Install and Run Web Open Drone Map (WebODM) on cPouta

Step-by-step guide

(Volume 2-updated)

OPEN GEOSPATIAL INFORMATION INFRASTRUCTURE FOR RESEARCH (OGIIR)

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Compiled and edited by: Augustine-Moses Gbagir (MSc.) and Alfred Colpaert (Prof.)

DEPARTMENT OF GEOGRAPHICAL AND HISTORICAL STUDIES, UNIVERSITY OF EASTERN FINLAND.

Consortium:

Contents

NOTE:

This manual builds up on volume one. If you are not familiar with the concepts discussed here, please review volume one. Even if you are, it might be a good idea to have a look at it as some terms and concepts discussed here might be slightly different from what you know. You can read volume one using this link. When you open the link, scroll down to the bottom and access the manual under the sub-heading “Software.” http://www.geoportti.fi/tools/instruments/

These guides are basic and are a work in progress and may still contain some rough edges. We are committed to improving the quality of the content of this guide. Future releases and updates will address some errors or aspects that are missing.

This manual was prepared by modifying the original instructions found from the WebODM GitHub link below.

(https://github.com/OpenDroneMap/WebODM/)

INSTALL WEB OPEN DRONE MAP (WebODM) ON CPOUTA

Step 1 Connect to your virtual machine on cPouta

Log in and connect to any one of your virtual machines on cPouta using SSH terminal (e.g. PuTTY) using your username and key phrase. If you are not familiar with this aspect, please refer to volume one. When you log into your VM, the default location is your home directory.

Step 2 Install and update pre-requisite packages.

This is necessary to ensure you have the current versions of all pre-requisite packages installed.

Note: Codes to be run are highlighted in green color

Step 2.1 Update the list of available packages and their current versions
#Run the command

```
sudo apt-get update
```

Step 2.2 Install new and current versions of all your packages
#Run the command

```
sudo apt-get upgrade
```

N/B

You can run both of the above command as:

```
sudo apt-get update && apt-get upgrade
```
#If you get error about not having root access, just run the commands separately as above and it should work just fine.

Step 2.3 Install and run docker-compose.
This tool makes it possible for you to define and environment where you can run many applications in a container.

Run the command

```
sudo apt-get install docker-compose
```

Step 2.4 Install a manager for python packages
Run the command

sudo apt-get install python3-pip # python seem to have been replaced by python3

Step 3 Install Web Open Drone Map

Run the command

git clone https://github.com/OpenDroneMap/WebODM --config core.autocrlf=input --depth 1

Now, WebODM has been installed but before you can start using it, you **must** modify and add new security rules to your cPouta VM to allow connection. You will modify these rules in the next step.

Step 4 Modify security group and add two new rules for your VM.

Step 4.1

Log into cpouta web interface (https://pouta.csc.fi/).

Here, we will add two (2) new rules to the security group of the virtual machine you are using.

Rule 1: ingress (TCP Port 8000)

Rule 2: egress (TCP Port 8000)

For both Rules 1 and 2, repeat steps 4.1.1 – 4.1.9

After logging into the cpouta web interface,

Step 4.1.1

Select the right project

Step 4.1.2

Click Access and Security (figure 1).

Step 4.1.3

Click Manage Rules (Under the column “Actions” on the right) of the security group of the virtual machine (vm) you are using (figure 1).

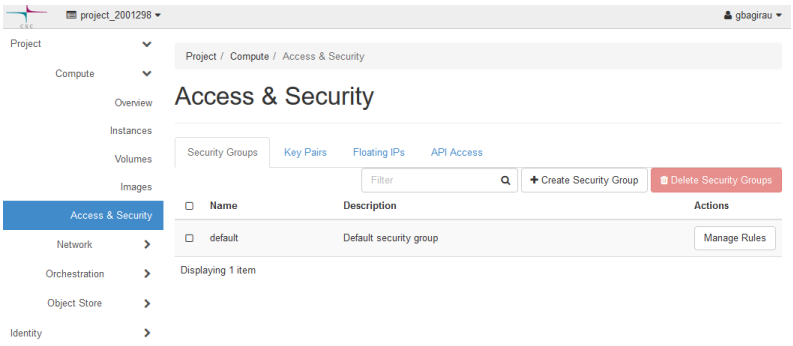

Figure 1 Shows how to manage security settings for your virtual machine

Step 4.1.4

Click Add Rule on top right-hand corner (figure 2). This will open a new window (figure 3).

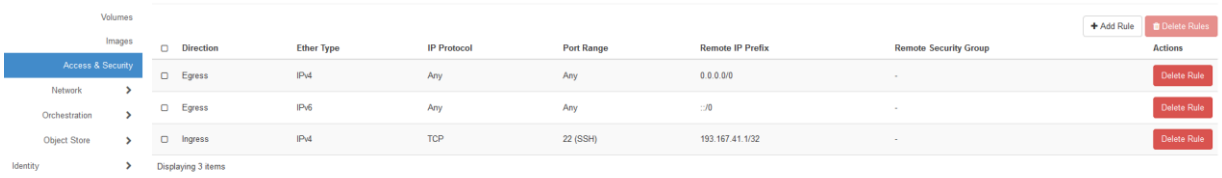

Figure 2 Adding new rule to security group for your virtual machine

Step 4.1.5

Under “Rule” select “Custom TCP Rule”

Step 4.1.6

Under “Direction” select Ingress

Step 4.1.7

Under “Open Port” select Port

Step 4.1.8

Under “Port” input “8000”

Step 4.1.9

You can leave the rest default settings and click “Add” to add the new rules to the security group of your VM.

e.g. see the image below for the two new rules added.

Rule 1: INGRESS

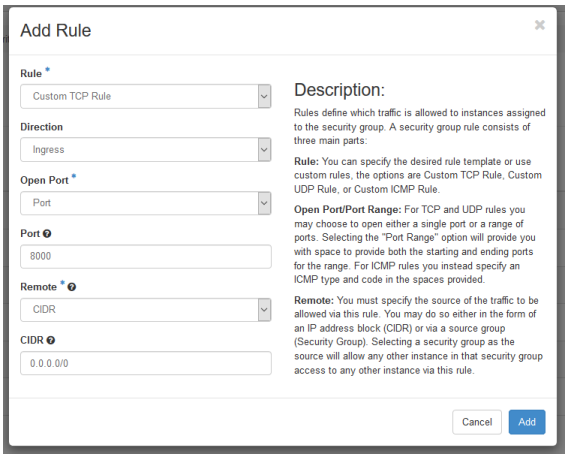

Fig 3 Shows security settings for **ingress** on cPouta web interface.

Rule 2: EGRESS

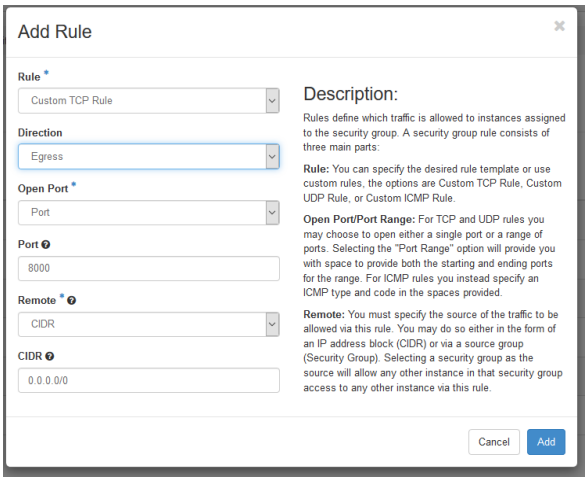

Fig 4 Shows security settings for **egress** on cPouta web interface.

Now that you have modified the security rules for our VM, you are now ready to launch WebODM.

But first you must connect to your VM via SSH and start WebODM before you can proceed.

Step 5 Connect to your cPouta VM and start WebODM

Step 5.1 Log in and connect to your VM

Use SSH terminal (e.g. PuTTY) and connect to your cPouta VM. This will require your username and key phrase. After logging in, navigate to the directory (folder) were you installed WebODM. Here we installed WebODM in the directory “WebODM” in our user home.

Run the command below to navigate to WebODM directory (N/B: Linux is case sensitive).

cd WebODM

Step 5.2 Start WebODM
Run the command below to start WebODM

sudo ./webodm.sh start

Note the following points:

(1) You can stop WebODM via the opened SSH by using this command

Run the command below to stop WebODM

sudo ./webodm.sh stop.

(2) However, when you stop webodm in command line (opened SSH), the WebODM will stop working until you restart it again. You can restart by replacing “stop” with “start” as shown above.

(3) If you do not stop WebODM before closing or logging out from the command line, WebODM will still be running. This means, you can still launch and use WebODM from the browser.

Step 6 Launching WebODM from your web browser

Open a web browser and copy the ip address of your VM and replace the highlighted yellow part below. Run the whole the full address in the address bar of the web browser you opened (figure 5).
e.g. the ip of the VM we are using is:
195.148.30.233:8000
When you launch for the first time, you will have the welcome message on the WebODM interface similar to figure 3 below. You will now create a short profile by choosing a username and password.

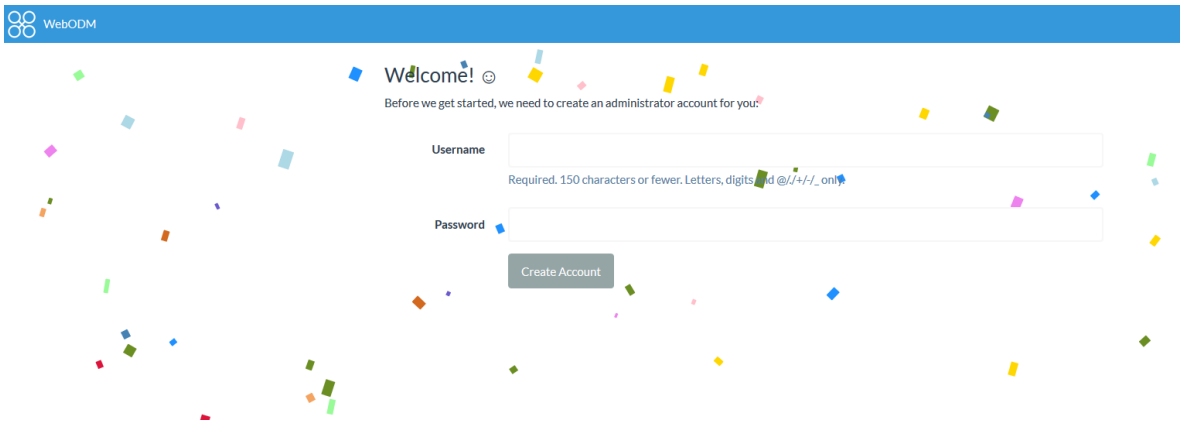

Fig 5 Welcome message for first time log-in to WebODM.

Step 7 Create profile

In the opened new browser, choose a username and password to create your profile. You can now proceed to log in with your new username and password. After you log in, the interface will be like that shown in figure 6 below. First time users will have the project space empty. You can now start creating new projects, importing and processing data. In addition, you are able to update your profile information (e.g. email, full names, e.t.c.). Also, you can create user groups with different levels of access to this particular instance of WebODM.

Fig 6 WebODM log in user interface.

Congratulations!