Software and Model

Official documentation: https://jupyter-notebook.readthedocs.io/en/stable/public_server.html

1. Install Jupyter on Raspberry pi

install pip
$ **sudo apt -y install python3-pip**

install jupyter

$ pip3 install jupyter

running pip freeze should show jupyter in the list of packages you installed

$ pip freeze

2. Create and hash password

(This part is for human users to access. Maybe too complicated for automated access?)

$ jupyter notebook password
Enter password: ****
Verify password: ****
[NotebookPasswordApp] Wrote hashed password to /Users/username/.jupyter/ jupyter_notebook_config.json

jupyter_notebook_config.json must now contain a password hash (starting with “sha”).

3. Create a configuration file.

Run

jupyter notebook --generate-config

a jupyter_notebook_config.py should be generated under /home/USERNAME/.jupyter/jupyter_notebook_config.py.

Use any editor to open the .py file, you should see all setting are commented, so we could simply add in any configuration we needed without conflicting any setting.

4. Add in configuration parameter.

In any line, add in the following configuration.

c.NotebookApp.allow_password_change = True

c.NotebookApp.password = u'your_copied_hash_password'

c.NotebookApp.open_browser = False

c.NotebookApp.port = 8888

c.NotebookApp.allow_remote_access = True

allow_password_change: Allows you to change the password once you successfully use the password to login to your notebook server.

password: Copy the password you have just generated, remember to paste the sha hashed password, but not the literal password!

open_browser: Set it to false to prevent web server opening a browser like we normally do in our local machine.

port: The port number notebook server use. You need to remember this as we will need to expose this to the cloud proxy server.

Once done, save&exit.

5. Set up an application on cloud proxy server

Quick start guide to set up Could Proxy Server in Raspberry Pi from the official gitbook:
https://docs.remote.it/adding-remote.it-to-your-device/the-remoteit-package-for-raspbian

Or blog article:

https://medium.com/@jimip6c12/raspberry-pi-tutorial-on-the-most-secure-way-to-connect-to-your-pi-cloud-proxy-server-11867ddaac95

Click Add Manually > and fill in the new service with any name

Set Type: HTTP

Set Port: 8888 (or any port that you choose to use in your jupyter config).

Then visit https://app.remote.it/, and select your Pi device, click on the service you just created. It should return a public URL you can access (from anywhere).