**Hướng dẫn cài node-red + mqtt + node-red dashboard (ui)**

Node-red

npm install -g --unsafe-perm node-red

run Node-Red

cài Node-red dashboard

npm install -g npm@2.x

cd ~\.node-red\node-modules

//git clone https://github.com/andrei-tatar/node-red-contrib-ui.git

cd node-red-contrib-ui

npm install

cài mqtt

<https://www.youtube.com/watch?v=n0l5xNOH4Dk>

Step 1: Download mosquitto [https://mosquitto.org/download/](https://www.youtube.com/redirect?redir_token=S624FjDFaJTN62ZzAUCktvKfOc18MTUyMzU5ODcxMEAxNTIzNTEyMzEw&event=video_description&v=n0l5xNOH4Dk&q=https%3A%2F%2Fmosquitto.org%2Fdownload%2F)

Step 2: Download openssl [http://slproweb.com/products/Win32Ope...](https://www.youtube.com/redirect?redir_token=S624FjDFaJTN62ZzAUCktvKfOc18MTUyMzU5ODcxMEAxNTIzNTEyMzEw&event=video_description&v=n0l5xNOH4Dk&q=http%3A%2F%2Fslproweb.com%2Fproducts%2FWin32OpenSSL.html)

Step 3: Copy openssl32\bin folder to mosquitto C:\openssl\bin --- C:\Program Files(x86)\mosquitto Step 4: Copy required dll files C:\openssl\libeay32.dll --- C:\Program Files(x86)\mosquitto

Step 5: Copy required dll files C:\openssl\ssleay32.dll --- C:\Program Files(x86)\mosquitto

Step 6: Download pthreadVC2.dll ftp://sources.redhat.com/pub/pthreads-win32/dll-latest/dll/x86/ Step 7: Copy pthreadVC2.dll file C:\Downloads\pthreadVC2.dll --- C:\Program Files(x86)\mosquitto Step 8: Test subscriber / server mosquitto\_sub -v -t 'home/light'

Step 9: Test publisher / client mosquitto\_pub -t 'home/light' -m 'Turn \ON'

Step 10: Test2 publisher / client mosquitto\_pub -t 'home/light' -m 'TurnOFF'