Fresh MongoDB Secure Installation Guide (Custom Instance)

I'll guide you through a completely fresh and secure MongoDB installation with separate configuration for your fs\_be\_node\_project instance.

1. Complete Purge of Existing MongoDB

bash

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# Stop all MongoDB services

sudo systemctl stop mongod mongod\_fs\_be\_node\_project

# Remove all MongoDB packages and data

sudo apt purge mongodb-org\*

sudo rm -rf /var/lib/mongodb /var/db/mongo\_data /var/log/mongodb

2. Fresh MongoDB Installation

bash

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# Import the MongoDB GPG key

sudo apt-get install gnupg

wget -qO - https://www.mongodb.org/static/pgp/server-6.0.asc | sudo apt-key add -

# Create list file (adjust for your Ubuntu version)

echo "deb [ arch=amd64,arm64 ] https://repo.mongodb.org/apt/ubuntu focal/mongodb-org/6.0 multiverse" | sudo tee /etc/apt/sources.list.d/mongodb-org-6.0.list

# Install MongoDB

sudo apt-get update

sudo apt-get install -y mongodb-org

3. Custom Instance Setup

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# Create directories for your custom instance

sudo mkdir -p /var/db/mongo\_data/fs\_be\_node\_project

sudo mkdir -p /var/log/mongodb/mongod\_fs\_be\_node\_project

sudo mkdir -p /run/mongodb

# Set permissions

sudo chown -R mongodb:mongodb /var/db/mongo\_data/fs\_be\_node\_project

sudo chown -R mongodb:mongodb /var/log/mongodb/mongod\_fs\_be\_node\_project

sudo chown -R mongodb:mongodb /run/mongodb

4. Secure Configuration File

Create /etc/mongod\_fs\_be\_node\_project.conf with:

yaml

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# Custom MongoDB config for fs-be-node-project

storage:

dbPath: /var/db/mongo\_data/fs\_be\_node\_project

engine: wiredTiger

wiredTiger:

engineConfig:

cacheSizeGB: 1

journal:

enabled: **true**

systemLog:

destination: file

logAppend: **true**

path: /var/log/mongodb/mongod\_fs\_be\_node\_project/mongod.log

logRotate: reopen

net:

port: 27018 # Different from default 27017

bindIp: 127.0.0.1 # Only local connections

tls:

mode: requireTLS

certificateKeyFile: /etc/ssl/mongodb.pem

processManagement:

fork: **false**

pidFilePath: /run/mongodb/mongod\_fs\_be\_node\_project.pid

security:

authorization: enabled

keyFile: /etc/mongodb-keyfile # For replica set auth if needed

javascriptEnabled: **false** # Disable server-side JS

5. Generate TLS Certificate

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sudo mkdir -p /etc/ssl/mongodb

sudo openssl req -nodes -newkey rsa:4096 -keyout /etc/ssl/mongodb/mongodb.key -out /etc/ssl/mongodb/mongodb.csr -subj "/CN=localhost"

sudo openssl x509 -req -in /etc/ssl/mongodb/mongodb.csr -signkey /etc/ssl/mongodb/mongodb.key -out /etc/ssl/mongodb/mongodb.crt -days 365

sudo cat /etc/ssl/mongodb/mongodb.key /etc/ssl/mongodb/mongodb.crt > /etc/ssl/mongodb.pem

sudo chown mongodb:mongodb /etc/ssl/mongodb.pem

sudo chmod 600 /etc/ssl/mongodb.pem

6. Create Systemd Service

Create /etc/systemd/system/mongod\_fs\_be\_node\_project.service:

ini

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[Unit]

Description=MongoDB Database Server (FS BE Node Project)

Documentation=https://docs.mongodb.org/manual

After=network.target

[Service]

User=mongodb

Group=mongodb

ExecStart=/usr/bin/mongod --config /etc/mongod\_fs\_be\_node\_project.conf

ExecStop=/usr/bin/mongod --config /etc/mongod\_fs\_be\_node\_project.conf --shutdown

PIDFile=/run/mongodb/mongod\_fs\_be\_node\_project.pid

Restart=on-failure

RestartSec=10

[Install]

WantedBy=multi-user.target

7. Start and Secure the Service

bash

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# Reload systemd and start service

sudo systemctl daemon-reload

sudo systemctl enable mongod\_fs\_be\_node\_project.service

sudo systemctl start mongod\_fs\_be\_node\_project.service

# Create admin user

mongosh --port 27018

> use admin

> db.createUser({

user: "admin",

pwd: passwordPrompt(), # Enter a STRONG password here

roles: ["root"]

})

> exit

8. Firewall Configuration

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# Allow only specific IP if remote access needed

sudo ufw allow from YOUR\_APP\_IP to any port 27018 proto tcp

sudo ufw deny 27017/tcp # Block default port

Verification

bash

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# Check service status

sudo systemctl status mongod\_fs\_be\_node\_project.service

# Test connection with auth

mongosh "mongodb://admin@localhost:27018" --authenticationDatabase admin

This setup provides:

* Complete separation from default MongoDB instance
* TLS encryption for all connections
* Binding to localhost only
* Proper user authentication
* Dedicated log and data directories
* Running on non-default port (27018)

# Regenerate proper certificates

sudo mkdir -p /etc/mongodb/ssl

cd /etc/mongodb/ssl

# Generate CA (if you don't have one)

openssl genrsa -out mongodb-ca.key 4096

openssl req -new -x509 -days 365 -key mongodb-ca.key -out mongodb-ca.crt -subj "/CN=MyMongoDBCA"

# Generate server certificate

openssl genrsa -out mongodb-server.key 4096

openssl req -new -key mongodb-server.key -out mongodb-server.csr -subj "/CN=localhost"

openssl x509 -req -days 365 -in mongodb-server.csr -CA mongodb-ca.crt -CAkey mongodb-ca.key -CAcreateserial -out mongodb-server.crt

# Create PEM file

cat mongodb-server.key mongodb-server.crt mongodb-ca.crt > mongodb.pem

# Update config

sudo nano /etc/mongod\_fs\_be\_node\_project.conf