BitPath-DevKit

Influx-Grafana-Installation

RADIOSTUDIO

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2 Revision History

Version No	Date	Author	Change Log
1.0	29/04/2024	RadioStudio	

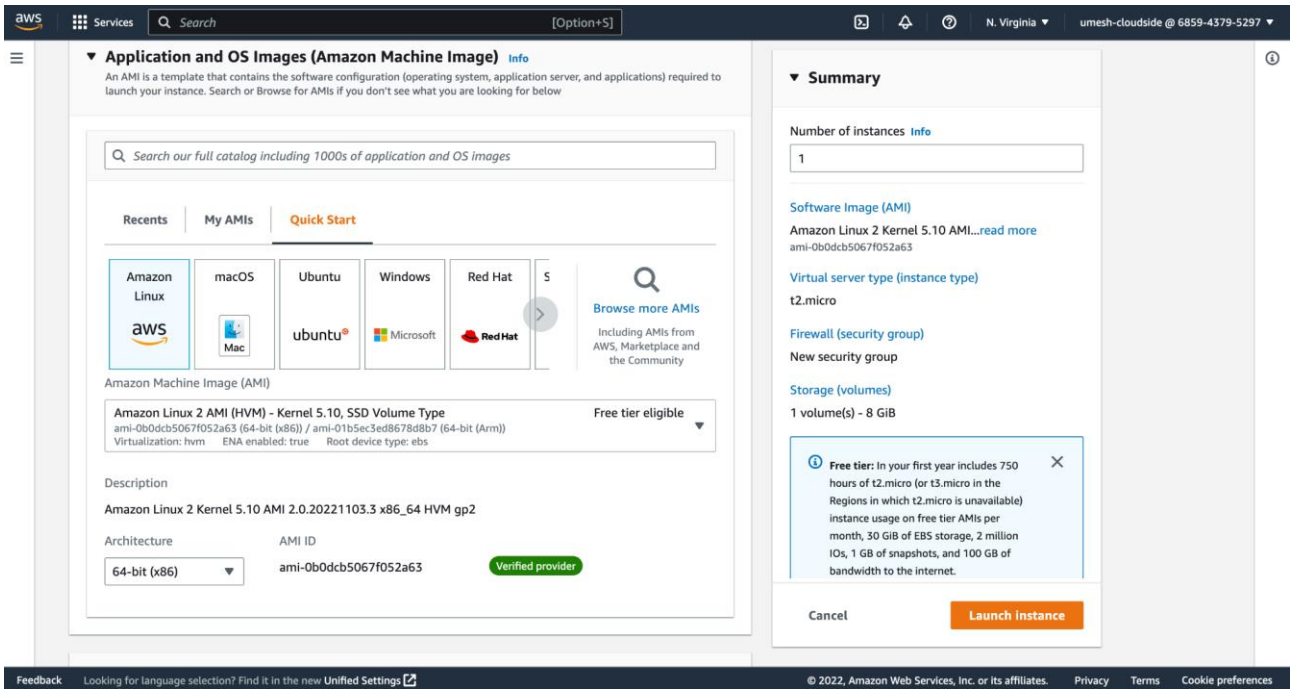
3 Installing and Configuring Influx

Step to Launch an Ec2 instance and set Influx and Grafana

Login to your AWS Account and select Ec2. In the Ec2 Dashboard, you'll want to hit "Launch Instance," which will take you to a list of available instances in your region. There's a large variety, but we'll choose Amazon Linux 2 AM for this post. The process is straightforward to follow, ensuring a smooth setup.

3.1 Application and OS Images

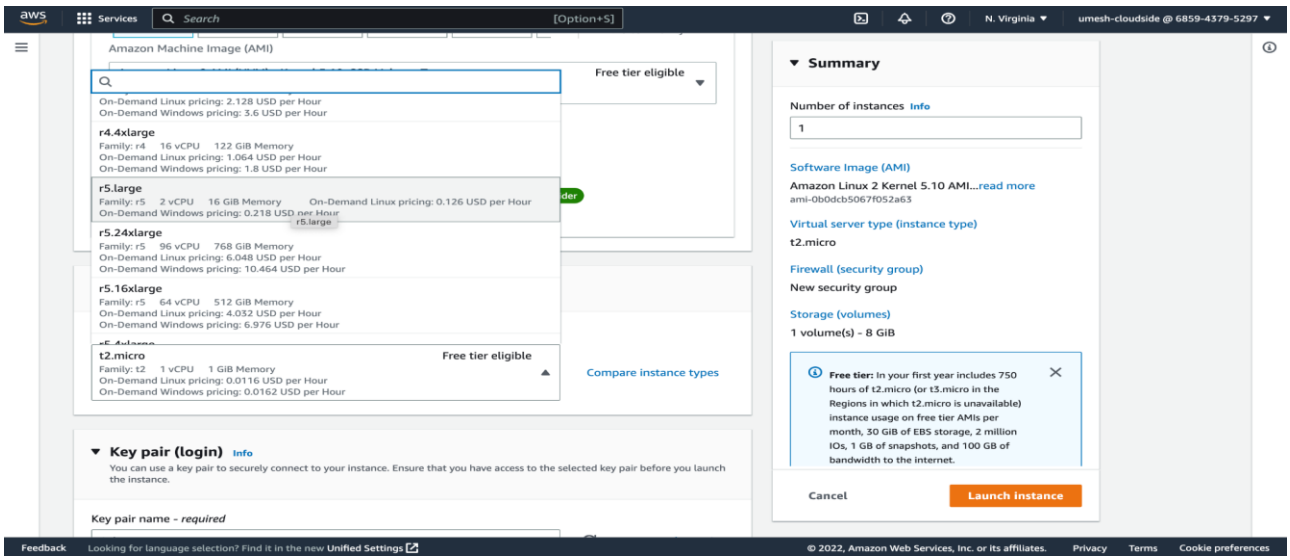
First, you're going to head over to the EC2 Dashboard,



There's a large variety to choose from, but for this post, we'll choose Amazon Linux 2 AMI (HVM)

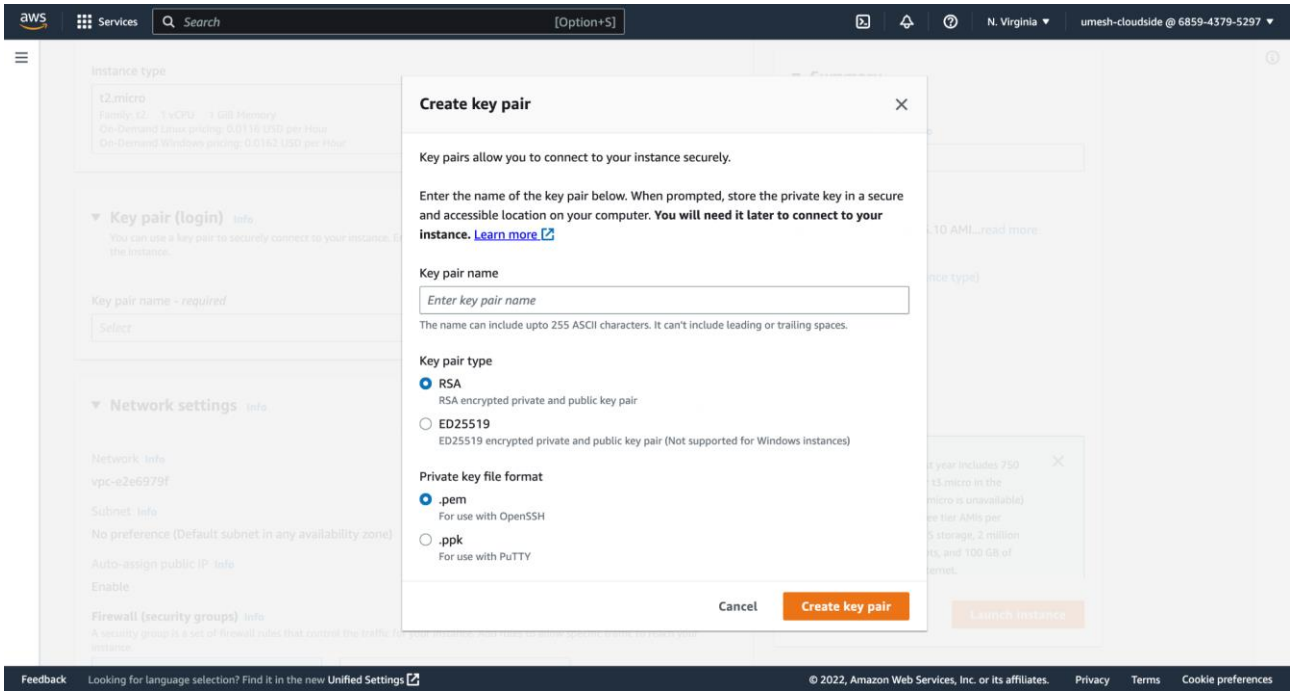
3.2 Select the Instance type

The next screen lists the different instance types, and we want to ensure we pick the r5.2xlarge.



3.3 Create a Key pair

Let's create a new one for this instance by choosing the Create a new key pair option from the dropdown list.



Call it whatever you want, and hit download. This will generate a key pair and download the .pem file for you. Before reviewing and launching, we'll need to set up a few extra things.

3.4 Network settings

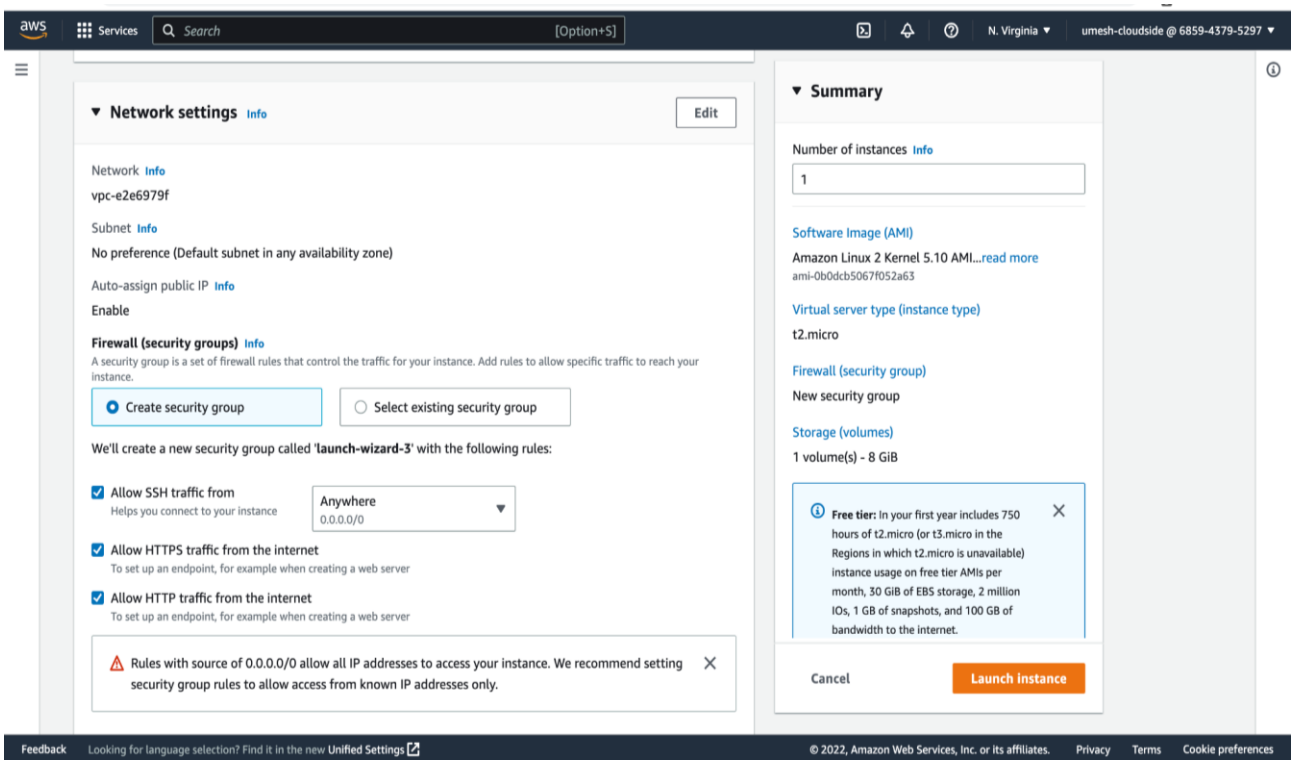
Next, you'll set up a simple security group for your instance, specifying what traffic can be allowed into your server.

Select default VPC

Select Create New Security Group

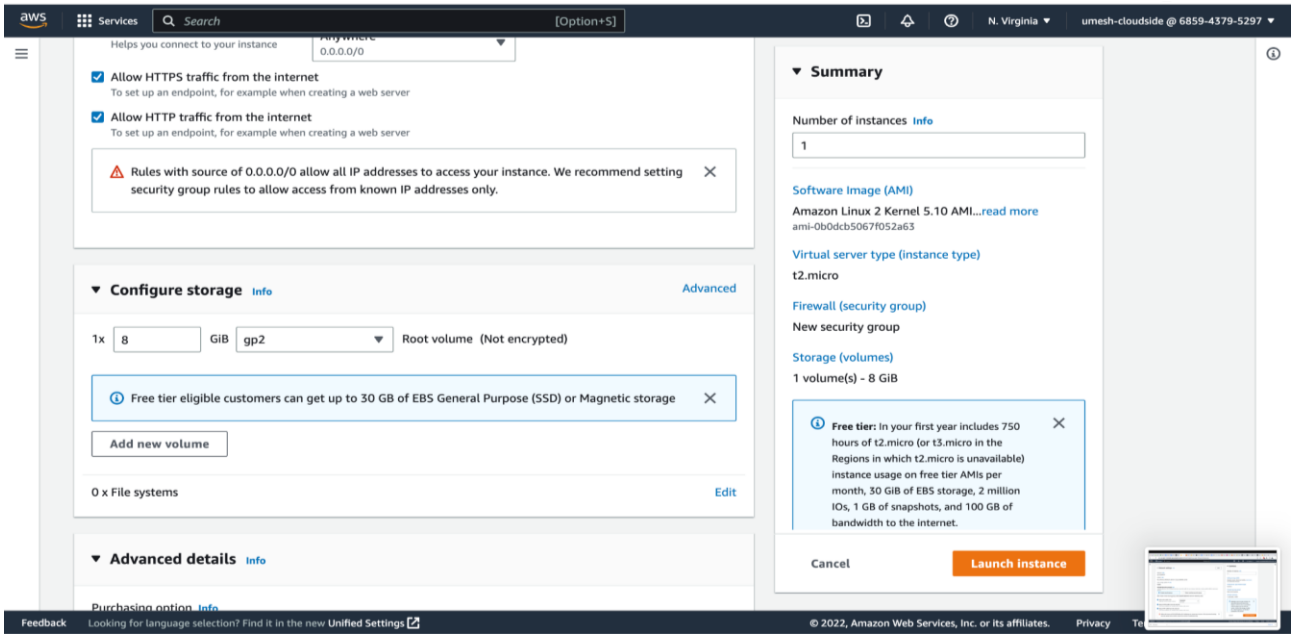
We'll want to SSH in, so that's an obvious one, and we'd probably want to allow users to visit the site over HTTP and HTTPS.
Please select

Allow SSH traffic from Anywhere.
Allow SSH traffic from
Allow HTTP traffic from the internet.



3.5 Configure storage

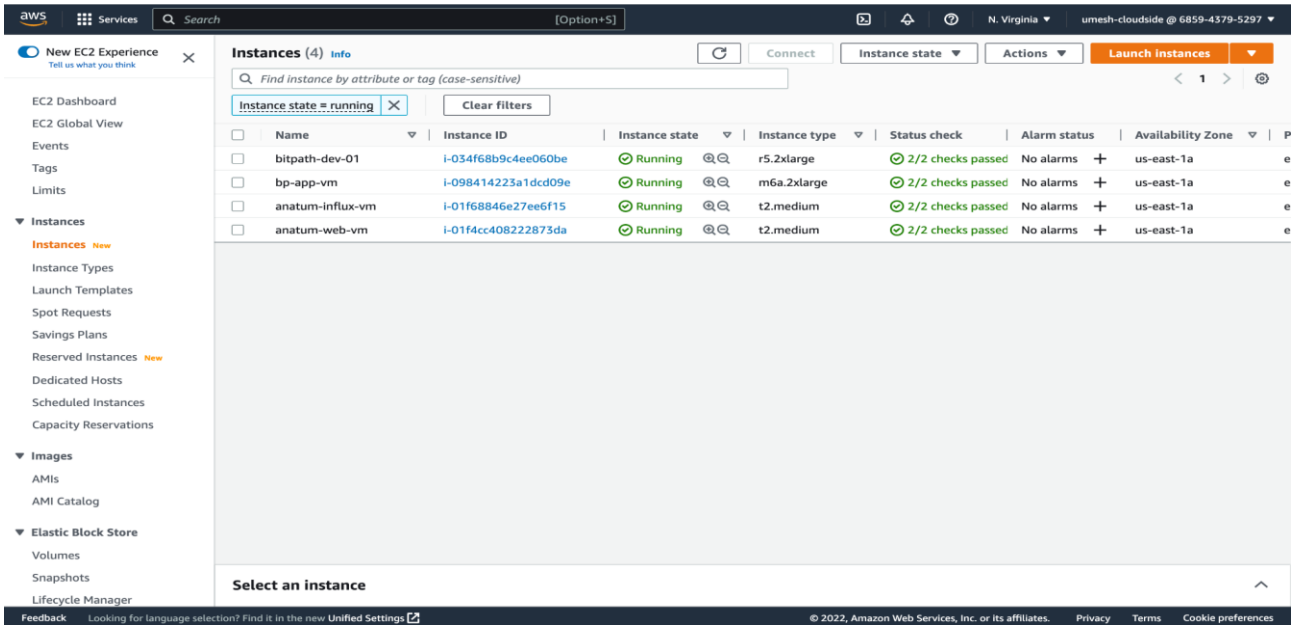
The following section will allow you to add storage to your instance. Again, we'll be okay leaving it at the default 8GB.



Click the Launch Button. Your instance will take a minute or two to launch and warm up. In the meantime, open your terminal and navigate to the directory where your .pem file is located. To SSH your instance, you must change the file's permissions using the following command.

```
chmod 400 mykeypairname.pem
```

Once your instance is all set up and ready, your EC2 dashboard should look like this.



Now, we're ready to connect to the instance.

The command used to ssh in is:

```
ssh -i YourKeyPair.pem ubuntu@YourInstancePublicIP
```

Your instance's public IP address can be found on the dashboard

4 Set up InfluxDB and Grafana on an EC2

To install InfluxDB, run the following commands.

```
wget https://dl.influxdata.com/influxdb/releases/influxdb_1.7.7_amd64.deb

sudo dpkg -i influxdb_1.7.7_amd64.deb
```

After the installation is completed, start the InfluxDB engine.

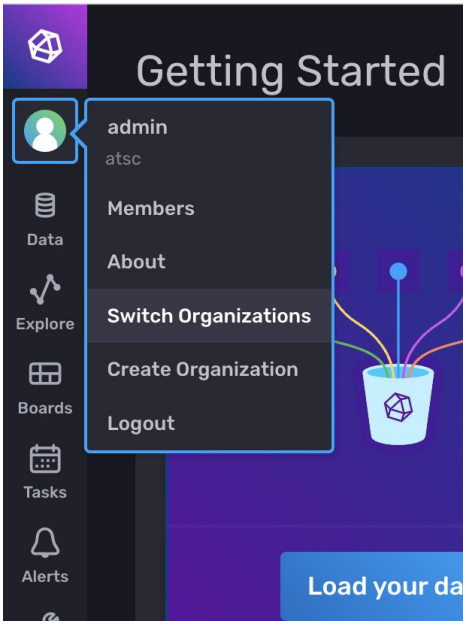
```
sudo service influxdb start
```

You can validate the InfluxDB engine is running correctly by interacting with the InfluxDB CLI.

```
influx
```

4.1 Accessing InfluxDB

- Go to http://ipAddress:8086/ screen will allow you to set user name and password for influx login



- Create an organization name that fits your needs.
  - We need to create three buckets for the initial setup
    1. organisation-ats-data-new
    2. organisation-atsc-stats-new
    3. organisation-gpgst-stats-new

All the above buckets should be mapped with an IOT device

4.2 Setting up Grafana

The following steps install Grafana on the same EC2 instance.

```
wget https://dl.grafana.com/oss/release/grafana_6.2.5_amd64.deb
sudo apt-get update
sudo apt-get install libfontconfig1
sudo apt --fix-broken install

sudo dpkg -i grafana_6.2.5_amd64.deb
```

Once InfluxDB and Grafana are set up, let's create a database and table. Use the following syntax to create a new database and user, and use the *quit* command to exit the database instance.

```
influx

create database databaseName

create user databaseUser with password 'YourPassword'

quit
```

To complete our custom installs, let's add Telegraf (this is a plugin-driven server agent for collecting and reporting metrics).

```
sudo apt install telegraf -y
```

Let's start it and enable it.

```
sudo systemctl start telegraf

sudo systemctl enable telegraf
```

Validate that *Telegraf* is running:

```
sudo systemctl status telegraf
```

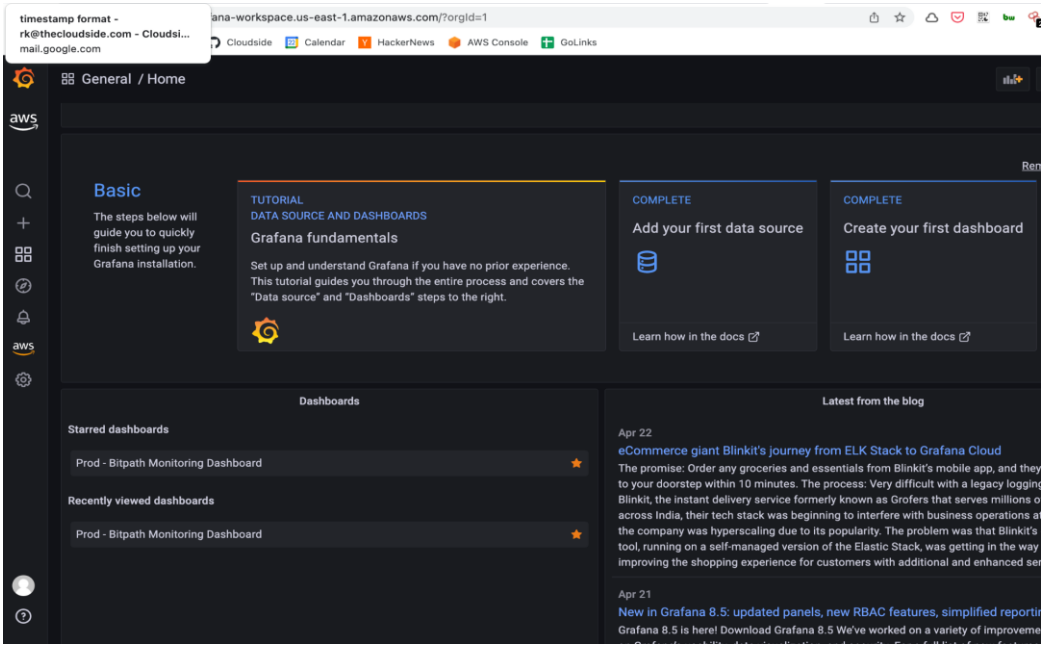
Let's edit and save the basic configuration in the file */etc/telegraf/telegraf.conf.* Look for the following section in the file and add it after the *[[outputs.influxdb]]*

```
sudo nano /etc/telegraf/telegraf.conf

###############################################################################
# OUTPUT PLUGINS #
###############################################################################
# Configuration for sending metrics to InfluxDB
[[outputs.influxdb]]

database = "databaseName"
username = "databaseUserName"
password = "YourPassword"
```

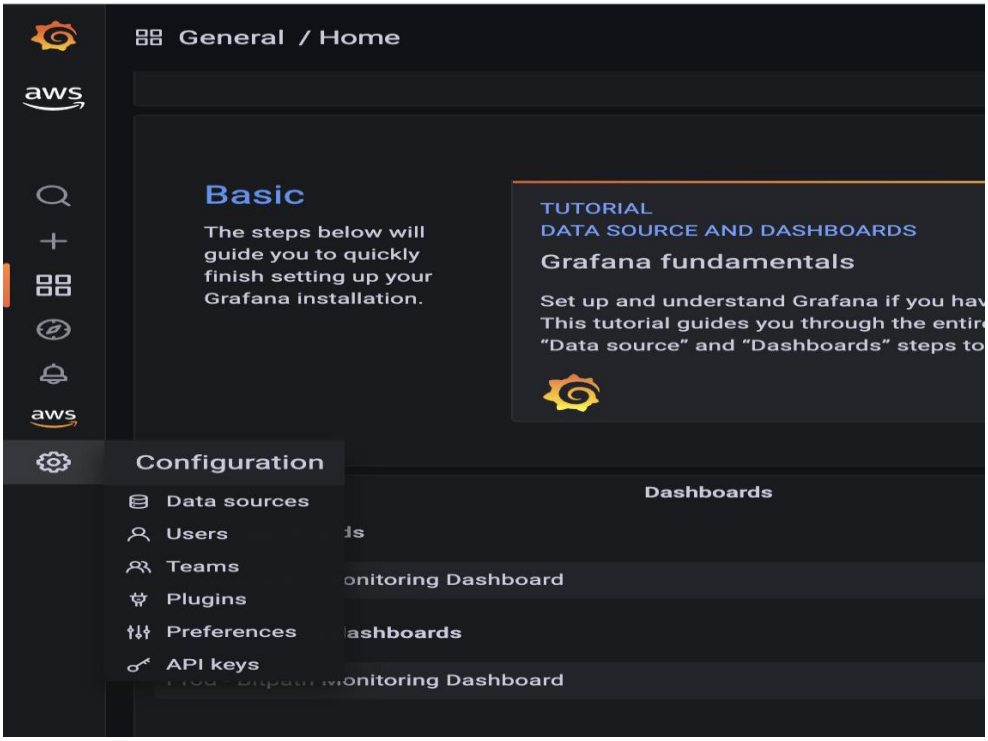
The final step for our Amazon EC2 instance is to set up Grafana (the graphics engine) to use the InfluxDB as a data source. To do so, access the Grafana UI via the following URI.

5 Viewing Grafana dashboards

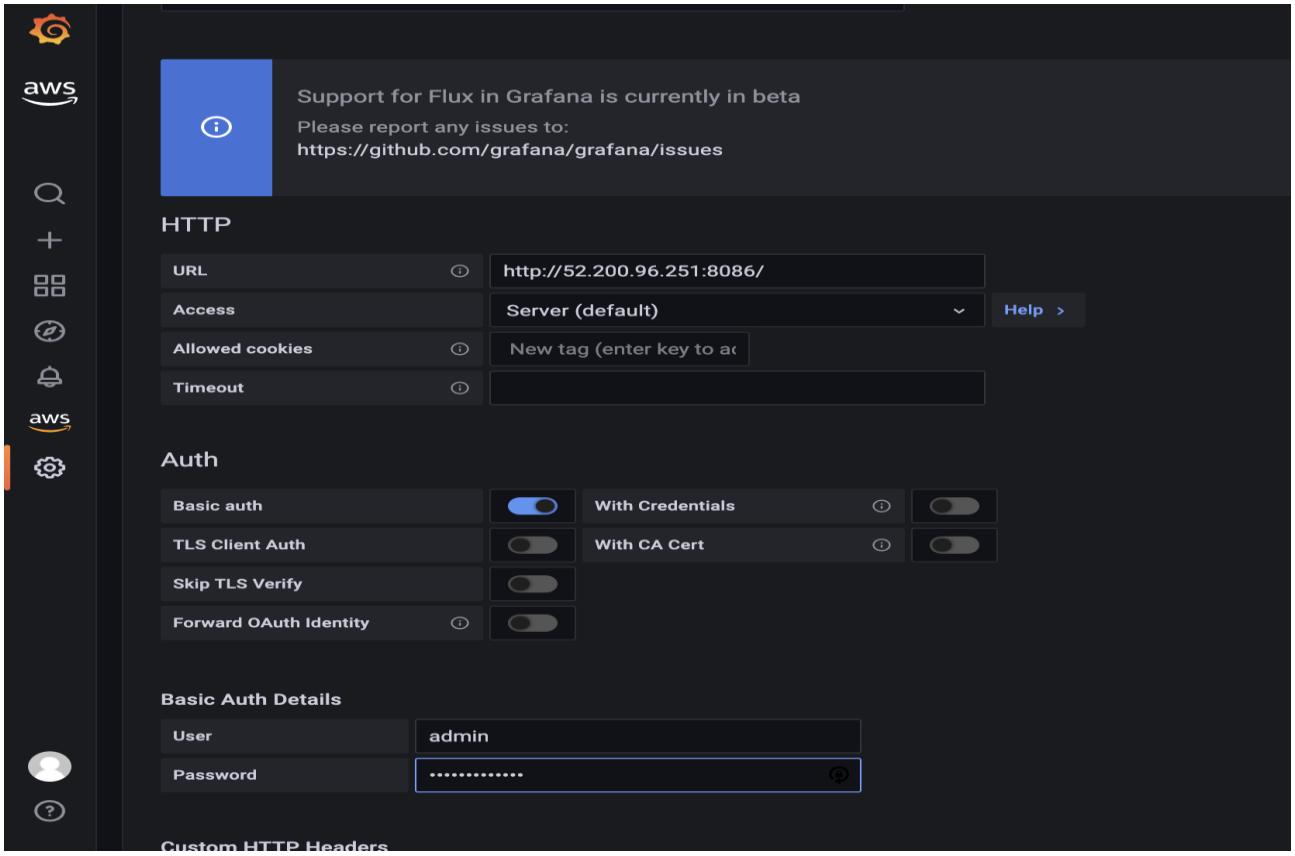
- Go to this page https://ipAddress:3000/login and sign in using your credentials set for influx db.
- Go to dashboards and choose “Prod - Bitpath Monitoring Dashboard”



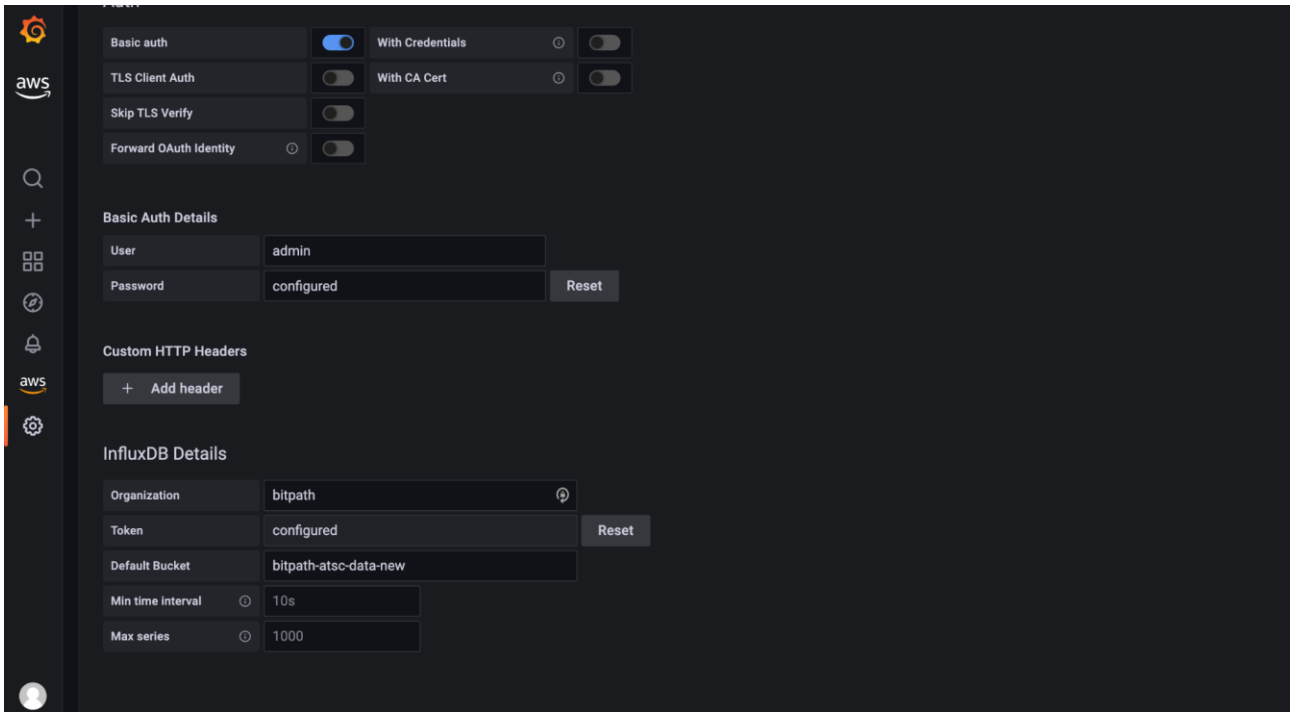
- To add a new data source or build a new dashboard connecting to InfluxDB - go to settings and add a data source



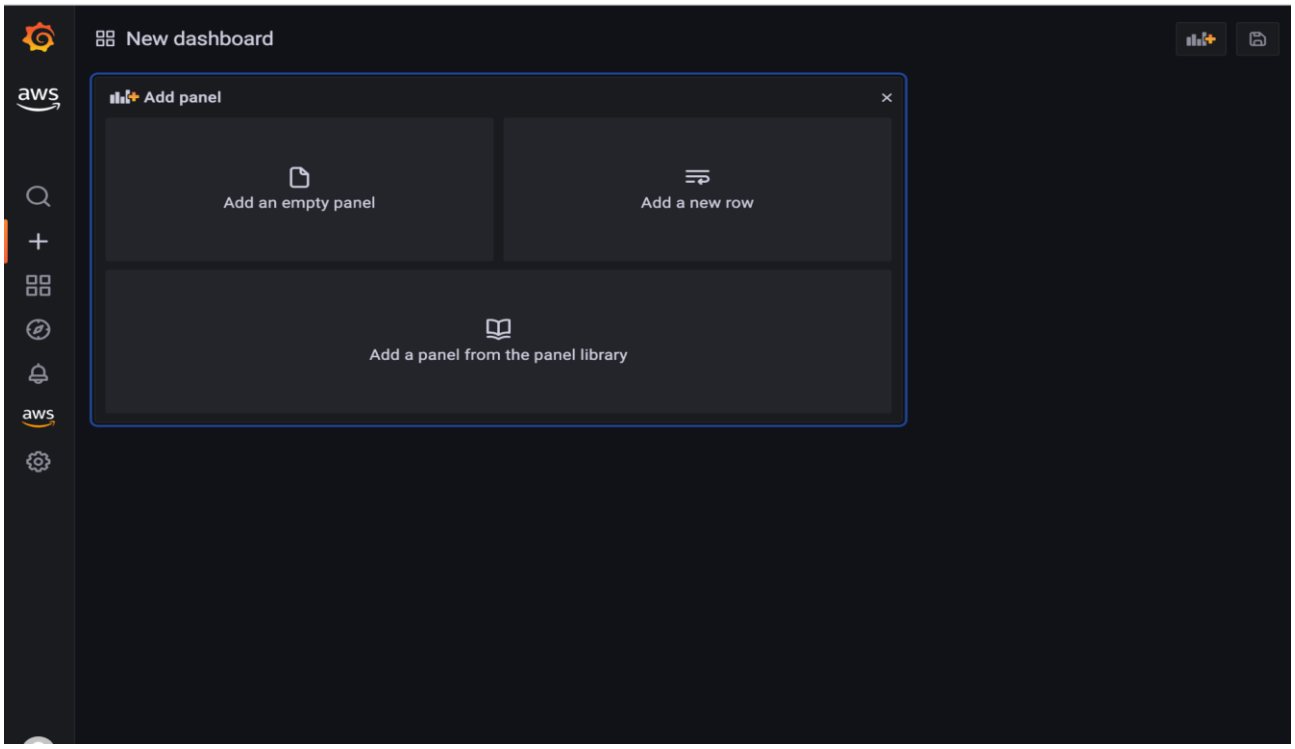
- Add a new data source like this:



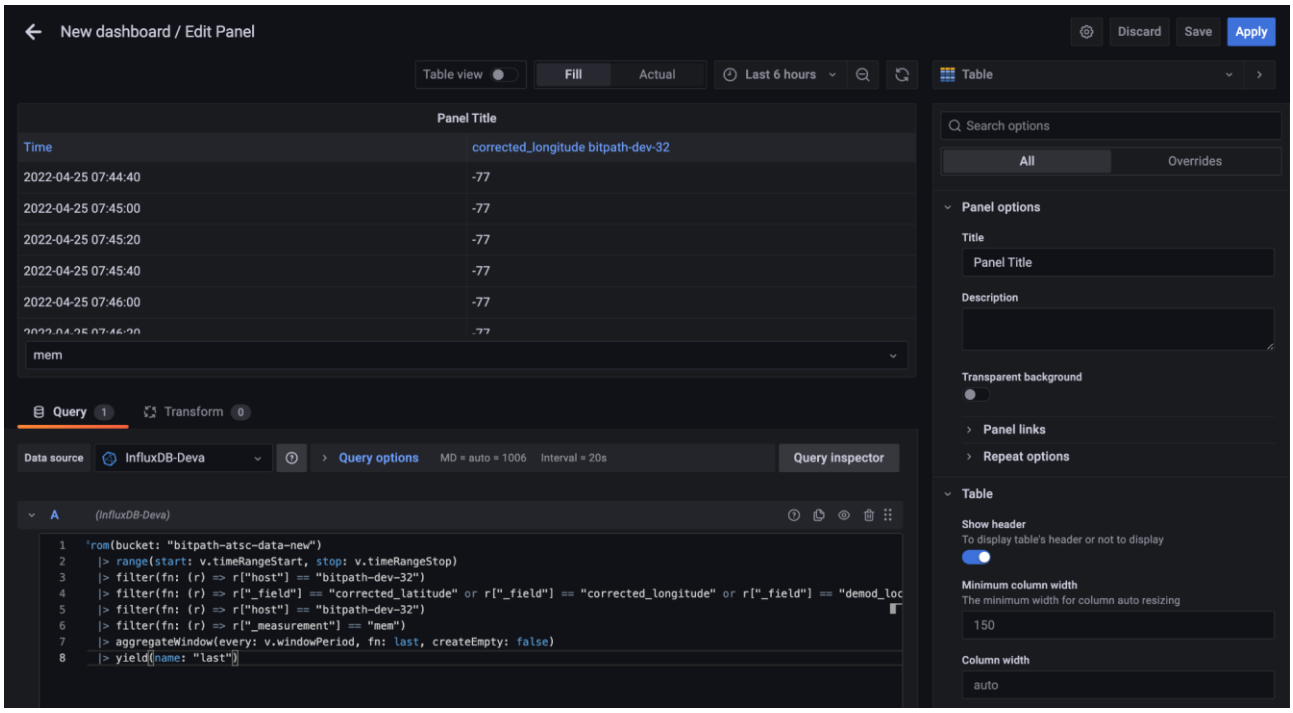
- Add the bucket token



- Save and test
- To test if it worked or to build new visualizations, build an empty panel from a new dashboard

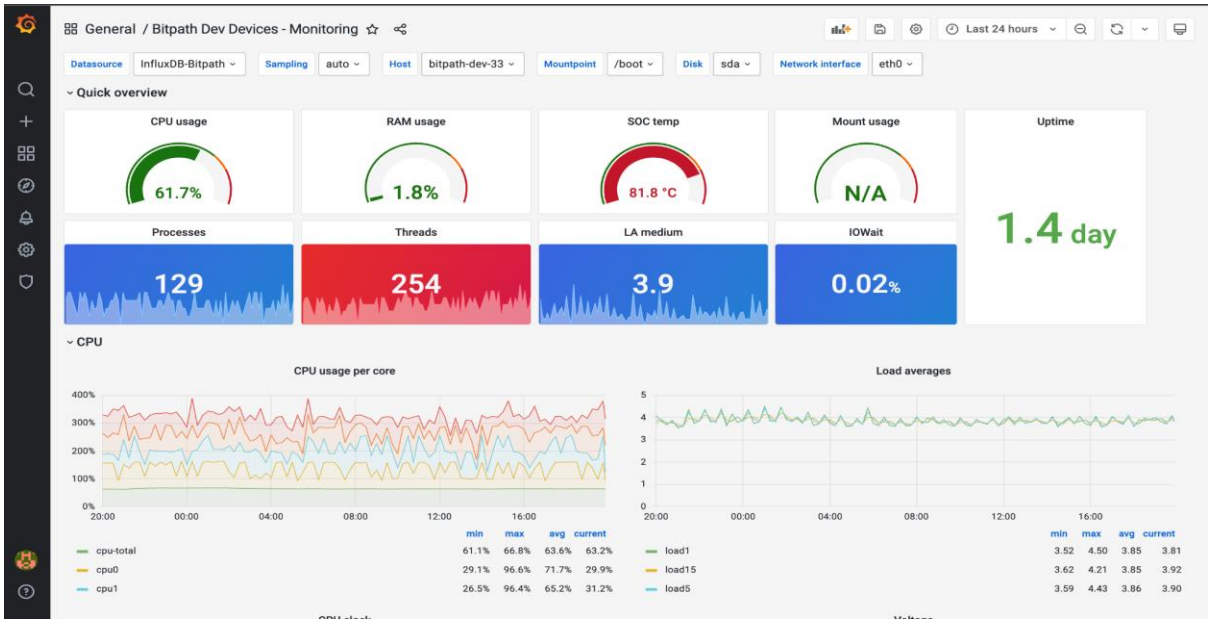


- Choose the right data source and submit a query. On the right side, choose the relevant visualization type (E.g., table, time series, etc.).



- You can build more reports like this.

- The dashboard looks like this:



6 References