

QGRIP

QGrip Server

GRIP ON SOL

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Contents

1	QGrip Server.....	3
2	Pre-Request.....	4
3	Processes.....	5
4	QGrip Directory	6
4.1	Directory: DisasterRestore	7
4.2	Directory: LogFiles	7
4.3	Directory: RemoteJob.....	7
5	Extra Job.....	9
6	Maintenance Mode.....	10
7	Appendix	11
7.1	Moving QGrip Directory	11

1 QGrip Server

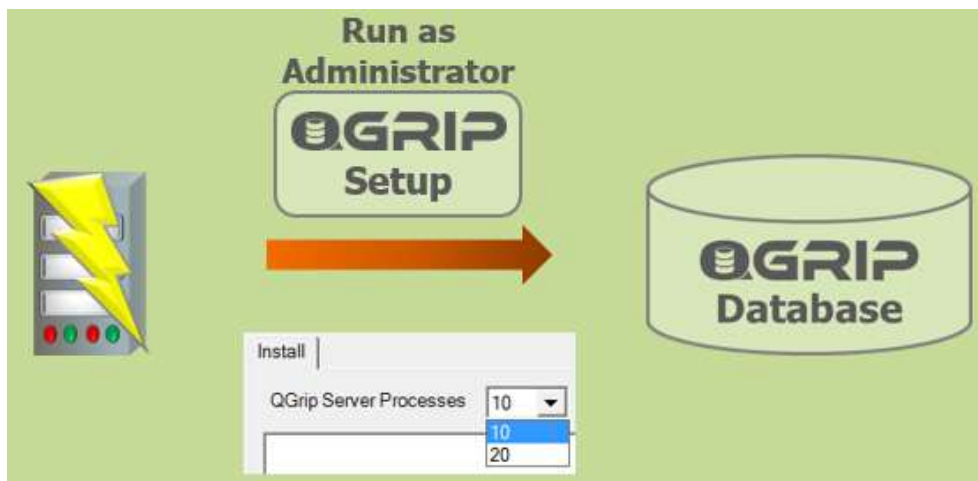
Windows Server

- **Dedicated for QGrip**
- **QGrip Processes (10 or 20)**
- **Processes started by Task scheduler**
- **Running as gMSA_QGrip\$**

QGrip
Server(s)
(1-3)



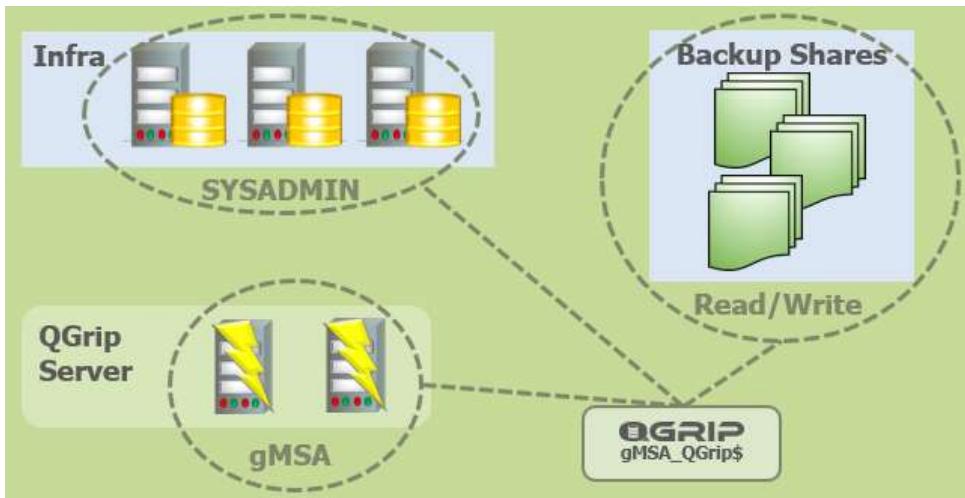
The QGrip Server is a Window Server dedicated for QGrip. From the Task Scheduler 10 or 20 QGrip Job Processes + 1 extra job are started. These processes run as the gMSA_QGrip\$ (QGrip System Account) user that is a Group Managed Service Account created for QGrip. The Job processes polls the Queues in the QGrip database and execute jobs on the Infra (Instances, Backup Shares and AD).



A QGrip Server is added to QGrip by running the Setup on the Windows/QGrip server. During the Install you need choose between 10 or 20 Processes.

When a QGrip Server has been added to QGrip, the Accessibility check will run and will report any issues regarding the Pre-requests listed in the following section.

2 Pre-Request



The QGrip System Account must be SYSADMIN on all Instances, have Full permissions on the backup share directories and read/write right on the shares.

On the Windows/QGrip Server, the QGrip System Account does also need to

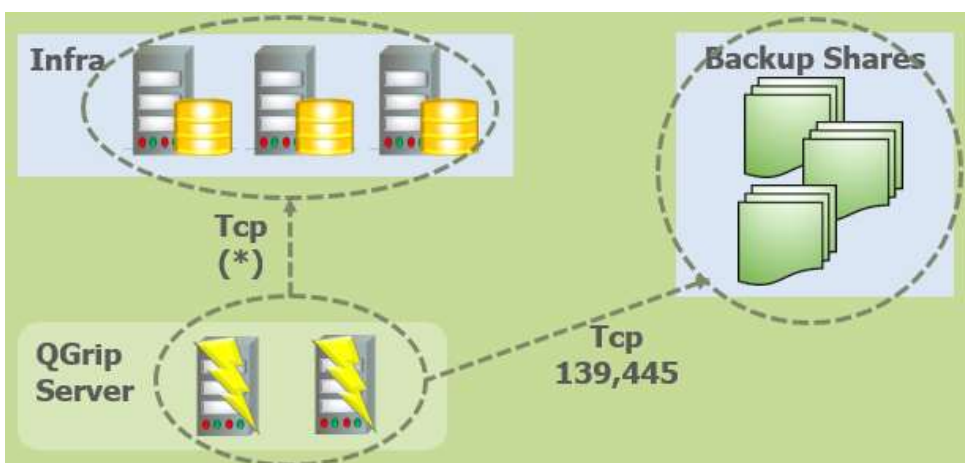
- be installed as AD Service Account,
- have 'Logon as a batch job' rights.

The Windows/QGrip Server needs be added to the security group

- GSG_QGripServers

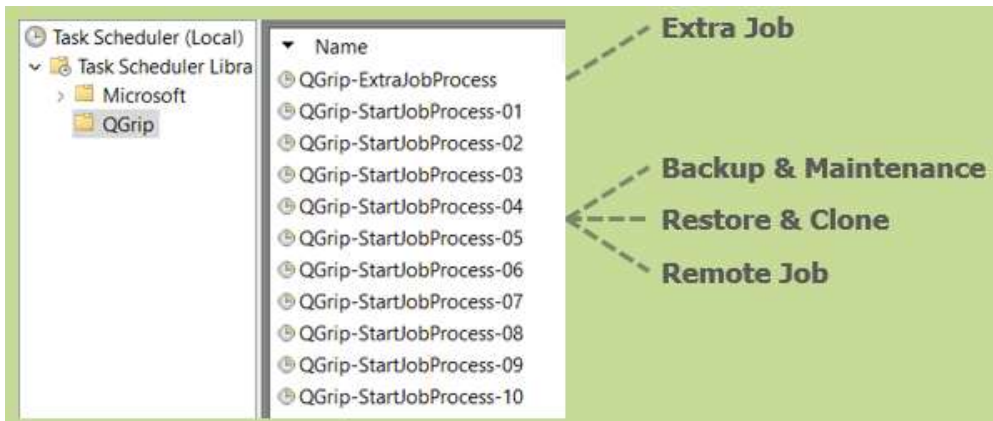
These actions are described in detail in

Doc-Tab	Title
Install	Prepare Infra



Firewalls between the QGrip Server and the Instances must be open on all Instance/Port combinations. The Firewalls from the QGrip Server to the Backup Shares need to be open on port 139 and 445.

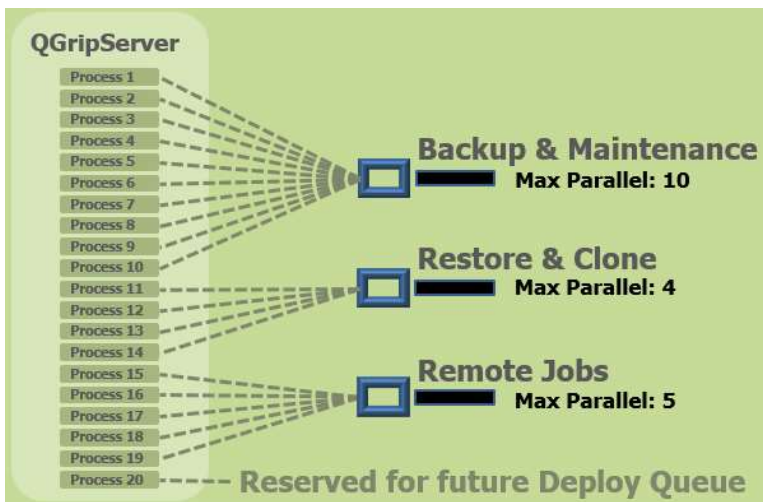
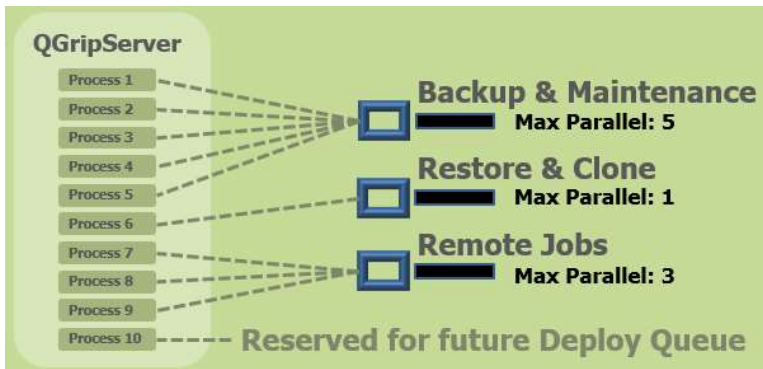
3 Processes



The QGrip Job processes are started from the Task Scheduler and can be found in the 'QGrip' Map. 1 Extra Job and 10 (or 20) Start Job processes are created. Each Start Job Process is designated to 1 of the 3 queues in the QGrip Database:

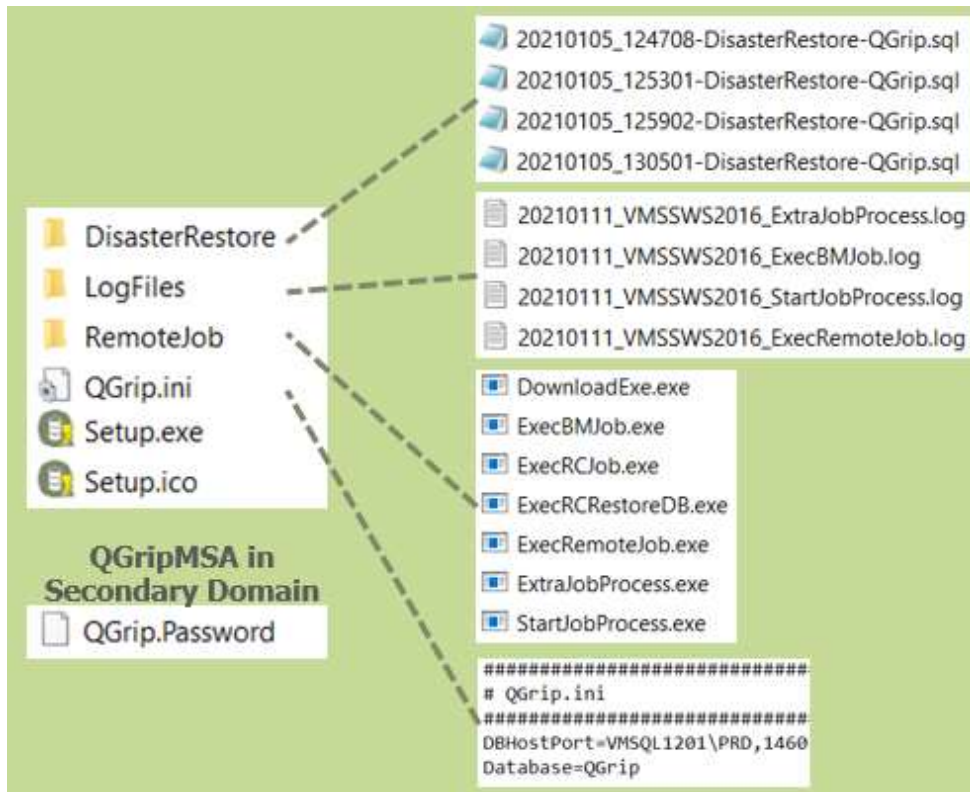
- Backup & Maintenance
- Restore & Clone
- Remote Jobs (Miscellaneous)

1 process is reserved for the Deploy Queue that will become active in future releases.



The number of processes you choose determines the number of jobs that can run in parallel from one QGrip Server.

4 QGrip Directory



This section describes the QGrip directory on the QGrip Server and is set during the PreSetup. Preference (but not requirement) for location QGrip Directory:

- D:\QGrip
- D:\Apps\QGrip
- E:\QGrip
- E:\Apps\QGrip

If you ever need to move the QGrip to another directory on the QGrip Server you must follow the instructions the Appendix of this document avoid errors.

QGrip.ini

Contains the connection string to the QGrip Instance/Database.

Setup.exe

Is the executable that needs to be started when installing/uninstalling QGrip on the QGrip Server. It should also be used if you need to add a new License Key to QGrip.

Setup.ico

The Icon used by the Setup.exe

QGrip.Password

Only present in Multiple Domain Configuration when the QGrip Database is in another domain and communication between QGrip Server and QGrip Database is done by a QGripMSA account.

4.1 Directory: DisasterRestore

This directory contains scripts to be used in case of a Disaster move of the QGrip database as described in:

Doc-Tab	Title
Install	Move QGrip Database

These scripts are generated every 3 minutes by the Extra Job, described in the next section.

4.2 Directory: LogFiles

This directory contains a “Daily” log file or all executables in the RemoteJob directory. The files in this directory are kept for 30 days and are automatically deleted by the Extra job described below. On rare occasions you might need to look in these files if there is a problem with jobs.

An exception to the cleaning is logfiles produced by the Setup.exe which are also saved in this directory. The Setup logfiles will never be deleted and remains for ever and are named: YYYYMMDD-HHMMSS_Setup_<QGrip Server Name>.log

4.3 Directory: RemoteJob

This directory contains the executables for the worker processes running on the QGrip Server. QGrip fully manages this directory and replace the executables from the QGrip Database if the version in the database is different.

StartJobProcess.exe

This executable is started from the Task manager on the QGrip Server (x10 or x20). These processes run for 60 minutes and then die of. Once dead, they will immediately be restarted. During start up, the processes read the content of the QGrip.ini to connect to the QGrip database. The processes are assigned to its own Queue that they will monitor once every 30 seconds. These jobs are sensitive to Maintenance Mode and Jobs will not be started if a specific part is in Maintenance Mode. When a job on the designated queue needs to be executed, the process starts one of the following executables to perform the actual job:

- ExecBMJob.exe
- ExecRCJob.exe
- ExecRemoteJob.exe

The StartJobProcess jobs maintain a shared daily log file in the Logfile Directory:

- YYYYMMSS_<QGrip Server Name>_StartJobProcess.log

Which process, 1 – 20, it concerns can be seen in the logfiles between brackets:

- [1] Process 1
- [11] Process 11

ExecBMJob.exe

Executes a job on the Backup-Maintenance queue. It does not read the QGrip.ini but gets the connection string from the Parent StartJobProcess. All ExecBMJob.exe jobs write output to the same daily log file in the Logfile Directory:

- YYYYMMSS_<QGrip Server Name>_ExecBMJob.log

ExecRCJob.exe

Executes a job on the Restore-Clone queue. It does not read the QGrip.ini but gets the connection string from the Parent StartJobProcess. All ExecRCJob.exe jobs write output to the same daily log file in the Logfile Directory:

- YYYYMMSS_<QGrip Server Name>_ExecRCJob.log

If a restore, clone or Import databases needs to take place on a database in an Always On Cluster, the ExecRCRestoreDB.exe is started to restore the database in parallel for each replica to save time.

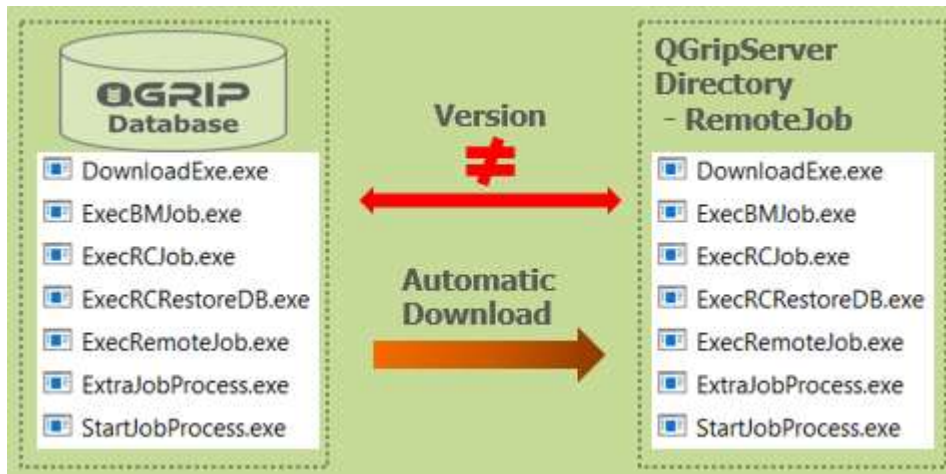
ExecRemoteJob.exe

Executes a job on the (miscellaneous) RemoteJob queue. It does not read the QGrip.ini but gets the connections string from the Parent StartJobProcess. All ExecRemoteJob.exe jobs write output to the same daily log file in the Logfile Directory:

- YYYYMMSS_<QGrip Server Name>_ExecRemoteJob.log

DownloadExe.exe

Replaces the executable in the RemoteJob directory by downloading them from the QGrip database if needed.



ExtraJobProcess.exe

The Extra Job described in the next section.

5 Extra Job

Next to the standard 10 or 20 job processes, there is an extra job started from Task-Scheduler. This job is not influenced by Maintenance mode and will always run every minute on each QGrip Server.

QGrip Domain

Some of the steps in the Extra Job will only be done in the QGrip Database ('First') Domain.

3 Minutes

Some steps will be done every 3 minutes, QGrip keeps track of when step is needed.

Current Domain

Some steps will be done on each domain every 3 minutes, no matter how many QGrip Servers are running on the domain. QGrip keeps track of when step is needed.

Step	Frequency	Scope	Remark
Download Remote Job Exe	If Needed	QGrip Server	Job stops after this step.
Upgrade Backup QGrip DB	If Needed	QGrip Domain	Job stops after this step.
Change QGripMSA Password	If Needed	QGrip Server	Job stops after this step.
Check QGrip License	Always	QGrip Domain	
Check Instances Down	3 minutes	Current Domain	
Discover AlwaysOn	3 minutes	Current Domain	
Backup Share Sizes	3 minutes	Current Domain	
Generate Warnings	Always	QGrip System	
Clean-up Logfiles	3 minutes	QGrip Server	
Generate QGrip Disaster Restore	3 minutes	QGrip Domain	
Kill Orphans BM Job	3 Minutes	Current Domain	

Download Remote Job Exe

The Executables for the Remote Jobs are stored in the QGrip Database. If the version in the RemoteJob directory is different to the version in the database, QGrip will download the executables from the database to the QGrip Server and restart the processes. This means that if you are Upgrading QGrip to a higher version, all QGrip Servers will automatically download and use the correct version.

Upgrade Backup QGrip DB

During an upgrade of QGrip the system is in Maintenance Mode and backup jobs will not start. This step triggers a FULL backup of the QGrip database during an upgrade.

Change QGripMSA Password

In a multiple Domain configuration where a QGripMSA is used for the communication between the QGrip Server and the database, the password needs to be changed every X days. This step changes the password and restart the processes.

Check QGrip License

Checks the QGrip License and corrects tempering to the License table in the QGrip database.

Check Instances Down

A login attempt is done on all Instances within the domain to see if the Instances are responding.

Discover AlwaysOn

A quick check of all AlwaysOn clusters within the domain to see if a failover has taken place.

Backup Share Size

The size, used and free space of all backup shares within the domain is collected and added to QGrip.

Generate Warnings

Generate new warnings and delete solved ones.

Clean-up Logfiles

Clean-up the logfiles in the directory LogFiles on the QGrip Server. All files older than 30 days are deleted, Setup logs excluded.

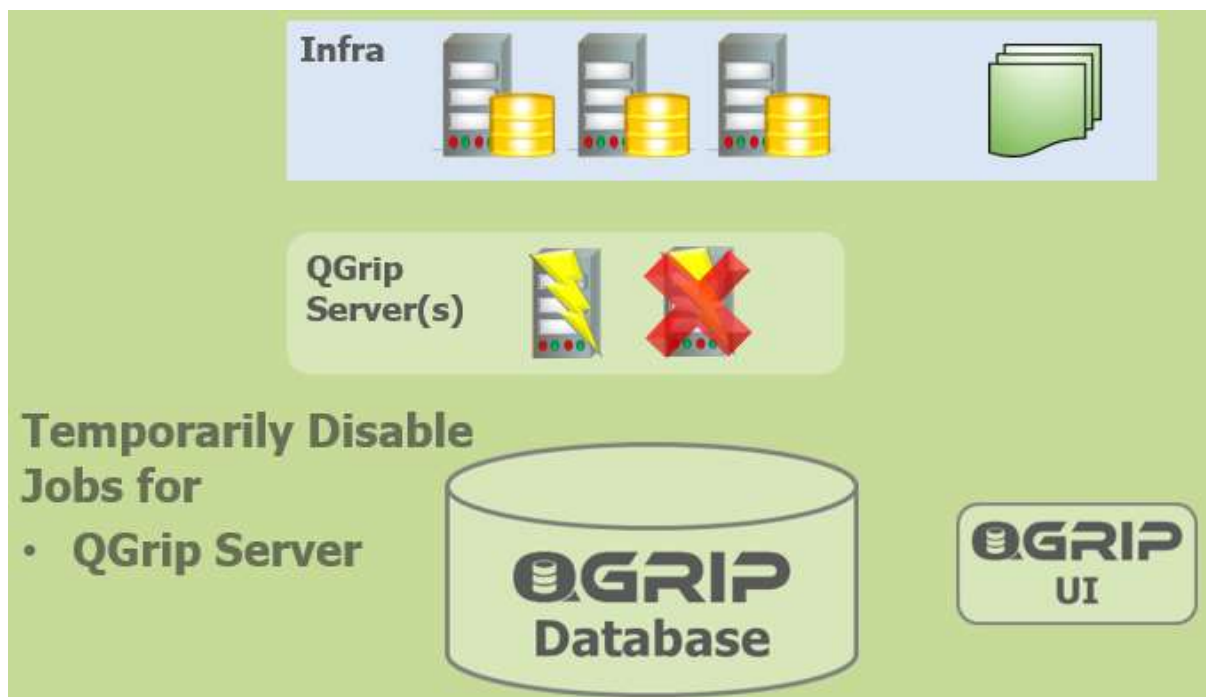
Generate QGrip Disaster Restore

Generate a script that can be used to Restore the QGrip database in case of emergency. Scripts older than 10 days are removed.

Kill Orphans BM Job

Administratively finish Backup-Maintenance jobs at database/optimize level where the parent job has completed and is not running anymore.

6 Maintenance Mode



A QGrip Server can be put in Maintenance Mode for a period to prevent that the QGrip Server starts jobs.

7 Appendix

7.1 Moving QGrip Directory

If you, for some reason, need to move the QGrip directory, these are the steps you need to take:

1. Start the Setup.exe as Administrator.
2. UnInstall the QGrip Server.
3. Exit the Setup.exe.
4. Copy the QGrip directory to its new location.
5. Start the Setup.exe as Administrator from the new location
6. Install the QGrip Server.

As a result of this action, the Accessibility check will start for the QGrip Server in combination with all Instances and all Backup Shares in your configuration. This should not be a problem as changing the directory will have no influence on the accessibility, but you still need to keep an eye on eventual error messages.