Role DATA - All Variants (Debian/Win2019)

Common Installation Tasks

These tasks are performed on all DB servers, no matter what role (master or slave) they are to perform.

Attach STORE

STORE must be mounted before installing this role. See Mounting STORE - All Linux except for STORE (Debian/Win2019).

Install MySQL

Configure Repositories

Enable the Debian MySQL 8.x repository and install it, and also install the GPG key. Note, you will get asked some questions. Just get MySQL 8.x and say OK.

```
apt-get install gnupg
wget https://dev.mysql.com/get/mysql-apt-config_0.8.29-1_all.deb
wget https://repo.mysql.com/RPM-GPG-KEY-mysql-2023
apt-key add RPM-GPG-KEY-mysql-2023
apt-key adv --keyserver keyserver.ubuntu.com --recv-keys 605C66F00D6C9793 0E98404D386FA1D9 648ACFD622F3D138 B7B3B788A8D3785C
dpkg -i mysql-apt-config_0.8.29-1_all.deb
```

Select Ok to configure MySQL 8.x

Remove the Temporary Files

```
rm -f mysql-apt-config_0.8.29-1_all.deb
rm -f RPM-GPG-KEY-mysql-2023
```

Update the Package List and Install MySQL Server

```
apt-get update
apt-get -y install mysql-server
```

The debian installation will ask you some questions during installation:

- MySQL root Password
- Default authentication plugin - change to "Use Legacy Authentication Method"

The installer will also start and enable the mysql server.

Configure Firewall

Access to the MySQL Server is configured in the firewall:

```
ufw allow 3306/tcp
```

Or for a specific ethernet interface:

```
ufw allow in on eth1 to any port 3306 proto tcp
```

Configure MySQL

Configuration Files

The Debian MySQL 8.x creates a configuration directory **/etc/mysql/mysql.conf.d/** when it installs. The jtel configuration file is downloaded and stored here. This file contains a lot of well commented settings which can be tweaked if required. The main parameter to be changed is the RAM usage of the sever. See below.

```
wget -P /etc/mysql/mysql.conf.d http://cdn.jtel.de/downloads/configs/jtel-enhanced-8-deb.cnf
```

Configure Server RAM and tmp_table_size

In order that the server makes the best use of the RAM available, the configuration file **/etc/mysql/mysql.conf.d/jtel-enhanced-8-deb.cnf** must be adapted.

The setting **innodb_buffer_pool_size** should be adapted to about 3/4 of the available RAM, but a minimum of 3-4 GB should remain for the use of other processes. For Servers with 4 GB RAM, this should not exceed 2 GB.

```
# For 4 GB RAM
innodb_buffer_pool_size = 2048M

# For 8 GB RAM
innodb_buffer_pool_size = 4192M

# For 12 GB RAM
innodb_buffer_pool_size = 8192M

# For 16 GB RAM
innodb_buffer_pool_size = 12288M


...
# From 16 GB simply take 3/4 of the RAM
```

```
# ALWAYS
tmp_table_size = 32M
```

Restart MySQL

The MySQL server is restarted to load all configuration settings.

Restart the MySQL server

```
systemctl restart mysql
```

Configure Users

After the first restart, user access must be setup.

The following commands configure the users required:

CAUTION PASSWORD

```
mysql -u root -p<password> -v -e"CREATE USER 'root'@'%' IDENTIFIED WITH mysql_native_password BY '<password>'"
mysql -u root -p<password> -v -e"GRANT ALL ON *.* TO 'root'@'%' WITH GRANT OPTION"
mysql -u root -p<password> -v -e"FLUSH PRIVILEGES"
```

Install UDP Plugin
```

Next, the UDP plugin is installed. This is required for the communication with further software modules in the system, when certain DB changes are made.

The installation is slightly different for master and slave servers.

## Installation

### Master Server

```
cp /home/jtel/shared/JTELCarrierPortal/Libraries/jtel_udf_udpsend/jtel_udf_udpsend.so /usr/lib/mysql/plugin/
chown root:root /usr/lib/mysql/plugin/jtel_udf_udpsend.so
chmod 644 /usr/lib/mysql/plugin/jtel_udf_udpsend.so
```

Slave Server

```
cp /home/jtel/shared/JTELCarrierPortal/Libraries/jtel_udf_udpsend/dummy/jtel_udf_udpsend.so /usr/lib/mysql/plugin/
chown root:root /usr/lib/mysql/plugin/jtel_udf_udpsend.so
chmod 644 /usr/lib/mysql/plugin/jtel_udf_udpsend.so
```

Configuration

To configure the plugin, the following commands are executed:

CAUTION PASSWORD

```
mysql -u root -p<password> -v -e"DROP FUNCTION IF EXISTS udpsend"
mysql -u root -p<password> -v -e"CREATE FUNCTION udpsend RETURNS STRING SONAME 'jtel_udf_udpsend.so'"
```

Important

⚠️ The configuration of the UDP plugin must be performed before the server is included in any replication between servers, otherwise replication will fail. The UDP plugin must be installed on all servers.