Word Count: 707

Video, Introduction to the Cayenne Platform

In this video, we will learn about the cayenne platform, then we will learn about its features, and finally, we will setup and configure the raspberry pi for working with cayenne.

Till now, we have seen how to control the GPIO pins wirelessly over short distances using the Bluetooth. But what if you want to remote control for anywhere in the world. Here comes the Cayenne Platform to the rescue.

So, what is Cayenne?

Cayenne is a drag and drop IoT project builder that empowers developers to create and host their own connected device project quickly. It was designed specifically for the internet of things. It can do a wide variety of things than just control GPIO pins. It not only makes it possible to build programs using drag-and-drop, but it also standardizes the connection of devices such as sensors and motors and makes sure that drivers are in place. It can display sensor data, it can store the data, analyze them, and even help us to visualize them. In this sense, it makes the programming and hardware much easier.

The Cayenne platform is a combination of four key components

1. Cayenne App – This is an app that can be installed on your mobile devices, that can be customized with drag and drop widgets for controlling your IoT projects
2. Cayenne Online Dashboard – This is a browser-based User interface that can be customized with drag and drop widgets to control your IoT Project. This gives you access to more customization and features than the Cayenne App. We will be working on this dashboard
3. Cayenne Cloud – This is responsible for storage and processing of user data, sensor data, actions, triggers and alerts
4. Cayenne Agent – This is what that enables the communication between the cloud server and the hardware, for implementing commands, actions, triggers, and alerts

Each time you interact with the Cayenne app or online dashboard, the data travels to the cayenne cloud where its processed and through the cayenne agent finds its way to your hardware as an action, trigger or alert.

The cayenne platform was originally created for the Raspberry Pi, but now its available for many new devices. It has a lot of inbuilt features for the Raspberry Pi. Some of the important features supported by Cayenne for the Pi are the following

1. Remote Access, Reboot, and shutdown
2. Add & Control sensors and actuators
3. Customizable dashboards with drag-and-drop widgets
4. Set triggers for sensors and actuators
5. Setup alerts via email and text messages
6. Remotely test and configure hardware using GPIO

Now let’s start working with Cayenne. The First thing we need to do is to create an account. Go to the link provided in the resources section and create a myDevices Cayenne account with your name, email and password. Now you will be redirected to the dashboard. As this is your first login, you will be redirected by default to create a new project. Select Raspberry Pi, then in step 2, before clicking Next, make sure your Pi is up and running and is connected to the internet. Now click next. We now have to install the different components of the cayenne library on to our Raspberry Pi. We are going to use the terminal method. Open the terminal in the Raspberry Pi and copy and paste the commands given in the cayenne dashboard. When you enter the last command, after sometime, while it gets installed, the cayenne dashboard will get remote access to your Pi, and shows the status of the installation. It will install the libraries, the agent, the software, and the necessary drivers and soft reboot the system. As soon as the installation process completes, the online dashboard will automatically appear. Your Raspberry Pi is now ready to use! Yes, it's that simple. How amazing right! Now the Raspberry Pi is up and ready for IoT projects using Cayenne.

Summary

In this video, we have covered the following topics

* The Cayenne Platform
* Features of the Cayenne Platform
* Setting up & configuring the Raspberry Pi for working with Cayenne

In the next video, we will learn more about the cayenne dashboard and implement a simple IoT project using Cayenne.