



IBM Process mining sandbox/demo Installation running guide

- Niranjan Talluru



Scope



Sandbox /demo Process mining
environment in a single VM/server.



OS : Red Hat Linux 8.x.



MongoDB (in Same server)

Prerequisites

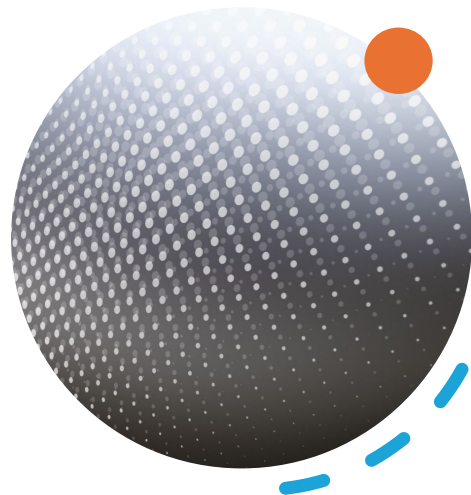
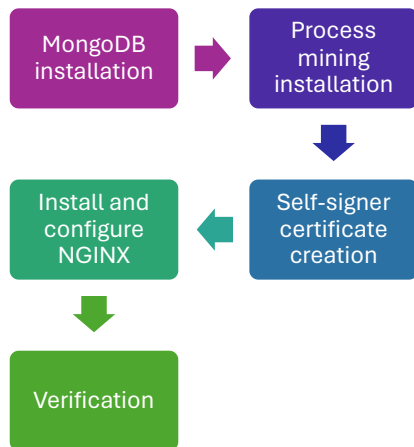
OS: Red Hat Linux 8.x

IBM Process Mining 1.14.3 Server Multiplatform Multilingual (part number M0GXPML)

DBMS: MongoDB 6.0

Elevated access to perform installations

Installation Flow



1. MongoDB Installation:

Connect server terminal and execute below commands in sequence.

```
cd /etc/yum.repos.d
vi mongodb-org-6.0.repo – copy below highlighted script and save the file.
[mongodb-org-6.0]
name=MongoDB Repository
baseurl=https://repo.mongodb.org/yum/redhat/8/mongodb-
org/6.0/x86_64/
gpgcheck=1
enabled=1
gpgkey=https://pgp.mongodb.com/server-6.0.asc
```

Note: Reference link for the MongoDB script: [Click](#)

```
[root@c91314v1 yum.repos.d]# cat mongodb-org-6.0.repo
[mongodb-org-6.0]
name=MongoDB Repository
baseurl=https://repo.mongodb.org/yum/redhat/8/mongodb-org/6.0/x86_64/
gpgcheck=1
enabled=1
gpgkey=https://pgp.mongodb.com/server-6.0.asc
[root@c91314v1 yum.repos.d]#
```

```
yum install -y mongodb-org
systemctl start mongod
systemctl status mongod
```

Verification: DB server should be up and Running status as in below.

```
[root@c91314v1 yum.repos.d]# systemctl start mongod
[root@c91314v1 yum.repos.d]# systemctl status mongod
● mongod.service – MongoDB Database Server
   Loaded: loaded (/usr/lib/systemd/system/mongod.service; enabled; vendor preset: disabled)
   Active: active (running) since Mon 2024-03-11 18:20:58 PDT; 13s ago
     Docs: https://docs.mongodb.org/manual
   Main PID: 120589 (mongod)
    Memory: 68.4M
    CGroup: /system.slice/mongod.service
            └─120589 /usr/bin/mongod -f /etc/mongod.conf

Mar 11 18:20:58 c91314v1.fyre.ibm.com systemd[1]: Started MongoDB Database Server.
Mar 11 18:20:58 c91314v1.fyre.ibm.com mongod[120589]: {"t":{"$date":"2024-03-12T01:20:58.851Z"}}
```

2. Process Mining installation:

Execute below commands in server terminal.

```
cd /opt
tar xvf PM1.14.3-apms.tar.gz
tar xvf "M0GXPML/Process Mining 1.14.3 Server Multiplatform
Multilingual/ibmprocessmining-setup-1.14.3_2e2b3127.tar.gz"
```

```
[root@ec91314v1 opt]# tar xvf "M0GXPML/Process Mining 1.14.3 Server Multiplatform Multilingual/ibmprocessmining-setup-1.14.3_2e2b3127.tar.gz"
```

3. Self-signer certificate creation:

Execute below commands in server terminal.

```
mkdir /opt/cert
cd /opt/cert
vi v3.ext (add below text and save)
    authorityKeyIdentifier=keyid,issuer
    basicConstraints=CA:FALSE
    keyUsage = digitalSignature, nonRepudiation, keyEncipherment,
    dataEncipherment
    subjectAltName = @alt_names
    [alt_names]
    DNS.1 = pm.processmining
```

```
openssl genrsa -des3 -out rootCA.key 2048
```

```
openssl req -x509 -new -nodes -key rootCA.key -sha256 -days 1024 -out
rootCA.pem
```

```
openssl req -new -nodes -out server.csr -newkey rsa:2048 -keyout server.key
```

```
openssl x509 -req -in server.csr -CA rootCA.pem -CAkey rootCA.key -
CAcreateserial -out server.crt -days 500 -sha256 -extfile v3.ext
```

```
cat server.crt server.key > server.pem
```

```

[root@c91314v1 cert]# openssl genrsa -des3 -out rootCA.key 2048
Generating RSA private key, 2048 bit long modulus (2 primes)
.....+++++
.+++++
e is 65537 (0x010001)
Enter pass phrase for rootCA.key:
Verifying - Enter pass phrase for rootCA.key:
[root@c91314v1 cert]# openssl req -x509 -new -nodes -key rootCA.key -sha256 -days 1024 -out rootCA.pem
Enter pass phrase for rootCA.key:
You are about to be asked to enter information that will be incorporated
into your certificate request.
What you are about to enter is what is called a Distinguished Name or a DN.
There are quite a few fields but you can leave some blank
For some fields there will be a default value,
If you enter '.', the field will be left blank.
-----
Country Name (2 letter code) [XX]:US
State or Province Name (full name) []:MI
Locality Name (eg, city) [Default City]:Lake Orion
Organization Name (eg, company) [Default Company Ltd]:IBM
Organizational Unit Name (eg, section) []:CSM
Common Name (eg, your name or your server's hostname) []:c91314v1.fyre.ibm.com
Email Address []:
[root@c91314v1 cert]# █

```

Reference Link: <https://www.ibm.com/docs/en/process-mining/1.14.3?topic=installation-self-certificates>

4. Install and configure NGINX server:

Execute below commands in server terminal.

```

enabled=1
yum install nginx
mkdir /etc/nginx/ssl

```

```

cp /opt/cert/server.* /etc/nginx/ssl/.
cp /opt/processmining/nginx/processmining.conf /etc/nginx/conf.d/default.conf

```

vi /etc/nginx/conf.d/default.conf (update generated certificate as highlighted)

```
# dDOS slow-body mitigate attack
#limit_req_zone $binary_remote_addr zone=one:10m rate=30r/m;
#limit_conn_zone $binary_remote_addr zone=addr:10m;

server {
    listen 443 ssl;
    server_name _; #for production environment replace _ with the name of your host
    keepalive_timeout 70;
    server_tokens off;

    ssl on;
    ssl_certificate /etc/nginx/ssl/server.pem;
    ssl_certificate_key /etc/nginx/ssl/server.key;

    ssl_session_timeout 1d;
    ssl_session_cache shared:SSL:50m;
    ssl_session_tickets off;
```

vi /etc/nginx/nginx.conf - Disable http traffic by committing below lines

```
# server {
#     listen 80 default_server;
#     listen [::]:80 default_server;
#     server_name _;
#     root /usr/share/nginx/html;

#     # Load configuration files for the default server block.
#     include /etc/nginx/default.d/*.conf;

#     location / {

#     }

#     error_page 404 /404.html;
#     location = /40x.html {

#     }

#     error_page 500 502 503 504 /50x.html;
#     location = /50x.html {

#     }
}
```

```
chcon -h system_u:object_r:tpd_config_t /etc/nginx/ssl/server.*
service nginx start
setsebool -P httpd_can_network_connect 1
```

5. Verification:

1. Access application url in browser with DNS / IP address.
<https://<<IPADDRESS>>/index> (or) url with dns name
2. Use default credentials as in below to login and verify the application.

Login process mining

User Id: maintenance.admin

Password: pmAdmin\$1

The screenshot displays the IBM Process Mining application interface. The top section shows the login screen with the title "Log in to IBM Process Mining" and a prompt to "Enter your username and password." The login form includes fields for "Username" (containing "maintenance.admin") and "Password" (masked with dots), a "Log in" button, and a link for "Forgot your password?". The background of the login screen features a dark blue and purple abstract graphic with a central circular motif and four stylized human figures interacting with digital screens.

Below the login screen, the "Assets" page is visible. It includes a navigation bar with tabs for "Projects (0)", "Monitors (0)", "Data streams (0)", and "Schedule sources (0)". A descriptive text states: "A process-mining project provides you the complete picture of your business process by creating process models, analytics, conformance check, variant statistics, and business metrics. In addition, you can create and configure business metrics, filters, backups, and data source in a project." Below this text is a table with columns: "Name", "Status", "Organization", "Owner", "Last updated", and "Data sources". The table is currently empty, displaying a message: "No projects were created. Click Create a project to get started." At the bottom, there is a pagination bar showing "Items per page: 5" and "0 - 0 of 0 items".