expressions
- Call stack
- Variable inspection

## **10. Using Source Control:**

### **Integrating Git with VS Code:**

#### **1. Initialize a Repository:**

- Open Source Control view and click `Initialize Repository`.

#### **2. Making Commits:**

- Stage changes and write commit messages in the Source Control view.

#### **3. Pushing Changes to GitHub:**

- Set up the remote repository.
- Use the Source Control view to push changes by clicking the `...` and selecting `Push`.