Mobile Application Development Lab

CSL-341

Lab Journal

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Lab 1 – Flutter Introduction

Objectives:

Installation of Flutter and setting up the environment

Tools Used:

VS Code

Submission Date:

Evaluation   Signatures of Lab Instructor

1. **<u>Write the main steps involved in Flutter installation.</u>**

   Here are the main steps to install Flutter:

   Step 1: Download Flutter SDK

   - Visit the official Flutter website: https://flutter.dev
   - Download the latest stable version for your operating system (Windows, macOS, or Linux).

   Step 2: Extract the Flutter SDK

   - Extract the downloaded Flutter SDK to a suitable location on your system.
   - For Windows: Place it in C:\flutter (avoid paths with spaces).

   Step 3: Set Up Environment Variables

   - Add the flutter/bin directory to the system's PATH variable.
   - On Windows:
     - Open **System Properties** → **Environment Variables** → Edit the Path variable.

   Step 4: Verify Installation

   - Open **Command Prompt (Windows)** or **Terminal (Mac/Linux)** and run:
   - flutter doctor

   This checks dependencies and suggests fixes if needed.

   Step 5: Install Required Dependencies

   - Install Android Studio (for Android development).
   - Install VS Code or IntelliJ IDE (optional).

2. **<u>How you connect your mobile phone in replacement of Virtual Device? Write step by step procedure?</u>**

   Step 1: Enable Developer Mode and USB Debugging on Your Mobile

   - Open **Settings** → **About phone**.
   - Tap **Build number 7 times** to enable **Developer Options**.
   - Go back to **Settings** → **Developer Options** → Enable **USB Debugging**.

   Step 2: Connect Your Device to PC via USB Cable

   - Use a good-quality USB cable to connect your phone to your computer.

Step 3: Verify Device Connection

- Open **Command Prompt (Windows)** or **Terminal (Mac/Linux)** and run:
- flutter devices

If connected properly, your device should appear in the list.

Step 4: Allow USB Debugging Authorization (If Prompted)

- If your phone prompts **Allow USB Debugging**, tap **Allow**.

Step 5: Run Your Flutter App on the Mobile Device

- Navigate to your Flutter project folder and run:
- flutter run

This will install and launch the app on your connected phone.

3. **In VS Code, which extension you install for flutter and Dart?**

1. Flutter Extension
    - o Provides support for debugging and Flutter development.
2. Dart Extension
    - o Required for Dart language support.

How to Install Extensions in VS Code?

- Open **VS Code**.
- Go to **Extensions** (Ctrl+Shift+X).
- Search for **Flutter** and click **Install**.

Search for **Dart** and click **Install**.

4. **How can we create a flutter project?**

Step 1: Open Terminal or Command Prompt

Run the following command:

flutter create my_project_name

Replace my_project_name with your desired project name.

Step 2: Navigate to the Project Folder

cd my_project_name

Step 3: Open in VS Code

Run:

code .

This opens the project in **VS Code**.

Step 4: Run the App

Run:

flutter run

This compiles and runs the app on a connected device or emulator.

5. What is the advantage of setting path in environment variables?

- **Global Access to Flutter Commands**: You can run flutter commands from any terminal or command prompt.
- **Ease of Use**: No need to navigate to the Flutter folder every time.
- **Faster Development**: Quickly create projects, run tests, and manage dependencies.
- **Integration with IDEs**: VS Code and Android Studio can recognize Flutter tools automatically.