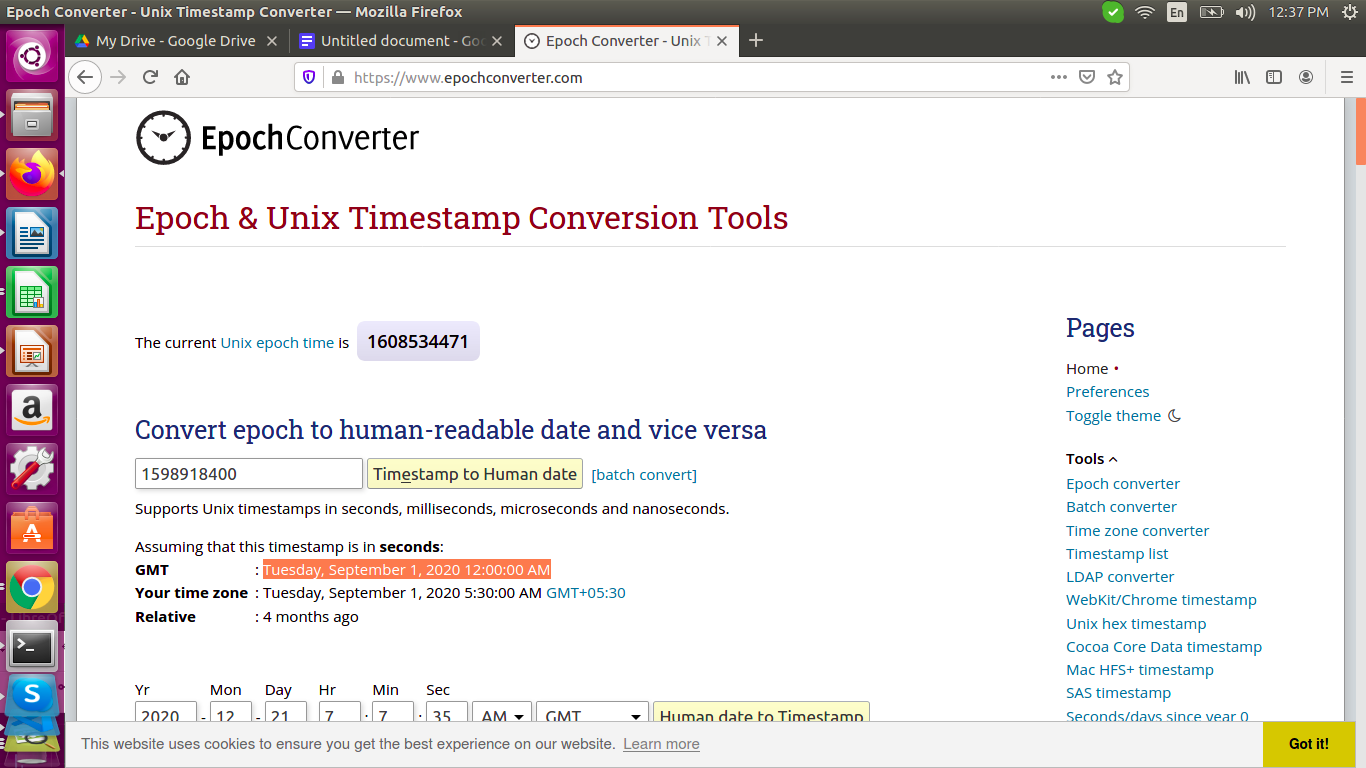
Grafana Dashboard:

LINE CHARTS:

1.

As we can see, we are showing the records for 2 different blocks, i.e, DS\_Id = 0 and DS\_Id = 1.The timestamp is the same for both the blocks, 1598918400, 1598918402,

1598918403 ….. .The date for the above can be obtained from the link: <https://www.epochconverter.com/>



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TIMESTAMP | DS\_Id | POWER\_A | POWER\_B | POWER\_C |
| 1598918400 | 0 | 1403.421 | 712.372 | 1680.471 |
| 1598918402 | 0 | 1423.817 | 731.249 | 1680.658 |
| 1598918403 | 0 | 1444.172 | 749.339 | 1700.859 |
| 1598918404 | 0 | 1774.402 | 1106.427 | 2041.954 |
| 1598918405 | 0 | 1774.402 | 1106.427 | 2041.954 |
| 1598918406 | 0 | 2907.728 | 2262.41 | 3294.891 |
| 1598918407 | 0 | 4473.881 | 3846.113 | 5008.417 |
| 1598918408 | 0 | 3408.858 | 2772.619 | 3856.164 |
| 1598918409 | 0 | 3408.858 | 2772.619 | 3856.164 |
| 1598918410 | 0 | 3418.469 | 2777.669 | 3860.896 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1598918400 | 1 | 821.847 | 574.748 | 1203.807 |
| 1598918402 | 1 | 823.367 | 574.315 | 1203.795 |
| 1598918403 | 1 | 819.939 | 574.261 | 1203.647 |
| 1598918404 | 1 | 819.939 | 574.261 | 1203.647 |
| 1598918405 | 1 | 821.288 | 574.918 | 1205.744 |
| 1598918406 | 1 | 819.307 | 575.267 | 1203.968 |
| 1598918407 | 1 | 818.012 | 575.168 | 1205.09 |
| 1598918408 | 1 | 817.876 | 574.067 | 1203.813 |
| 1598918409 | 1 | 820.74 | 575.795 | 1204.758 |
| 1598918410 | 1 | 819.226 | 573.985 | 1203.027 |

Our requirement is to get the aggregated power for POWER\_A, POWER\_B, POWER\_C fields.

For example, for the timestamp 1598918400,

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1598918400 | 0 | 1403.421 | 712.372 | 1680.471 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1598918400 | 1 | 821.847 | 574.748 | 1203.807 |

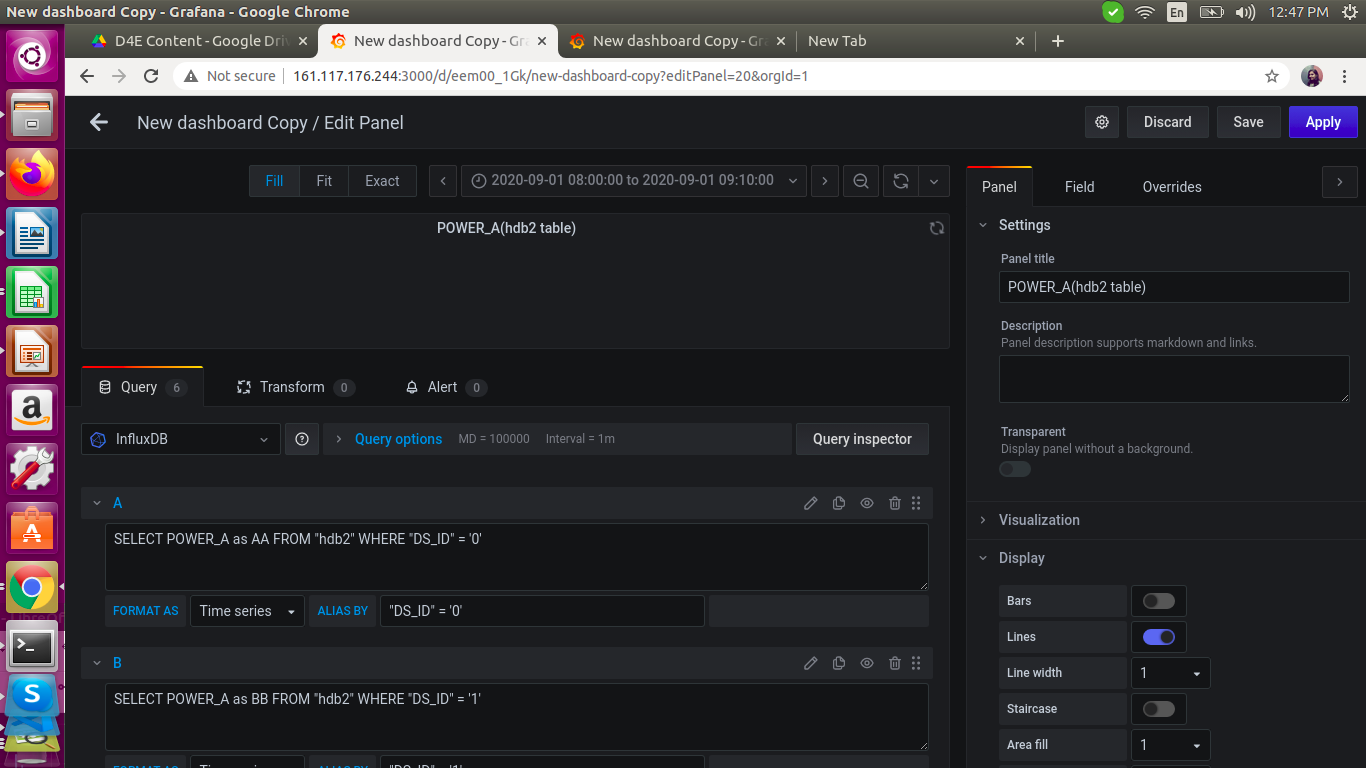
we have values for POWER\_A as 1403.421 and 821.847 as 2225.268. Likewise, we have to calculate for all the time-series values(1598918402, 1598918403, 1598918404, …) for POWER\_A, POWER\_B and POWER\_C also.

This computation has to be done by Grafana. We are implementing this using the SQL syntax like queries as shown below:

We are going to compute the aggregated power for the field POWER\_A now.

We have our first query below:

**SELECT POWER\_A as AA FROM "hdb2" WHERE "DS\_ID" = '0'**



The same thing is followed for other 4 blocks also(DS\_ID =’1’, DS\_ID=’2’, DS\_ID=’3’, DS\_ID=’4’)

**SELECT POWER\_A as BB FROM "hdb2" WHERE "DS\_ID" = '1'**

**SELECT POWER\_A as CC FROM "hdb2" WHERE "DS\_ID" = '2'**

**SELECT POWER\_A as DD FROM "hdb2" WHERE "DS\_ID" = '3'**

**SELECT POWER\_A as EE FROM "hdb2" WHERE "DS\_ID" = '4'**

Now, we compute the aggregated power for POWER\_A with the below query:

**SELECT sum(ds1) + sum(ds0) + sum(ds2) + sum(ds3) + sum(ds4) AS Total**

**FROM**

**(**

**SELECT POWER\_A as ds0 FROM "hdb2" WHERE "DS\_ID" = '0'**

**),**

**(**

**SELECT POWER\_A as ds1 FROM "hdb2" WHERE "DS\_ID" = '1'**

**),**

**(**

**SELECT POWER\_A as ds2 FROM "hdb2" WHERE "DS\_ID" = '2'**

**),**

**(**

**SELECT POWER\_A as ds3 FROM "hdb2" WHERE "DS\_ID" = '3'**

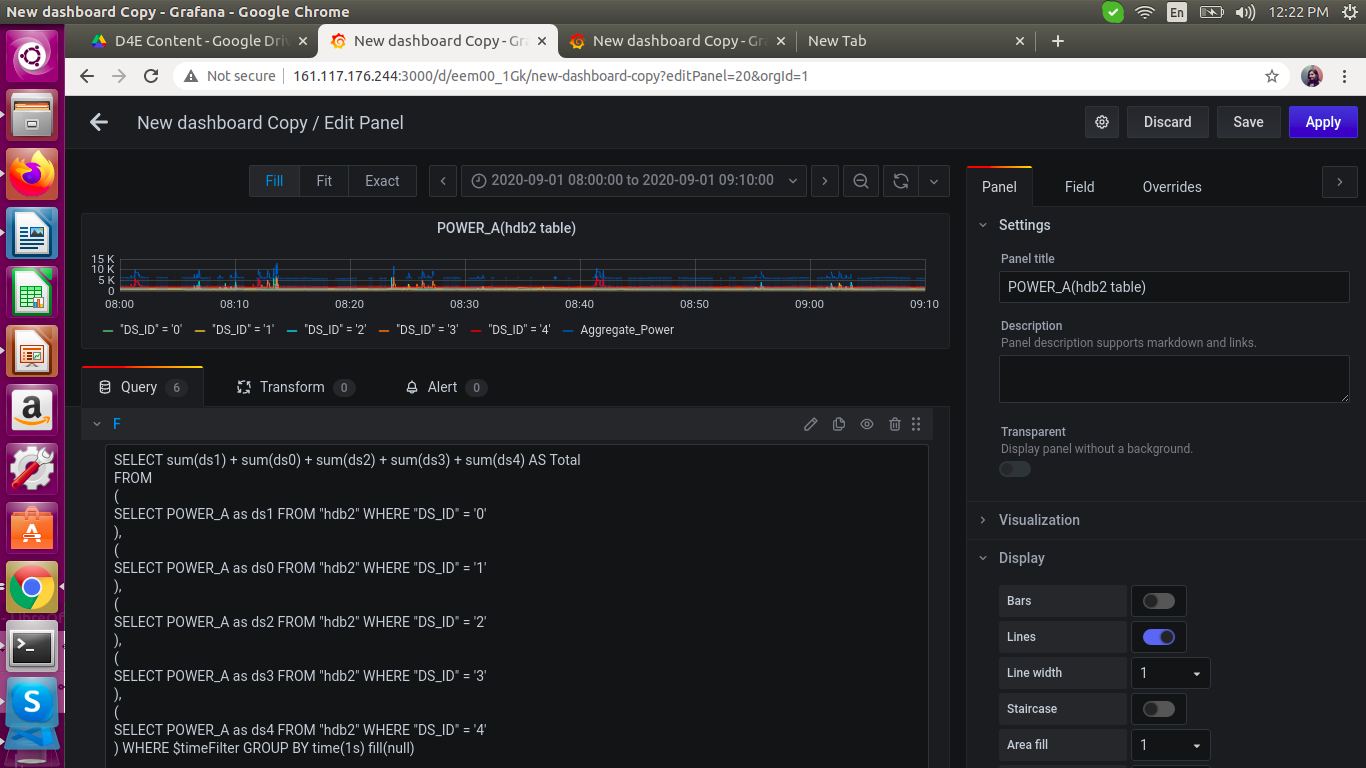
**),**

**(**

**SELECT POWER\_A as ds4 FROM "hdb2" WHERE "DS\_ID" = '4'**

**) WHERE $timeFilter GROUP BY time(1s) fill(null)**

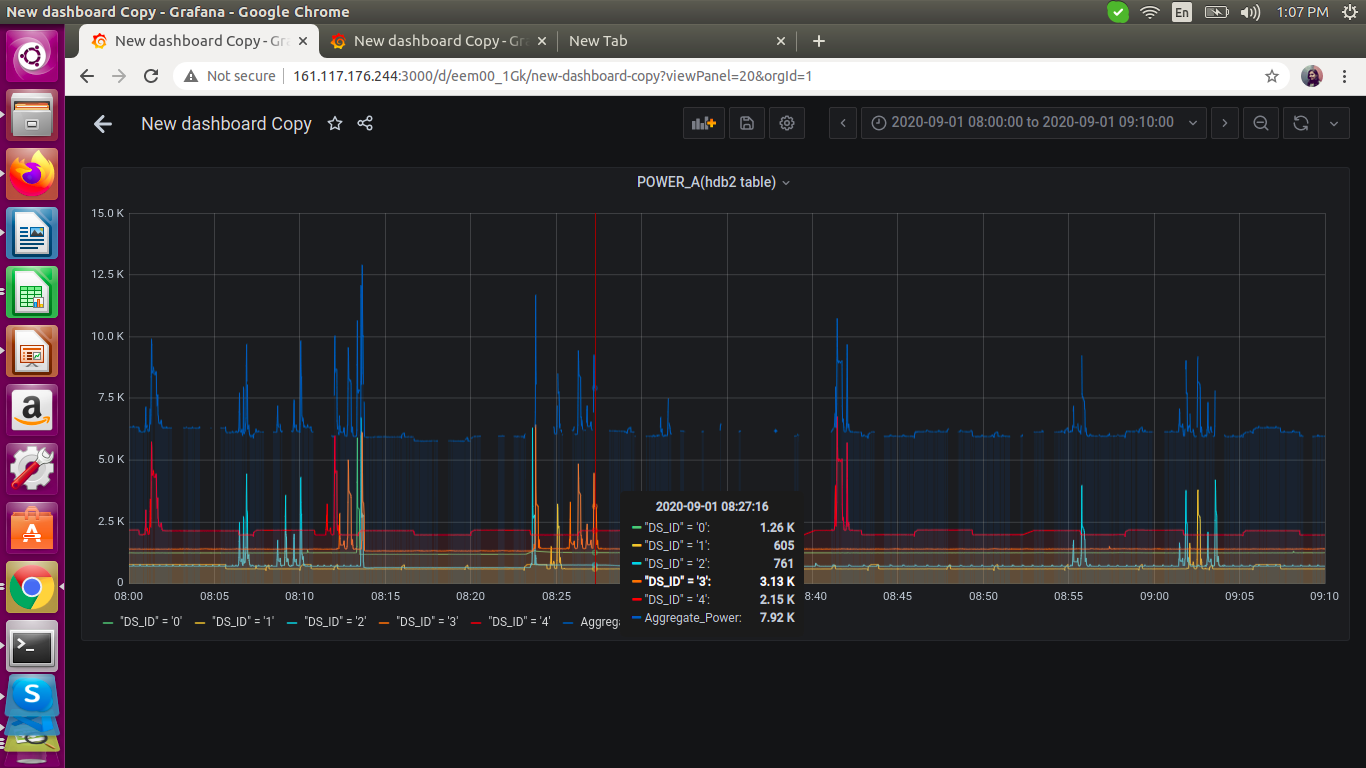
Here**,** hdb2 is the table name in our INFLUXDB1.8 database from where we are fetching our data into the Grafana dashboard running at port 3000.



We get the graph as shown below:

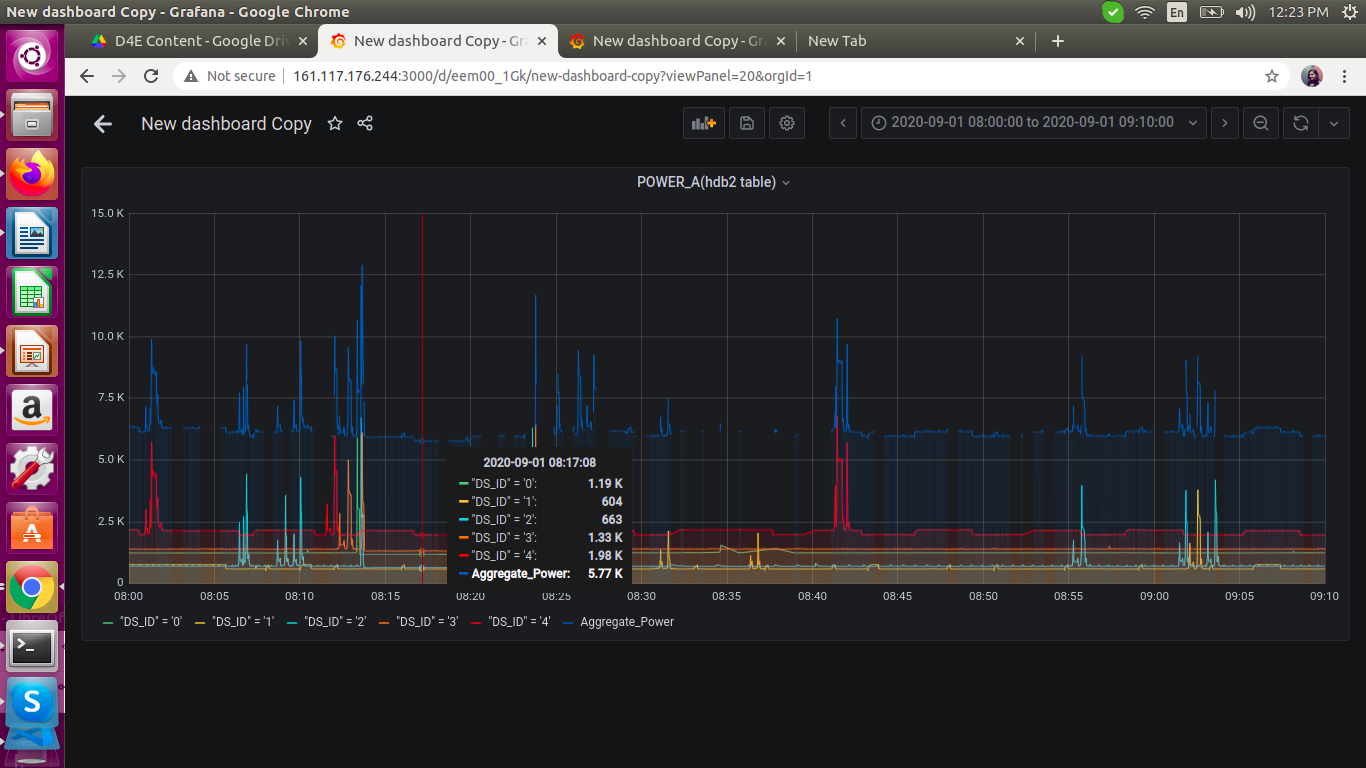
TIMESTAMP: 2020-09-01 08:27:16

Aggregate\_Power: 7.92k



TIMESTAMP: 2020-09-01 08:17:08

Aggregate\_Power: 5.77k



We are getting the correct aggregated values for POWER\_A. We need to do the same for POWER\_B and POWER\_C.

For POWER\_B:

SELECT sum(ds1) + sum(ds0) + sum(ds2) + sum(ds3) + sum(ds4) AS PB

FROM

(

SELECT POWER\_B as ds1 FROM "hdb2" WHERE "DS\_ID" = '1'

),

(

SELECT POWER\_B as ds0 FROM "hdb2" WHERE "DS\_ID" = '0'

),

(

SELECT POWER\_B as ds2 FROM "hdb2" WHERE "DS\_ID" = '2'

),

(

SELECT POWER\_B as ds3 FROM "hdb2" WHERE "DS\_ID" = '3'

),

(

SELECT POWER\_B as ds4 FROM "hdb2" WHERE "DS\_ID" = '4'

) WHERE $timeFilter GROUP BY time(1s) fill(null)

For POWER\_C:

SELECT sum(ds1) + sum(ds0) + sum(ds2) + sum(ds3) + sum(ds4) AS PC

FROM

(

SELECT POWER\_C as ds1 FROM "hdb2" WHERE "DS\_ID" = '1'

),

(

SELECT POWER\_C as ds0 FROM "hdb2" WHERE "DS\_ID" = '0'

),

(

SELECT POWER\_C as ds2 FROM "hdb2" WHERE "DS\_ID" = '2'

),

(

SELECT POWER\_C as ds3 FROM "hdb2" WHERE "DS\_ID" = '3'

),

(

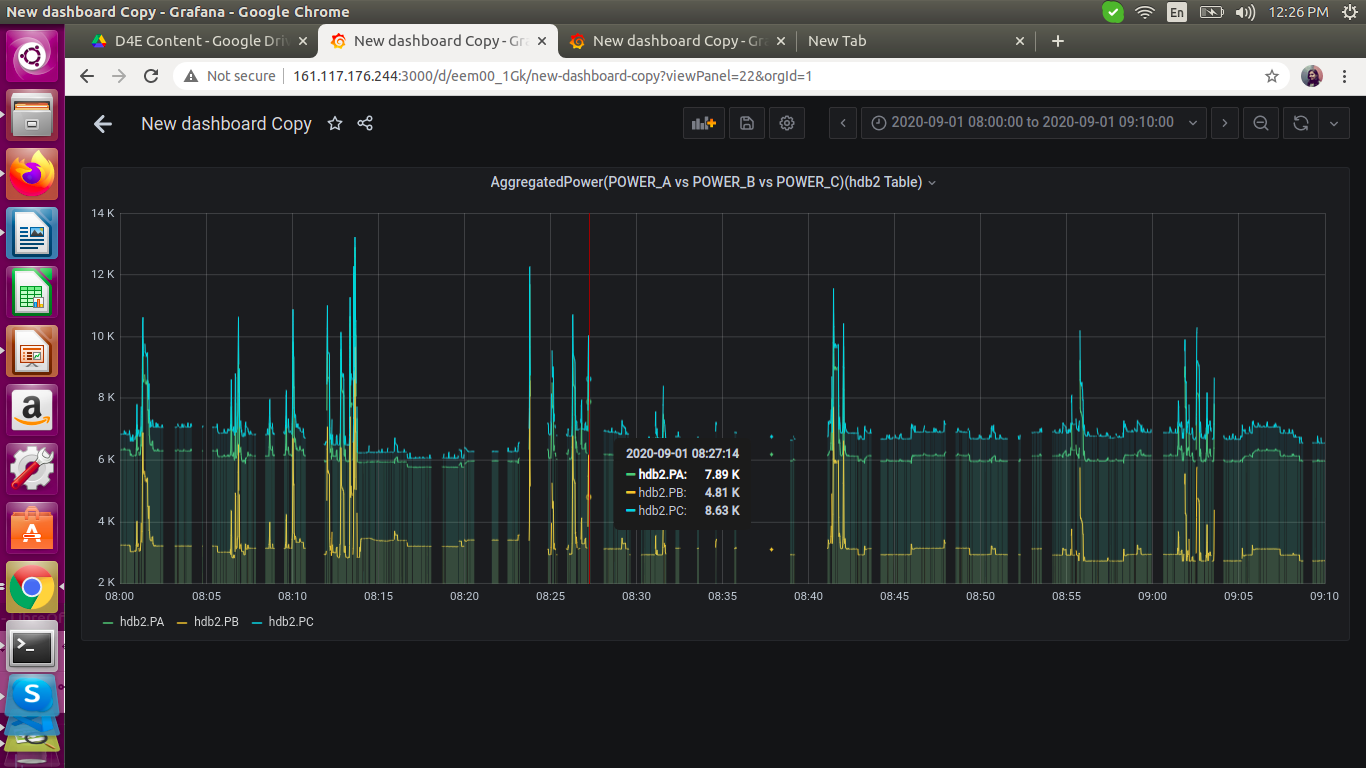
SELECT POWER\_C as ds4 FROM "hdb2" WHERE "DS\_ID" = '4'

) WHERE $timeFilter GROUP BY time(1s) fill(null)

We will get the graph as shown below:

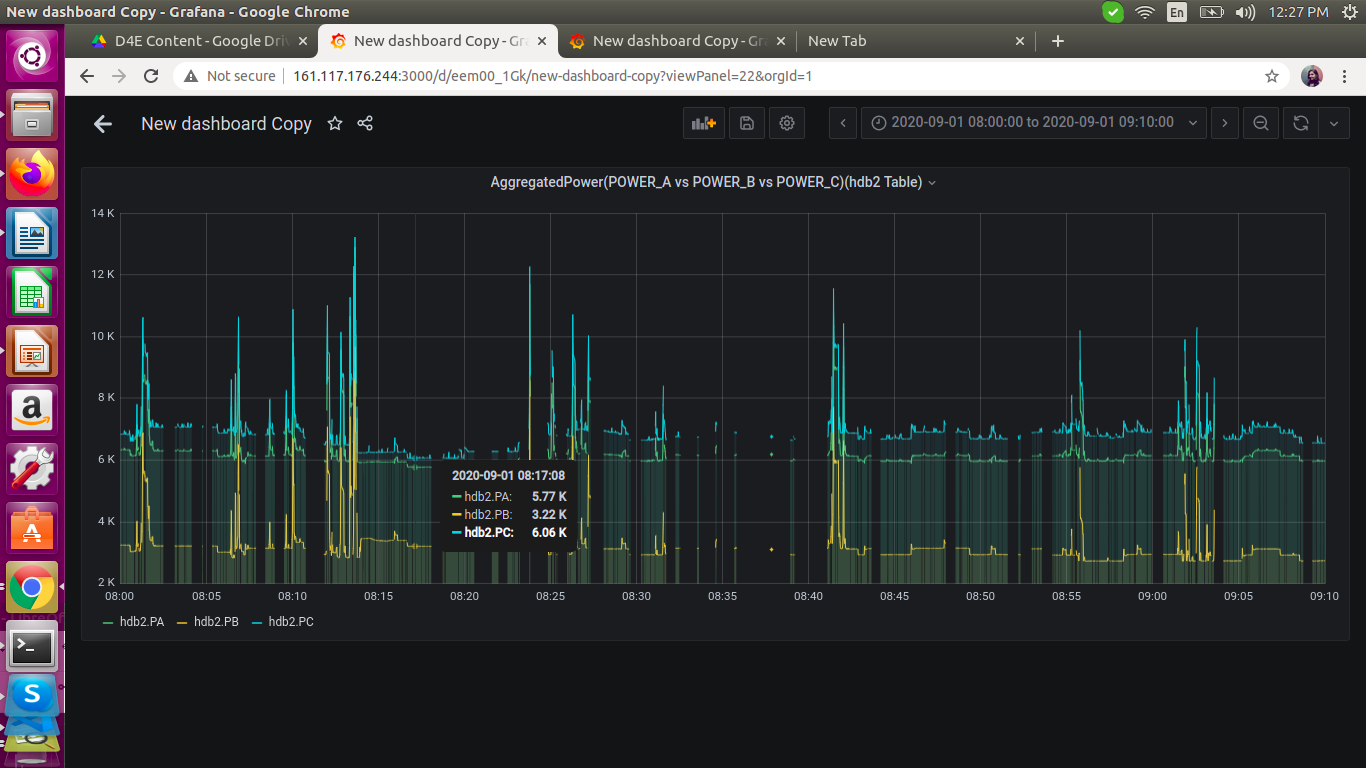
TIMESTAMP: 2020-09-01 08:27:12

Aggregate\_Power: 7.89k



TIMESTAMP: 2020-09-01 08:17:08

Aggregate\_Power: 5.77k



As we can see, these aggregated values for POWER\_A confirm with the values shown in the previous graphs with the same timestamp.