**Moodle Local Block/Plugin Development to run Sample Flutter Web Application**

**MITE 51032 - System Modeling and Design**

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# Introduction

This document will explain who to create a local Moodle block & plugin which supports flutter web application. Web application will be hosted on the internet & will be loaded into plugin content. First, I created flutter sample web application. Then I developed a Moodle block (plugin). Inside the plugin it will load the web application. When app is upgraded

# Create sample Flutter web application

## Setting up Flutter

I have installed Flutter on my local machine to create sample web application. It has mentioned minimum requirements to install development environment in the official website. Flutter SDK releases can be found <https://docs.flutter.dev/development/tools/sdk/releases>. There are 3 different categories for windows, Linux & macOS separately. I have used Windows version in my project.

1. Download the following installation bundle to get the latest stable release of the Flutter SDK:

<https://docs.flutter.dev/get-started/install/windows>

1. Extract the zip file and place the contained flutter in the desired installation location for the Flutter SDK (for example, C:\src\flutter).
2. Update environment variable
   1. If the entry exists, append the full path to flutter\bin using ; as a separator from existing values.
   2. If the entry doesn’t exist, create a new user variable named Path with the full path to flutter\bin as its value.
3. Run flutter doctor using “flutter doctor” command

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## Install Android Studio

Next action is to install Android studio & setting

Download and install Android Studio from <https://developer.android.com/studio>

## Building a web application with Flutter

You can find steps to be followed to create web application using flutter in <https://docs.flutter.dev/get-started/web>

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To create a new app that includes web support (in addition to mobile support), run the following commands, substituting my\_app with the name of your project

flutter create my\_app

$ cd my\_app

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Run the following command to generate a release build:

flutter build web

Graphical user interface

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Run web application on Google chrome

Graphical user interface, application

Description automatically generated

Result will be like below

Graphical user interface, application, Teams

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# Host flutter Web application on a webserver

This is an additional step. I have followed instruction on <https://www.youtube.com/watch?v=z-yOqoQ2q6s> YouTube video to host my web application on the GitHub.

0:00 Introduction Flutter Website Hosting

0:20 Create GitHub Repo With Flutter Web App

1:17 Introduction Build and Release Flutter Web App

1:41 Fix GitHub Pages Shows White Blank Screen

2:09 Build and Release Flutter Web App

2:26 Host and Deploy Flutter Website On GitHub Pages

3:20 Use Any GitHub Repo Name For GitHub Pages

4:26 Update Flutter Website To GitHub Pages

6:20 Fix Flutter Web Shows Old Website / Fix Cache Problems with Flutter Website

<https://github.com/mmnanuruddha/Demo2>

A screenshot of a computer

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Now this web application can be access from anywhere in the internet.

Graphical user interface, application

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# Setting up Moodle

Next step is installed Moodle on local machine. <https://download.moodle.org/releases/latest/>

Graphical user interface, application

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Graphical user interface, text, application, email

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I have followed instruction to create Moodle plugin using following YouTube video series. <https://www.youtube.com/watch?v=u54B7eFuG6w&list=PLnNniujrnp0mFwUNszRcI2OBCiBAh9Iqs>

Graphical user interface, application

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Graphical user interface, application

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Graphical user interface, application

Description automatically generated

It needs to create 2 files as below.



Graphical user interface, text, application, Word

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Text

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## Embed NeLCon web Page

Graphical user interface, application

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Code Change required.

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## Local Plugin

Extract following zip file into local folder & Log into system as admin user. System will auto detect the plugin & will ask you to proceed.

<SERVER\_PATH>\moodle\apps\moodle\htdocs\local



Graphical user interface, text, application, email

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Plugin will be visible as below image in manage page in the model system.

Graphical user interface, application

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# Installation

* Extract following .zip file into Moodle server as below image.
  + **<SERVER\_PATH>\moodle\apps\moodle\htdocs\blocks\**
* Then log into Moodle server as admin user.
  + System will auto detect the plugin & ask you to install.



Graphical user interface, text, application, Word

Description automatically generated

# To Do

Currently Web application is running on another server. Now, it is needed to host Web application on same sever modify the plugin code.

<IFRAME> code need to be replaced with <embed> code in all \*.php files where they have used.

Need to create different type of activities like assignment, chat by extending same method used above.

Plugin has not much functionality added. It needs to develop as required.