***Mobile Application Development Lab***

***CSL-341***

***Lab Journal***



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# BAHRIA UNIVERSITY ISLAMABAD

Lab 1 – Flutter Introduction

Objectives:

Installation of Flutter and setting up the environment

Tools Used:

VS Code

Submission Date:

Evaluation Signatures of Lab Instructor

**Tasks**

1. **Write the main steps involved in Flutter installation.**

Here are the main steps to install Flutter:

**Step 1:** Download Flutter SDK

* + Visit the official Flutter website: [https://flutter.dev](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:

o 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).

1. **How you connect your mobile phone in replacement of Virtual Device?**

**Write step by step procedure?**

**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.

1. **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**.

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

**Step 1:** Open Terminal or Command PromptRun the following command: flutter create my\_project\_name

Replace my\_project\_name with your desired project name. **Step 2:** Navigate to the Project Foldercd my\_project\_name **Step 3:** Open in VS Code Run: code .

This opens the project in **VS Code**. **Step 4:** Run the AppRun:

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.