

Stream metrics storage in Influx DB

- [Influx DB installation](#)
- [Influx DB setup](#)
- [DB structure](#)
- [Examples of data selection from Influx DB](#)

[Influx](#) is open source time series DB.

Influx DB installation

To install Influx DB on CentOS 7, do the following:

1. Create file /etc/yum.repos.d/influxdb.repo:

```
[influxdb]
name = InfluxDB Repository - RHEL $releasever
baseurl = https://repos.influxdata.com/rhel/$releasever/$basearch/stable
enabled = 1
gpgcheck = 1
gpgkey = https://repos.influxdata.com/influxdb.key
```

2. Execute the command

```
yum install influxdb -y
```

3. Enable UDP connection in /etc/influxdb/influxdb.conf file:

```
[[udp]]
  enabled = true
  bind-address = ":8089"
  database = "wcs_oam"
  retention-policy = "default"
```

4. Start Influx DB

```
systemctl start influxdb
```

The installation procedure for Influx DB on Debian / Ubuntu differs only in the method of adding the necessary repository.

Influx DB can be installed to the same server with monitoring backend server. By default, TCP port 8086 or UDP port 8089 is used to connect to Influx DB.

Influx DB setup

To configure Influx DB for metric storage do the following:

1. Set the following parameter in wcs_oam.properties file

```
metric_store=influx
```

2. Set metrics retention policy in init_tsdbs.properties file

```
influx_retention_interval=48h0m0s
```

By default, metrics are stored for 2 days (48 hours).

3. Launch DB setup script

```
./init_tsdb.sh
```

DB structure

The database to store metric values as time series contains fields with the following keys:

```
VIDEO_HEIGHT  
VIDEO_WIDTH  
VIDEO_RATE  
VIDEO_SYNC  
VIDEO_FPS  
VIDEO_NACK  
VIDEO_PLI  
VIDEO_CODEC  
AUDIO_SYNC  
AUDIO_RATE  
AUDIO_LOST  
AUDIO_CODEC
```

Examples of data selection from Influx DB

Data can be selected from Influx DB for a stream, for which node and media session identifiers are known:

1. Enter Influx DB command line interface

```
influx
```

2. Connect to wcs_oam database

```
use wcs_oam
```

3. The command

```
show measurements
```

will show time series list, every of which corresponds to stream published to certain node in certain media session, for example

```
name: measurements  
name  
----  
3-7ecbd270-123e-11e9-bb40-b96debd59887  
3-93412000-123b-11e9-8357-3d4423e30d73
```

4. Select video bitrate values for stream on node 3 in media session 7ecbd270-123e-11e9-bb40-b96debd59887

```
select VIDEO_RATE from "3-7ecbd270-123e-11e9-bb40-b96debd59887"
```

Video bitrate values with timestamps will be shown

name: 3-7ecbd270-123e-11e9-bb40-b96debd59887

| time | VIDEO_RATE |
|------|------------|
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|---------------------|----------|
| 1546839525823000000 | 28424000 |
|---------------------|----------|

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| 1546839525960000000 | 1002914 |
|---------------------|---------|

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|---------------------|--------|
| 1546839526169000000 | 727679 |
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| 1546839526358000000 | 662007 |
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| 1546839526575000000 | 645467 |
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| 1546839526770000000 | 633490 |
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| 1546839526967000000 | 583736 |
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| 1546839527162000000 | 622472 |
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| 1546839527365000000 | 593104 |
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| 1546839527563000000 | 666688 |
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| 1546839527796000000 | 638784 |
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| 1546839527999000000 | 637000 |
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| 1546839528192000000 | 647208 |
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| 1546839528772000000 | 421640 |
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| 1546839528775000000 | 587632 |
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| 1546839528805000000 | 740064 |
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| 1546839529031000000 | 753504 |
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| 1546839529232000000 | 767672 |
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| 1546839529431000000 | 931088 |
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| 1546839529643000000 | 1090696 |
|---------------------|---------|

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| 1546839529840000000 | 772440 |
|---------------------|--------|

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| 1546839530028000000 | 755744 |
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| 1546839530242000000 | 812624 |
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| 1546839530429000000 | 867240 |
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| 1546839530630000000 | 878008 |
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| 1546839530833000000 | 873528 |
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| 1546839531031000000 | |
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850352

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