SMART WATER SYSTEM

622621121053:SUDHAGAR M

PROJECT SUBMISSION PHASE:4

INTRODUCTION:

NODE-RED SERVICE

Node-RED is a flow-based development tool for visual programming, often used for IoT (Internet of Things) and automation projects. It allows you to create flows by connecting nodes to perform various tasks. To set up Node-RED as a service on a server, you can typically follow these steps:

Install Node.js: Ensure Node.js is installed on your server as Node-RED is built on it.

Install Node-RED: You can install Node-RED globally using npm:

Copy code

Npm install -g node-red

Start Node-RED as a Service: You can use process managers like systemd (on Linux) or pm2 to run Node-RED as a service, ensuring it runs in the background and starts on boot.

Using systemd (Linux): Create a service unit file, like nodered.service, and configure it to start Node-RED. Then, enable and start the service.

Using pm2: Install pm2 globally and start Node-RED with it:

Sql

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Npm install -g pm2

Pm2 start `which node-red` -- -v

Pm2 save

Pm2 startup

Access Node-RED: Once Node-RED is running as a service, you can access the Node-RED editor in a web browser by navigating

MOBILE APPLICATION DEVELOPMENT

USING MIT APP INVATOR

User

Mobile Application Development using MIT App Inventor

Getting Started:

Visit the MIT App Inventor website and create an account if you haven't already.

Design Your App:

Use the drag-and-drop interface to design the user interface of your app. You can add buttons, labels, images, and other components.

Programming with Blocks:

Use the Blocks Editor to program the functionality of your app. You can use visual blocks to define how your app should respond to user interactions.

Testing Your App:

You can use the built-in emulator to test your app on your computer or use the MIT AI2 Companion app on your Android device for live testing.

Connect to External Services:

MIT App Inventor allows you to connect your app to various external services and hardware, such as Firebase, Google Maps, and Bluetooth devices.

Store and Share Your App:

Once your app is ready, you can package it and share it with others. You can also publish your app on the Google Play Store.

Resources and Learning:

MIT App Inventor has a helpful community and extensive documentation to help you learn and troubleshoot any issues

   DEVELOPMENT OF MIT APP INVATOR

Set Up MIT App Inventor:

Go to the MIT App Inventor website (ai2.appinventor.mit.edu) and create an account if you haven't already.

Sign in to your account and click on "Start New Project" to create a new app.

Design Your App's User Interface:

Use the drag-and-drop interface to design the layout of your app. Add buttons, labels, text boxes, and other components to create your app's user interface.

Add Components:

In the "Palette" on the left, you can add components like "Button," "Label," "Text Box," etc. These are the elements that will interact with your code.

Coding with Blocks:

Click on the "Blocks" button in the top-right to access the coding interface.

You'll see a variety of blocks that represent different functions and actions. Drag and connect these blocks to create the logic of your app.

For example, you can use the "When Button1 Click" block to define what happens when a button is clicked.

Testing Your App:

Connect your Android device to your computer and use the MIT AI2 Companion app to test your app in real-time.

Alternatively, you can use the built-in emulator to test your app.

Building and Distributing:

Once you're satisfied with your app, you can package it and distribute it on the Google Play Store or share the APK file with others.

Open MIT App Inventor in your web browser.

Log in with your Google account or create a new one if you don't have an account.

Create a new project or open an existing one.

In the project editor, you can see the blocks-based interface, which is used to program the app's behavior.

The code in MIT App Inventor is created using a blocks-based programming language, and there's no traditional text-based code that you can view or export. You create your app's logic and functionality by connecting blocks together in the visual interface.

If you need assistance with a specific aspect of creating an app in MIT App Inventor, please provide more details, and I can help you with that.

Create an Account: Start by creating an account on the MIT App Inventor website.

Install the Companion App: Install the MIT AI2 Companion app on your Android device. This app allows you to test your creations on your phone as you build them.

Design Your App: Use the web-based MIT App Inventor interface to design the user interface of your app by dragging and dropping components.

Program Your App: Use the blocks editor to add functionality to your app. You can create logic using a visual, drag-and-drop interface.

Test Your App: Connect your device to the MIT AI2 Companion app, and you can live test your app on your device as you build it.

Package and Distribute Your App: Once your app is complete, you can package it as an APK file to distribute it through the Google Play Store or other method

Start

Define Purpose

Determine if it's for academic research, admissions, campus visit, etc.

If academic research:

Access MIT website

Browse academic departments

Find relevant research areas

Contact professors

If admissions:

Access MIT admissions website

Check application deadlines

Prepare required documents

Submit application

If campus visit:

Check MIT's campus tour schedule

Register for a tour

Visit MIT campus

End