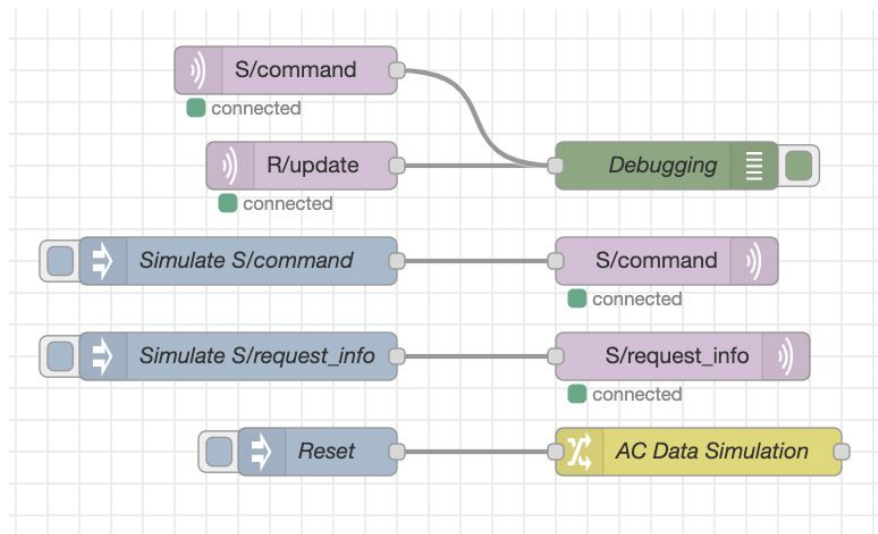


Step1. Import **simulation_flows** under folder 1_Node-red-json to your Node-Red flows and deploy it.

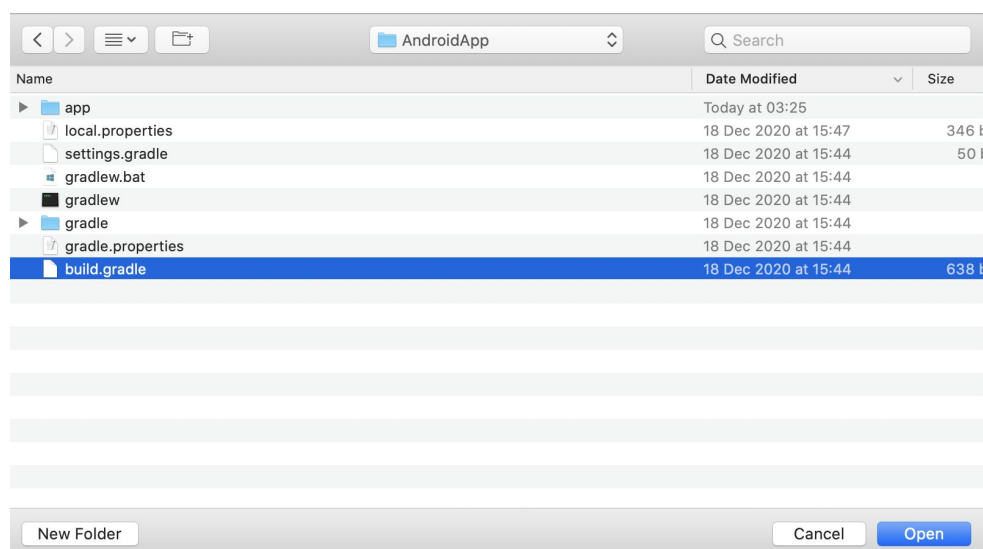
Step2. Check if the node **mqtt out** is **connected** with the broker. The broker is deployed on a cloud server.

Step3. Click the inject node **Reset** to initialize data of air conditioners.

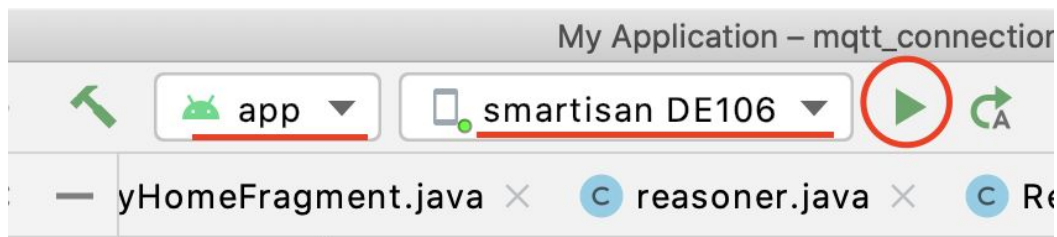


Step4. Open the dashboard <http://127.0.0.1:1880/ui>

Step5. Open Android Studio, click **Open an existing project**, open the file **build.gradle** under 2_AndroidApp



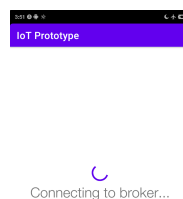
Step6. Set your Android phone to developer mode. Connect your Android phone with your computer and trust your computer if it is requested.



Step7. Your smartphone will appear in the device list, click the green triangle icon to run the application. The project was clean before the submission otherwise the size could be very large, so it takes about 1 minute to download libraries, build the project and install the application to your phone.

* The application can only be running on a physical phone rather than an android emulator. The Android OS version should be within Android 4.1 - Android 10.

Step8. Now you can see the application is running on your smartphone. If the application gets stuck in loading activity as below, it means the broker can not be connected, please call 076 236 16 23 or e-mail qswang1988@gmail.com , Qiushi will check the status cloud server where we deployed the Eclipse Mosquitto service.



Step9. If you can not see air conditioners info from the Android application dashboard, please check if the step3 was done.

Step10. If everything looks correct, you can touch the microphone icon and speak. You can check the Node-red dashboard UI to see the settings of air conditioners, you can also change the settings from Node-red dashboard,

settings will be updated to smartphone application. Here are some commands we used for testing.

- *Turn on the AC in my master bedroom/living room/guest bedroom*
- *Turn off the AC in my master bedroom/living room/guest bedroom*
- *Turn off the AC in my master bedroom and guest bedroom*
- *Turn on my master bedroom/living room/guest bedroom*
- *Master bedroom on*
- *Master bedroom off*
- *Master bedroom and living room on*
- *All rooms on*
- *All rooms off*
- *Turn it off*

Thank you!

Qiushi and Shu