# NATS STREAMING (STANDALONE)

1. Download the NATS Streaming server from below link

<https://drive.google.com/open?id=1vpCXctNKpvoYOk0NdyXtjC4uANWsz9hS>

1. Extract the nats-streaming-server-v0.11.2-linux-amd64.zip file. It contains three files

|  |  |
| --- | --- |
| nats-streaming-server | Binary for nats streaming server |
| nats-streaming.config | Configuration file for nats streaming |
| nats-streaming.service | Ubuntu Service wrapper for nats streaming server. To start nats-streaming server as systemd service |

1. Edit the nats-streaming.config file. It has three properties

|  |
| --- |
| streaming {  id: cereview  store: file  dir: /home/ubuntu/nats/cereview  } |

1. Update the dir property (highlighted in RED) pointing to file storage location for NATS message persistence. Don’t change other properties
2. Create a directory for nats-streaming server under /srv. Usually services are installed under /srv in ubuntu

|  |
| --- |
| sudo mkdir -p /srv/nats-streaming/bin |

1. Copy/move the nats-streaming-server binary and config to /srv/nats-streaming/bin

|  |
| --- |
| sudo mv nats-streaming-server /srv/nats-streaming/bin  sudo mv nats-streaming.config /srv/nats-streaming/bin |

1. Copy the service wrapper file (nats-streaming.service) to /etc/systemd/system

|  |
| --- |
| sudo mv nats-streaming.service /etc/systemd/system  sudo chmod +x /etc/systemd/system/nats-streaming.service |

1. Edit nats-streaming.service file and update system user name

|  |
| --- |
| User=ubuntu |

1. Verify is service wrapper is working by starting the service

|  |
| --- |
| sudo systemctl start nats-streaming |

1. You may check if 4222 port is listening with following command

|  |
| --- |
| netstat -an | grep 4222  tcp6 0 0 :::4222 :::\* LISTEN |

1. Finally add the service on startup

|  |
| --- |
| sudo systemctl enable nats-streaming |

# 

# 

# 

# NATS STREAMING (CLUSTER)

**Pre-requisites:**

1. Three nodes/vm for installation of nats cluster in same subnet/VPC so they can communicate
2. Administrative access to the installation nodes for running system admin commands and updating host files
3. [NATS installation package](https://drive.google.com/open?id=18DrzGacu4AzFW1mCVzp-Fk647aWX0_3A) with binary, configuration files and service wrapper files
4. Certificate and key file (if not available, at least keystore should be available with store password. Generate certificate and key file using procedure given in [Ref](https://docs.google.com/document/d/1ntnbzioLXtv-l6B4kktII0o_BPUbsUG7uS64avtg0T4/edit?ts=5f0846d9#heading=h.limjpy2e2uew) in all nodes)

**Procedure**

1. Download NATS Streaming bundle with pre-configured for 3 nodes cluster setup

<https://drive.google.com/open?id=18DrzGacu4AzFW1mCVzp-Fk647aWX0_3A>

1. Extract the zip file and it should contain the following files

|  |  |
| --- | --- |
| nats-streaming-server | Binary for nats streaming server |
| nats-streaming-a.config | Configuration file for nats streaming instance a |
| nats-streaming-b.config | Configuration file for nats streaming instance b |
| nats-streaming-c.config | Configuration file for nats streaming instance c |
| nats-streaming.service | Ubuntu Service wrapper for nats streaming server. To start nats-streaming server as systemd service |

1. Copy nats-streaming-server and nats-streaming-\*.config file under /srv/nats-streaming/bin directory on relevant node. I.e. nats-streaming-a.config in node a and nats-streaming-b.config in node b, etc
2. Edit and update the highlighted properties in nats-streaming-\*.config file in all nodes. Before updating the certificate and key file path, generate them (if not available) using procedure given in [Ref](https://docs.google.com/document/d/1ntnbzioLXtv-l6B4kktII0o_BPUbsUG7uS64avtg0T4/edit?ts=5f0846d9#heading=h.limjpy2e2uew). If certificate and key file is already available, skip the referred procedure

|  |
| --- |
| # NATS specific configuration  port: 4222  net: natsa.cbwmoney.com  cluster {  listen: natsa.cbwmoney.com:6222  routes: ["nats://prodnats:prodnats@natsb.cbwmoney.com:6222", "nats://prodnats:prodnats@natsc.cbwmoney.com:6222"]  }  tls: {  cert\_file: "/home/ubuntu/nats/certs/cbwmoney.crt"  key\_file: "/home/ubuntu/nats/certs/cbwmoney.key"  verify: true  timeout: 2  }  authorization {  user: prodnats  password: prodnats  }  # NATS Streaming specific configuration  streaming {  id: cereview  store: file  dir: /home/ubuntu/nats/cereview-fs1  cluster {  node\_id: "a"  peers: ["b", "c"]  }  tls: {  client\_cert: "/home/ubuntu/nats/certs/cbwmoney.crt"  client\_key: "/home/ubuntu/nats/certs/cbwmoney.key"  }  } |

1. Repeat above step in node b and c in respective config file
2. Update /etc/hosts file in all nodes with hostname and internal ip

|  |
| --- |
| 10.8.1.85 natsa.cbwmoney.com  10.8.1.86 natsb.cbwmoney.com  10.8.1.87 natsc.cbwmoney.com |

**Note:** The host name must be as defined in the nats streaming config file and certificate should be applicable for this domain

1. Copy the service wrapper file (nats-streaming.service) to /etc/systemd/system and update privilege

|  |
| --- |
| sudo chmod 777 /etc/systemd/system/nats-streaming.service |

1. Edit nats-streaming.service file and update system user name

|  |
| --- |
| [Unit]  Description=NATS streaming server  [Service]  ExecStart=/srv/nats-streaming/bin/nats-streaming-server -sc /srv/nats-streaming/bin/nats-streaming-a.config -m 8222  User=ubuntu  Restart=on-failure  [Install]  WantedBy=multi-user.target |

1. Verify is service wrapper is working by starting the service

|  |
| --- |
| sudo systemctl start nats-streaming |

1. You may check if 4222 port is listening with following command

|  |
| --- |
| netstat -an | grep 4222  tcp6 0 0 :::4222 :::\* LISTEN |

1. Finally add the service on startup

|  |
| --- |
| sudo systemctl enable nats-streaming |

1. Repeat steps 7-11 in other nodes (b and c)

# TLS CONFIGURATION

There are two sets of TLS server configurations that need to be done, One is Server certificate with key which defines on Nats Server and another one is Client certificate with key on Nats streaming server to enforce TLS connection.

We have to define the exact path of certificate and key path in nats service file as per below.

|  |
| --- |
| tls: {  client\_cert: "path-to-certificate"  client\_key: "path-to-key"  } |

# MONITORING with HTTP Interface

We can enable the monitoring server using -m flag and the port number for monitoring per below example.

|  |
| --- |
| -m http-port <port-no>  -ms https-port <port-no>  nats-server -m 8222 |

Also we can change this in our Nats streaming service file as well (Refer the step 8).

Use this URL <http://localhost:8222/> to confirm the monitoring changes.

# TROUBLESHOOTING TIPS