

Easy Setup Guide

1&1 CLOUD SERVER

Creating Backups

for
Linux



1&1

Legal notice

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1 Introduction

The backup function of the 1&1 Cloud Server offers all important functions to easily manage the backups of your servers.

This user manual helps you to get started and offers a step-by-step introduction to all important features.

This user manual explains how to:

- Create a server
- Log in to the server
- Set up a backup account
- Install the 1&1 Backup Manager
- Create backups
- Recover your data
- Configure the standard options of the 1&1 Backup Manager

2 Important Information About the Easy Set-up Guide

The following formattings and icons are used to help you find your way around this user manual.

Placeholder Replace the PLACEHOLDER with the actual value.

→ Reference to a specific chapter.



Attention! A warning that you should read very carefully.



Explanation. In-depth knowledge on a certain topic or term.



Tip, advice. Tips and advice on a certain topic.

3 What Is the Backup Function of the 1&1 Cloud Server?

The backup function of the 1&1 Cloud Server offers all important functions to easily manage the backups of your servers by means of separate backup accounts. The number of systems that can be backed up is unlimited. In addition, there is no storage limit.

To use the backup function of the 1&1 Cloud Server, you must set up a backup account in the 1&1 Cloud Panel. The login data will be shown in the details of the backup account. Afterwards, you need to install the 1&1 Backup Manager on your server. Enter the login data of the backup account during installation. To manage additional backups, you need to set up a separate backup account for each server in your 1&1 Cloud Panel.

1&1 Backup Manager is a software to easily and comfortably manage all your backups. You can start the backups manually or automatically, and have the possibility to make individual configurations according to your needs.

The following backups are supported:

1&1 Backup Manager for Windows

- Files and folders
- System states
- MSSQL databases (MSSQL 2005, 2008, 2012)
- MySQL databases (MySQL 5.x)

1&1 Backup Manager for Linux

- Files and folders
- MySQL databases (MySQL 5.x)

The software especially distinguishes itself by its reporting functions. All backup activities are listed in the 1&1 Backup Manager in chronological order and additionally presented in graphic form. You can also receive information on all backup activities by e-mail.

Your backups are optimally protected. Your data will be transferred to the server in encrypted form and stored in the 1&1 high-performance data center. By means of the compression method used during transfer, the compression rate can be up to 90% depending on the file type.

1&1 Backup Manager uses AES-256 as the standard encryption method. In addition, the following encryption methods are supported:

- AES-128
- Blowfish-448

Decrypting your data is only possible with an encryption password that is only known by you.

4 System Requirements

1&1 Backup Manager for Linux supports the following operating systems:

- Cent OS 6
- Cent OS 7
- Ubuntu 12.04 LTS
- Ubuntu 14.04 LTS
- Debian 6
- Debian 7

5 Login and First Steps

Content of this chapter:

- [Logging In](#)
- [Opening the 1&1 Cloud Panel](#)
- [Creating a Server](#)
- [Setting Up a Backup Account](#)
- [Accessing Login Data](#)
- [Connecting to 1&1 Cloud Server Linux via SSH](#)
- [Installing 1&1 Backup Manager](#)

5.1 Logging In

Log in to your 1&1 Control Panel as follows:

1. Enter www.1and1.com/login in the address bar of your Internet browser.
2. Enter your customer ID and your password.

Sales: 1 (877) 461-2631 [Para español por favor haz clic aquí](#) US [Partner programs](#) [Help & Contact](#)

1&1 [Domain Names](#) [Websites](#) [Web Hosting](#) [Servers](#) [E-Mail & Office](#) [eCommerce](#) [Get Found](#)

1&1 Referral Program
Quickly and easily earn commission by recommending 1&1 products to your friends and business partner. For more information, [click here](#)

Login

[Control Panel](#) [Customer Shop](#)

Customer ID Password

Account number, 1&1 Username or domain name [Forgot Your Password?](#)

Are you still not a 1&1 customer? [Become our customer now and take advantage of our offers.](#) [Login](#)

More 1&1 Logins

- [Webmailer Login](#)
- [eShop Configuration Login](#)

Figure: Logging in to 1&1 Control Panel

3. Click **Login**.
If you have ordered several 1&1 packages, you need to select your 1&1 Cloud Server contract.

5.2 Opening the 1&1 Cloud Panel

To open the 1&1 Cloud Panel, click **Cloud Panel** in the **1&1 Server** section.

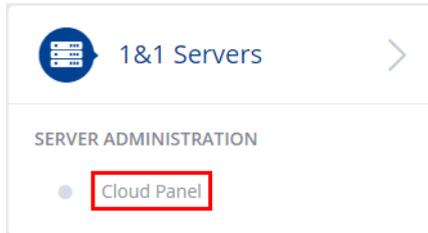


Figure: **1&1 Server section**

The 1&1 Cloud Panel will appear.

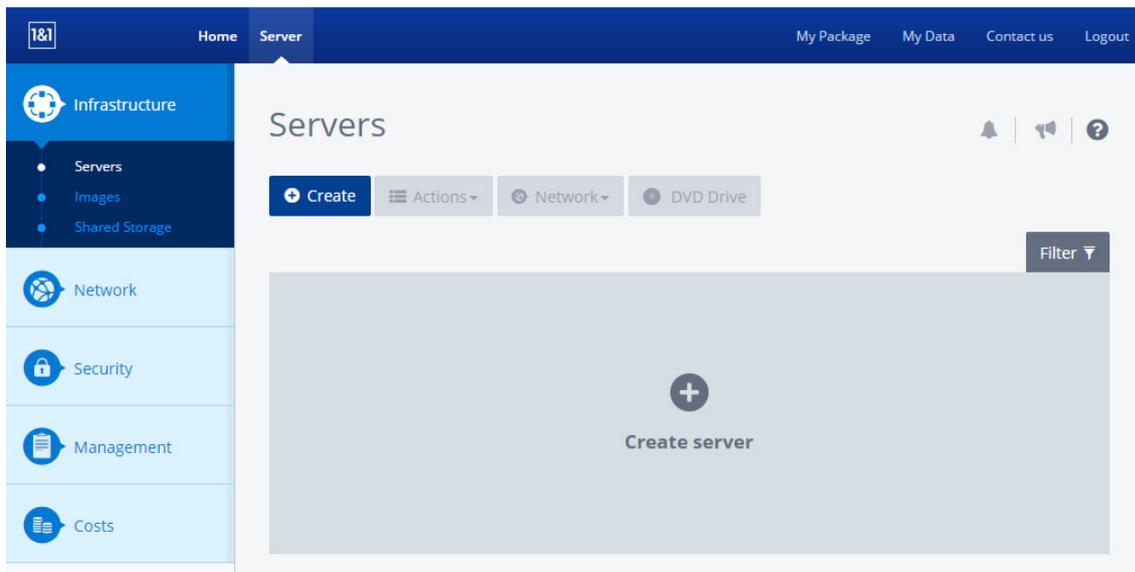


Figure: **1&1 Cloud Panel**

5.3 Creating a Server

This chapter explains how to create a server in your 1&1 Cloud Panel. If you have already created a server in your 1&1 Cloud Panel, you may skip this step.

Prerequisites:

You have logged in to your 1&1 Control Panel.

You are in the section **1&1 Server > 1&1 Cloud Panel**.

1. In the left menu, click **Infrastructure > Servers**.

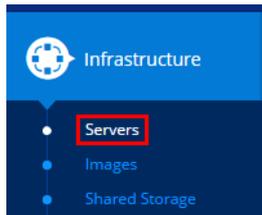


Figure: Section **Infrastructure > Servers**

2. Click **Create**.

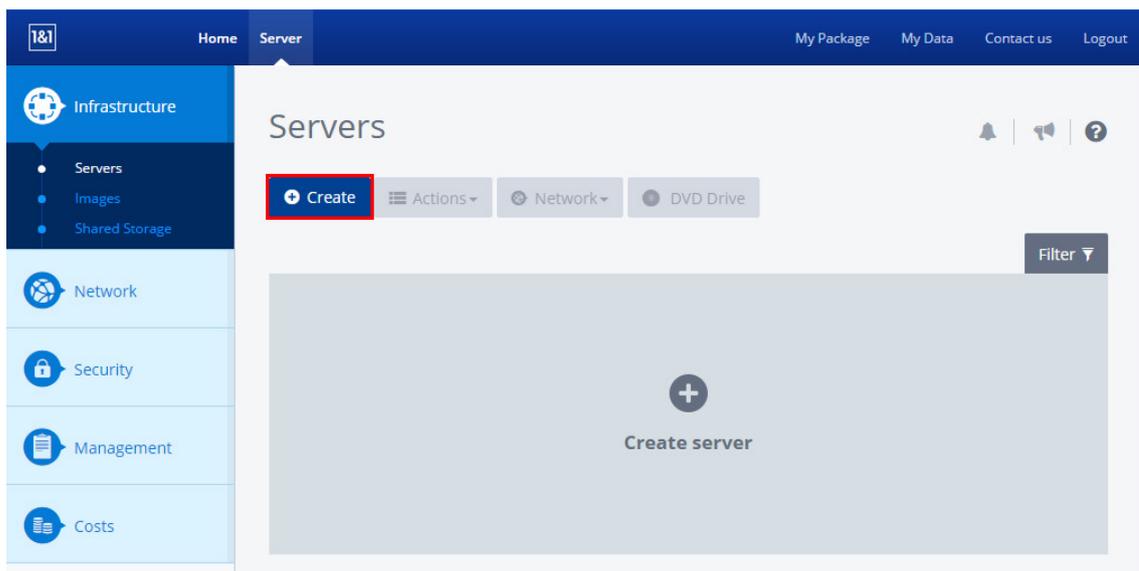


Figure: Creating a server

3. Enter a server name.

4. Select the desired configuration for the server:
 - Recommended configurations: Select the desired package.

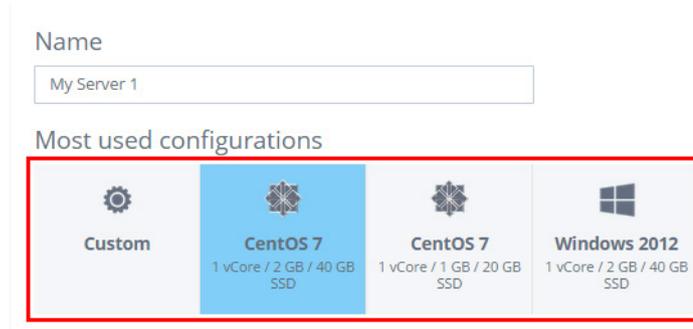


Figure: Recommended configurations

- Customized configuration: Select the package and configure then the server using the slider or the buttons  .

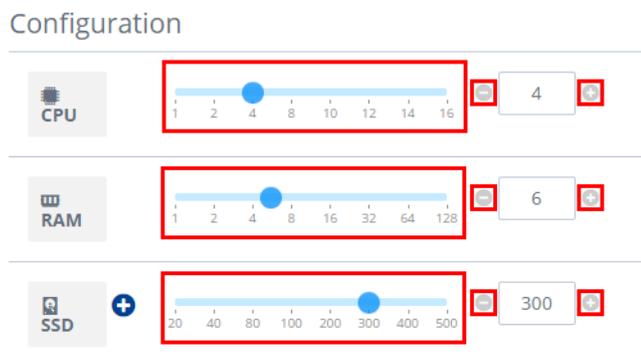


Figure: Individual server configuration



Once the server is created, the size of the hard disk can no longer be reduced.

- In the **Images** section, select the server operating system.

Image	Description
1&1 Images	These images that have been validated by 1&1 contain the full operating system.
Applications	These images contain a specific, preinstalled software. You can use this software as soon as the server has been created.
ISO	These images correspond to the original installation DVDs of Windows and Linux. As soon as the server is ready for operation, you have to start the KVM console and install the operating system on the server. If the operating system has more than one installation DVD, you have to start with the first DVD. You can change the DVDs under the DVD Drive menu item.



ISO images include no license key. Depending on the selected operating system, a license key can be necessary. In this case, you have to provide the key.



Check whether the software you have installed is licensed per-user or per-core before specifying the distribution of processors and cores.

- In the Advanced Options section, click **Show**.
- Enter the desired password in the **Password** field.
- Optional:** Select the desired distribution of processors and cores.

- In the **Firewall Policy** list, select a firewall policy.

Figure: Selecting a firewall policy



A firewall policy that enables you to access the server, web server and Parallels Plesk is selected by default.

- In the **Load Balancers** list, specify whether a load balancer has to be used.
- In the **Public IP** list, specify whether an existing or a new public IP should be assigned to the server.
- In the **Monitoring Policy** list, select a monitoring policy.
- Click **Create**.

The server will be created.

5.4 Setting Up a Backup Account

To install 1&1 Backup Manager, you need the login data of a backup account. With a backup account you can manage the backups of the respective server.



Managing backups of multiple servers

To manage your backups, you need to set up a separate backup account for each server.

To create a backup account for managing the backups of your server, proceed as follows:

Prerequisites:

You have logged in to your 1&1 Control Panel.

You are in the section **1&1 Server > 1&1 Cloud Panel**.

1. Click **Security > Backup Accounts**.

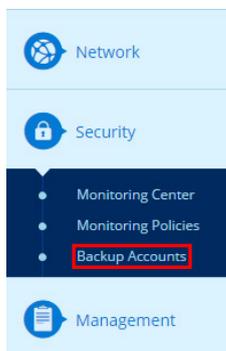


Figure: Backup Accounts section

2. Click **Create**.

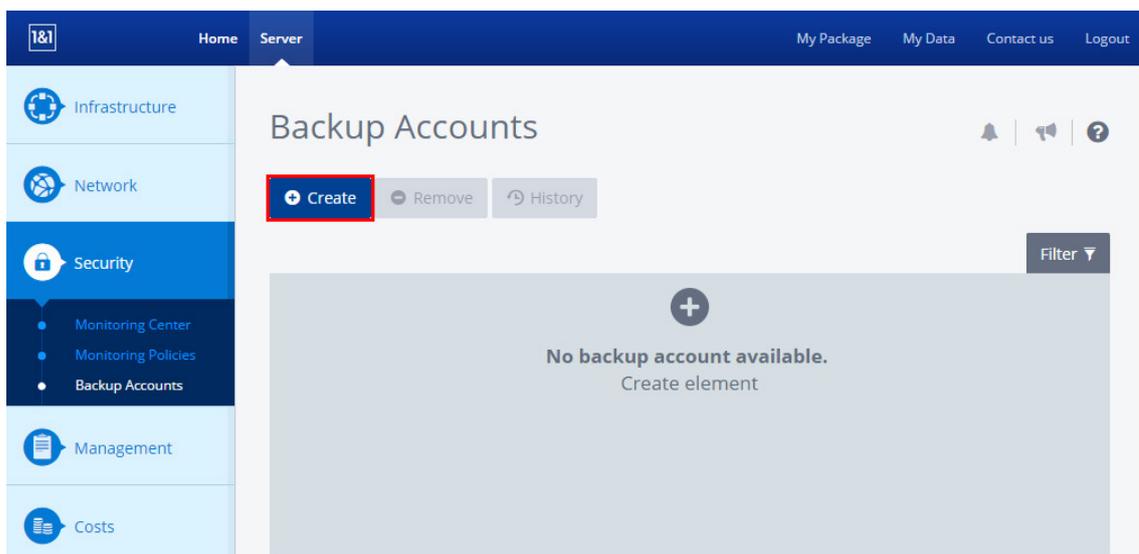
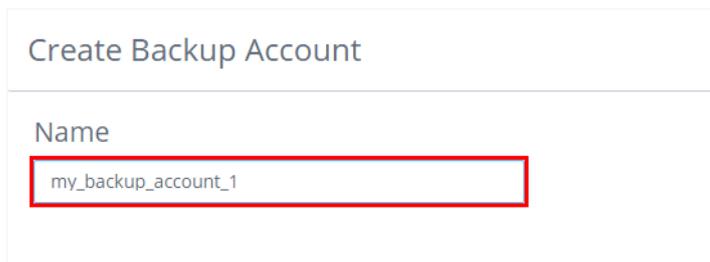


Figure: Creating a backup account

3. Enter the desired name.



Create Backup Account

Name

my_backup_account_1

Figure: Entering the account name of the backup account

4. Click **Create**.

The backup account will be set up.

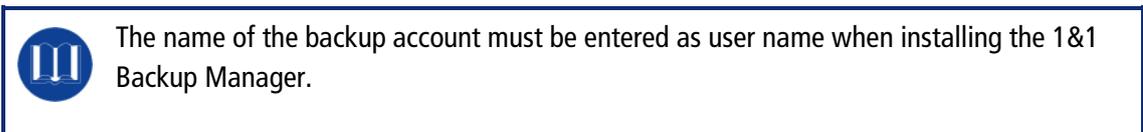
5.5 Accessing Login Data

To access the login data of a backup account, proceed as follows:

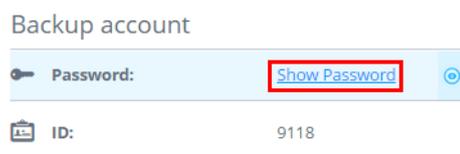
Prerequisites:

You are in the **1&1 Cloud Panel**, section **Security > Backup Accounts**.

1. Activate the desired backup account.
2. Memorize the name of the backup account.



3. In the **Password** section, click **Show Password**.



Backup account

Key Password: Show Password

ID: 9118

Figure: Showing the password of the backup account

4. Memorize the password.

5.6 Connecting to 1&1 Cloud Server Linux via SSH

Using Secure Shell (SSH), you can establish an encrypted network connection to your server.

To establish the connection, you need the following data:

User name	root
Password	Password for the user. The password has been displayed during the creation of the server.
Host name / Target	IP address of your server. The IP address of your server will be displayed in the 1&1 Cloud Panel, in the section Infrastructure > Servers .
Port	22 Note: The port must usually not be specified

5.6.1 Computer with Windows Operating Systems

SSH is not installed by default on computers with Windows operating system.

To establish an encrypted network connection using Secure Shell, you need an additional program such as PuTTY. PuTTY is a free software. You can download it on the following page:

<http://www.chiark.greenend.org.uk/~sgtatham/putty/>

To establish with PuTTY a SSH connection to your server, proceed as follows:

1. Start PuTTY.
2. Enter your server's IP address in the **Hostname (or IP address)** field.

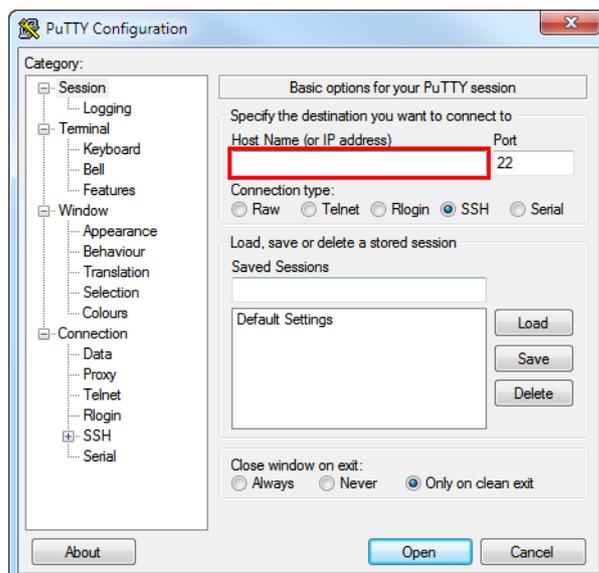
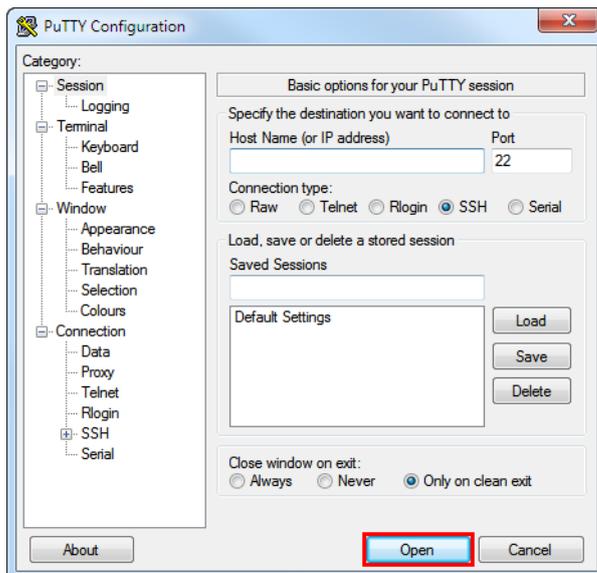


Figure: Entering the server's IP address

3. Activate the **SSH** connection type in the **Connection type** section.

4. Click **Open**.Figure: Clicking **Open**

Upon the first login, a warning message appears. Because the SSH server has previously been unknown, no key is available to PuTTY.

5. To allow the connection and to store the key for future sessions, click **Yes**.
6. Enter the user name.
7. Enter the password.

You will be connected to the server.

5.6.2 Computer with Linux Operating Systems

1. Open a terminal (e.g. xterm)
2. Enter the following command in the terminal:

```
ssh root@< SERVER'S IP ADDRESS>
```

Upon the first login, the following message appears: Are you sure you want to continue connecting?

3. **Optional:** Enter the command yes.
4. Enter your password.

You will be connected to the server.

5.7 Installing 1&1 Backup Manager

This chapter explains how to install 1&1 Backup Manager on your server.



Firewall settings

The 1&1 Backup Manager uses TCP port 443 for local installations and for communicating with the backup server. Please make sure prior to installing 1&1 Backup Manager that TCP port 443 in your firewall is open for incoming and outgoing requests.

Prerequisites:

You are in the **1&1 Cloud Panel**, section **Infrastructure > Servers**.

You have already created a backup account to manage the backups of your server.

You have memorised the name and the password for the backup account.

The desired server is switched on.

1. Select the desired server.
2. Click DVD Drive.

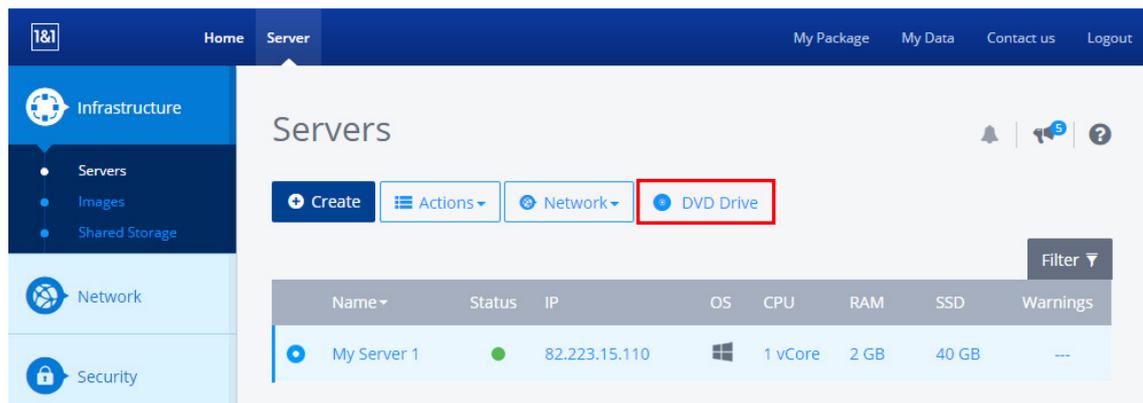


Figure: Clicking **DVD Drive**

3. In the Applications tab, select the 1&1 Backup Manager.

- Click Load DVD.

The screenshot shows the 1&1 Cloud Server management interface. The left sidebar contains navigation options: Infrastructure (Servers, Images, Shared Storage), Network, Security, Management, and Costs. The main content area is titled 'Servers' and displays a 'Select DVD' dialog. The dialog has tabs for 'Operating systems' and 'Applications', and a 'Filter' button. A table lists the following items:

Name	Description
<input checked="" type="radio"/> 1&1 Backup Manager	1&1 Backup Manager
<input type="radio"/> GParted	GParted Tools
<input type="radio"/> Monitoring Agent	Monitoring Agent
<input type="radio"/> VMWare Tools Linux	VMWare Tools Linux
<input type="radio"/> VMWare Tools Windows	VMWare Tools Windows
<input type="radio"/> Windows 2008 R2 SP1 - 64-bit Multilingual	Windows 2008 R2 SP1 - 64-bit Multilingual
<input type="radio"/> Windows 2008 SP2 - 32-bit Multilingual	Windows 2008 SP2 - 32-bit Multilingual
<input type="radio"/> Windows 2012 Multilingual	Windows 2012 Multilingual

At the bottom of the dialog, there is a 'Results per page' dropdown set to 10. A red box highlights the 'Load DVD' button in the bottom right corner of the interface.

Figure: Loading DVD

- Connect via SSH to the desired server (→ see 5.6 Connecting to 1&1 Cloud Server Linux via SSH). Log in with the following data:
 Localhost login: **root**
 Password: **Your selected password**



To install the Backup Manager, you must integrate the DVD as a drive on the server. This process will be described in the next steps.

- To create the directory `/media/cdrom`, enter the following command:

```
mkdir /media/cdrom
```

- To mount the DVD, enter the following command:

```
mount -t auto /dev/cdrom /media/cdrom
```

The DVD drive will be mounted.

- To open the directory `/media/cdrom`, enter the following command:

```
cd /media/cdrom
```

- To view the content of the DVD, enter the following command:

```
ls
```

The content of the DVD will be displayed.

- Optional:** To identify the operating system architecture of your server, enter the following command:

```
uname -a
```

- To install the 1&1 Backup Manager, enter the following command:

Command for installing the 32-bit version

```
sh ./1and1-backup-manager-PROGRAMVERSION-linux-i686.run
```

Command for installing the 64-bit version

```
sh ./1and1-backup-manager-PROGRAMVERSION-linux-x86_64.run
```

- Enter the user name of the respective backup account
(→ see 5.5 Accessing Login Data).
- Enter the password of the respective backup account
(→ see 5.5 Accessing Login Data).
- Enter the desired encryption method.
- Enter an encryption password.



Backups can only be restored with the encryption password!

All backups will be encrypted with this password. Without this encryption password, your backups cannot be restored. Therefore, keep the encryption password in a safe place!

- If you wish to use a proxy server, enter the value **true** when the value **Use proxy server:** appears. If you do not wish to use a proxy server, enter the value **false**.
1&1 Backup Manager is installed.

6 Creating Backups

Content of this chapter:

- [Creating Manual Backups](#)
- [Creating Planned, Automatic Backups with the Scheduler](#)
- [Creating Planned, Automatic Backups with Cron](#)
- [Changing the Backup Selection](#)
- [Calling Reports](#)

The following placeholders are used when specifying Linux commands:

Placeholder	Signification
BACKUPPRIO	Specification of the priority of the backup process
DATABASEPASSWORD	Password of the MySQL database server
DATABASEPORT	Port of the MySQL database server
DATABASESERVERNAME	Freely selectable name for the database backup
DATABASEUSER	User name of the MySQL database server
MYSRIPT	File name of the backup script
PATH	Path to a folder or a file
TIME	Time when the backup is created
TEMPORARYPATH	Temporary directory

6.1 Creating Manual Backups

This chapter will explain how to manually back up files, folders, and MySQL database servers.

6.1.1 Backing Up Files and Folders

This chapter will explain how to manually back up individual files and folders with 1&1 Backup Manager.

1. Go to the directory of 1&1 Backup Manager:

```
cd /opt/1UND1US/bin
```

2. With the following command, specify the directory path to the folder that is to be backed up.

```
./ClientTool control.selection.modify -datasource FileSystem -include PATH
```

Example: `./ClientTool control.selection.modify -datasource FileSystem -include /`

3. To get a list of the selected folders, enter the following command:

```
./ClientTool control.selection.list
```

4. Check the selected folders.
5. Start the backup with the following command:

```
./ClientTool control.backup.start -datasource FileSystem
```

6. To monitor the backup, enter the following command:

```
./ClientTool control.session.list
```

6.1.2 Backing Up MySQL Database Servers

This chapter will explain how to manually back up a MySQL database server with 1&1 Backup Manager.

1. Go to the directory of 1&1 Backup Manager:

```
cd /opt/1UND1US/bin
```

2. Select the respective MySQL database server with the following command:

```
./ClientTool control.mysqldb.add -name DATABASESERVERNAME -user DATABASEUSER -password DATABASEPASSWORD -server-port DATABASEPORT -local-backup-dir TEMPORARYPATH
```

Example: `./ClientTool control.mysqldb.add -name MyServerDB -user root -password Test123456 -server-port 3306 -local-backup-dir /tmp`

3. To get a list of the selected MySQL database servers, enter the following command:

```
./ClientTool control.mysqldb.list
```

4. To add the selected MySQL database servers to your backup, enter the following command:

```
./ClientTool control.selection.modify -datasource MySql -include DATABASESERVERNAME
```

Example: `./ClientTool control.selection.modify -datasource MySql -include MyServerDB`

5. To check your selection, enter the following command:

```
./ClientTool control.selection.list
```

6. Start the backup with the following command:

```
./ClientTool control.backup.start -datasource MySql
```

7. To monitor the backup, enter the following command:

```
./ClientTool control.session.list
```

6.2 Creating Planned, Automatic Backups with the Scheduler

This chapter will explain how to create automatic backups with the scheduler of 1&1 Backup Manager.

6.2.1 Backing Up Files and Folders Automatically

This chapter will explain how to automatically back up individual files and folders with 1&1 Backup Manager.

You have already created a full backup of your files, folders, and MySQL databases.

1. Go to the directory of 1&1 Backup Manager:

```
cd /opt/1UND1US/bin
```

2. With the following command, specify the file system as a data source to be automatically backed up.

```
./ClientTool control.schedule.add --name BACKUPNAME -datasources FileSystem -days All -time TIME
```

Example: `./ClientTool control.schedule.add -name Test -datasources FileSystem -days All -time 02:00`

Optional Command Line Parameters	Signification
-active <BOOL>	Specifies whether the schedule is active. Possible values are 1 (active) and 0 (inactive). The default is 1.
-days <DAY1,DAY2,...>	Specifies the day of the week on which a backup is to be performed. Possible values are: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday and All. The default is All.
-post-backup-action <NUMBER>	ID of the desired post-backup script.
pre-backup-action <NUMBER>	ID of the desired pre-backup script.

The schedule will be created.

3. Enter the following command to check the created schedule:

```
./ClientTool control.selection.list
```

4. With the following command, specify the directory path to the folder that is to be backed up.

```
./ClientTool control.selection.modify -datasource FileSystem -include PATH
```

Example: `./ClientTool control.selection.modify -datasource FileSystem -include /`

5. To monitor the backup, enter the following command:

```
./ClientTool control.session.list
```

6.2.2 Backing Up MySQL Database Servers Automatically

This chapter will explain how to automatically back up MySQL databases with 1&1 Backup Manager.

You have already created a full backup of your files, folders, and MySQL databases.

1. Go to the directory of 1&1 Backup Manager:

```
cd /opt/1UND1US/bin
```

2. With the following command, specify the directory path to the folder that is to be automatically backed up.

```
./ClientTool control.schedule.add --name BACKUPNAME -datasources MySql -days All -time TIME
```

Example: `./ClientTool control.schedule.add -name Test -datasources MySql -days All -time 02:00`

Optional Command Line Parameters	Signification
-active <BOOL>	Specifies whether the schedule is active. Possible values are 1 (active) and 0 (inactive). The default is 1.
-days <DAY1,DAY2,...>	Specifies the day of the week on which a backup is to be performed. Possible values are: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday and All. The default is All.
-post-backup-action <NUMBER>	ID of the desired post-backup script.
pre-backup-action <NUMBER>	ID of the desired pre-backup script.

The schedule will be created.

3. Enter the following command to check the created schedule:

```
./ClientTool control.selection.list
```

4. To get a list of the selected MySQL database servers, enter the following command:

```
./ClientTool control.mysqlpdb.list
```

5. To add the selected MySQL database servers to your backup, enter the following command:

```
./ClientTool control.selection.modify -datasource FileSystem -include PATH
```

Example: `./ClientTool control.selection.modify -datasource MySql -include MyServersDB`

6. To monitor the backup, enter the following command:

```
./ClientTool control.session.list
```

6.3 Creating Planned, Automatic Backups with Cron

This chapter explains how to create a complete, automatic backup with Cron. Cron daemon is a service that allows you to run scripts and programs based on time. The commands to be executed are stored in a table. This table is called crontab. Cron has a system-wide file located in the /etc/crontab directory. This file can only be edited with root privileges. In addition, each user can create an own crontab.

6.3.1 Installing Cron in CentOS 7

This chapter explains how to install Cron in CentOS 7.

1. To install Cron, enter the following commands:

```
sudo yum update  
yum install cronie
```

2. To start Cron, enter the following command:

```
service crond start
```

3. To start Cron during the boot process, enter the following command:

```
chkconfig crond on
```

6.3.2 Installing Cron in CentOS 6

This chapter explains how to install Cron in CentOS 6.

1. To install Cron, enter the following commands:

```
sudo yum update  
yum install vixie-cron
```

2. To start Cron, enter the following command:

```
service crond start
```

3. To start Cron during the boot process, enter the following command:

```
chkconfig crond on
```

6.3.3 Installing Cron in Ubuntu / Debian

The Cron daemon and the associated management tools are typically included in all Ubuntu installations by default.

If you are using an Ubuntu / Debian installation that does not contain Cron, proceed as follows:

1. To install Cron, enter the following commands:

```
sudo apt-get update
sudo apt-get install cron
```

2. To start Cron, enter the following command:

```
service crond start
```

3. To start Cron during the boot process, enter the following command:

```
chkconfig crond on
```

6.3.4 Creating a Complete, Automatic Backup

This chapter explains how to create a complete, automatic backup with Cron.

1. Open the editor.
2. Add the desired script in the following format:

```
#!/bin/bash
cd /opt/1UND1US/bin
./ClientTool control.selection.modify -datasource FileSystem -include /
./ClientTool control.backup.start -datasource FileSystem
```

3. Save the script to the following directory:

```
/opt/1UND1US/bin
```

4. To run the script without specifying the interpreter, enter the following command:

```
chmod +x /PATH/MYSCRIPT
```

Example: `chmod +x backup.sh`

5. To open the crontab, enter the following command:

```
crontab -e
```



When calling `crontab -e`, the editor Vi is called. This editor has a command mode and an insert mode. You can enter the insert mode by entering a corresponding command. In most cases, this is `i` (insert) or the Insert key.

- To add the cronjob, enter the following command:

```
**** /opt/1UND1US/bin/MYSCRIPT.sh
```

Crontab Syntax

*	*	*	*	*	/PATH/MYSCRIPT.sh
Minutes	Hours	Days	Month	Day of the week	Directory path and script

Example: 10 11 13 12 * /opt/1UND1US/bin/backup.sh

- To save the changes and close the editor, enter the following command:

```
:wq
```

After the cronjob is run, a report is sent to the appropriate user by default.

6.3.5 Backing Up Files and Folders Automatically

This chapter will explain how to automatically back up individual files and folders with Cron.

You have already created a full backup of your files, folders, and MySQL databases.

- Open the editor.
- Add the desired script in the following format:

```
#!/bin/bash
cd /opt/1UND1US/bin
./ClientTool control.selection.modify -datasource FileSystem -include PATH
./ClientTool control.backup.start -datasource FileSystem
```

Example:

```
#!/bin/bash
cd /opt/1UND1US/bin
./ClientTool control.selection.modify -datasource FileSystem -include /home
./ClientTool control.backup.start -datasource FileSystem
```

- Save the script to the following directory:

```
/opt/1UND1US/bin
```

- To run the script without specifying the interpreter, enter the following command:

```
chmod +x /PATH/MYSCRIPTt
```

Example: chmod +x backup.sh

- To open the crontab, enter the following command:

```
crontab -e
```



When calling `crontab -e`, the editor Vi is called. This editor has a command mode and an insert mode. You can enter the insert mode by entering a corresponding command. In most cases, this is `i` (insert) or the Insert key.

- To add the cronjob, enter the following command:

```
***** /opt/1UND1US/bin/MYSCRIPT.sh
```

Crontab Syntax					
*	*	*	*	*	/PATH/MYSCRIPT.sh
Minutes	Hours	Days	Month	Day of the week	Directory path and script

Example: `10 11 13 12 * /opt/1UND1US/bin/backup.sh`

- To save the changes and close the editor, enter the following command:

```
:wq
```

After the cronjob is run, a report is sent to the appropriate user by default.

6.3.6 Backing Up MySQL Database Servers Automatically

This chapter will explain how to automatically backup a MySQL database server with Cron.

You have already created a full backup of your files, folders, and MySQL databases.

- Open the editor.
- Add the desired script in the following format:

```
#!/bin/bash
cd /opt/1UND1US/bin
./ClientTool control.mysqlpdb.add --name BACKUPNAME -datasources MySql -days All -time TIME
./ClientTool control.backup.start -datasource MySql
```

Example:

```
#!/bin/bash
cd /opt/1UND1US/bin
./ClientTool control.mysqlpdb.add -name MeineServerDB -user root -password Test123456 -server-port 3306 -local-backup-dir /tmp
./ClientTool control.backup.start -datasource MySql
```

- Save the script to the following directory:

```
/opt/1UND1US/bin
```

- To run the script without specifying the interpreter, enter the following command:

```
chmod +x /PATH/MYSCRIPTt
```

Example: `chmod +x backup.sh`

- To open the crontab, enter the following command:

```
crontab -e
```



When calling `crontab -e`, the editor Vi is called. This editor has a command mode and an insert mode. You can enter the insert mode by entering a corresponding command. In most cases, this is `i` (insert) or the Insert key.

- To add the cronjob, enter the following command:

```
**** */opt/1UND1US/bin/MYSCRIPT.sh
```

Crontab Syntax

*	*	*	*	*	/PATH/MYSCRIPT.sh
Minutes	Hours	Days	Month	Day of the week	Directory path and script

Example: `10 11 13 12 * /opt/1UND1US/bin/backup.sh`

- To save the changes and close the editor, enter the following command:

```
:wq
```

After the cronjob is run, a report is sent to the appropriate user by default.

6.3.7 Listing and Editing Planned, Automatic Backups with Cron

To list all planned, automatic backups, enter the following command:

```
crontab -l
```

To edit all planned, automatic backups, enter the following command:

```
crontab -e
```

6.3.8 Deleting Planned, Automatic Backups with Cron

To delete an individual cronjob, proceed as follows:

1. To edit the crontab, enter the following command:

```
crontab -e
```



When calling `crontab -e`, the editor `Vi` is called. This editor has a command mode and an insert mode. You can enter the insert mode by entering a corresponding command. In most cases, this is `i` (insert) or the Insert key.

2. Delete the desired cronjob.
3. To save the changes and close the editor, enter the following command:

```
:wq
```

6.4 Changing the Backup Selection

Use the following commands to change your backup selection at any time:

- **Removing selected files or folders:**

```
./ClientTool control.selection.modify -datasource FileSystem -exclude PATH
```

Example: `./ClientTool control.selection.modify -datasource FileSystem -exclude /home/user1`

- **Removing selected databases:**

```
./ClientTool control.selection.modify -datasource MySQL -exclude DATABASESERVERNAME
```

Example: `./ClientTool control.selection.modify -datasource MySQL -exclude MyMysqlServer`

- **Selecting other files or folders:**

```
./ClientTool control.selection.modify -datasource FileSystem -include PATH
```

Example: `./ClientTool control.selection.modify -datasource FileSystem -include /usr/local`

- **Selecting other files or folders by specifying the backup priority:**

```
./ClientTool control.selection.modify -datasource FileSystem -include PATH -priority BACKUPPRIO
```

Example: `./ClientTool control.selection.modify -datasource FileSystem -include /usr/local -priority Low`

Backup priorities

You can set the following backup priorities when selecting files, folders, and databases:



- [Low] – minimizes the resources used by the backup process
- [Normal] – runs the backup process with normal speed
- [High] – maximizes the resources used by the backup process

6.5 Calling Reports

Using the report function, you can call detailed information about your backup activities. The reports are generated by analyzing the log files collected on your servers. The reports are useful for the accurate analysis of your backup infrastructure.

Use the following commands to call the reports of 1&1 Backup Manager:

- **Listing filters**

```
./ClientTool control.filter.list
```

- **Listing MySQL databases**

```
./ClientTool control.mysql.db.list
```

- **Listing schedules**

```
./ClientTool control.schedule.list
```

- **Listing scripts**

```
./ClientTool control.script.list
```

- **Listing folders to be backed up**

```
./ClientTool control.selection.list
```

- **Listing backup errors**

```
./ClientTool control.session.error.list -datasource FileSystem
```

- **Listing backups**

```
./ClientTool control.session.list
```

- **Listing backup nodes**

```
./ClientTool control.session.node.list -datasource FileSystem
```

- **Listing settings**

```
./ClientTool control.setting.list
```

- **Outputting the program status**

```
./ClientTool control.status.get
```

7 Recovering Data

Content of this chapter:

- [Recovering Files and Folders](#)
- [Recovering MySQL Database Servers](#)
- [Recovering MySQL Database Servers in a specific location](#)
- [Selecting Creation Time and Restoring Backup](#)
- [Saving a Backup on a NAS Server](#)

Using 1&1 Backup Manager, you can restore your data within minutes. The software enables you to restore files, directories and MySQL databases.

The following placeholders are used when specifying Linux commands:

Placeholder	Signification
DATETIME	Start time when the backup has been created.
NASSERVERPATH	Path to the NAS server
PATH	Path to a folder or a file

7.1 Recovering Files and Folders

1. Go to the directory of 1&1 Backup Manager:

```
cd /opt/1UND1US/bin
```

2. Start the recovery of the respective files and folders with the following command:

```
./ClientTool control.restore.start -datasource FileSystem -selection PATH
```

Example: `./ClientTool control.restore.start -datasource FileSystem -selection /home`

3. To monitor the recovery of the backup, enter the following command:

```
./ClientTool control.session.list
```

7.2 Recovering MySQL Database Servers



Be careful when restoring your data!

If you restore a MySQL database server without specifying the path, the existing databases will be overwritten. Only recover databases if you are able to reliably assess the result.

1. Go to the directory of 1&1 Backup Manager:

```
cd /opt/1UND1US/bin
```

2. Start the recovery of the respective MySQL database server with the following command:

```
./ClientTool control.restore.start -datasource MySql -selection DATABASESERVERNAME
```

Example: `./ClientTool control.restore.start -datasource MySql -selection MyServerDB`



The MySQL service is stopped during the recovery of MySQL databases!

3. To monitor the recovery of your data, enter the following command:

```
./ClientTool control.session.list
```

7.3 Recovering MySQL Database Servers in a specific location

1. Go to the directory of 1&1 Backup Manager:

```
cd /opt/1UND1US/bin
```

2. Start the recovery of the respective MySQL database server with the following command:

```
./ClientTool control.restore.start -datasource MySql -selection DATABASESERVERNAME -restore-to RESTOREPATH
```

Example: `./ClientTool control.restore.start -datasource MySql -selection MyServerDB -restore-to /usr/local/mysql-restore`

The MySQL databases will be recovered in the respective folder.

3. To monitor the recovery of your data, enter the following command:

```
./ClientTool control.session.list
```

4. Change the path to the data directory in the option group of the MySQL configuration file `/etc/my.cnf`:

```
vi /etc/my.cnf
datadir=RESTORETOPATH/fs-root/DATABASESERVERNAME
```

Example: `datadir=/usr/local/mysql-restore/fs-root/MyServerDB`

5. Perform a restart of the MySQL database server with the following command:

```
innodb_data_home_dir=RESTORETOPATH/fs-root/DATABASESERVERNAME/InnoDB Data  
innodb_log_group_home_dir=RESTORETOPATH/fs-root/DATABASESERVERNAME/InnoDB Data
```

Example:

```
innodb_data_home_dir=/usr/local/mysql-restore/fs-root/MyServerDB/InnoDB Data  
innodb_log_group_home_dir=/usr/local/mysql-restore/fs-root/MyServerDB/InnoDB Data
```

7.4 Selecting Creation Time and Restoring Backup

1. Go to the directory of 1&1 Backup Manager:

```
cd /opt/1UND1US/bin
```

2. To call up a list of backups, enter the following command:

```
./ClientTool control.session.list
```

3. To restore a backup that you created at a specific time, enter the following command:

```
./ClientTool control.restore.start -datasource FileSystem -selection PATH -time "DATETIME"
```

Note: The placeholder DATETIME must be replaced by the corresponding start time of your backup.

Example: `./ClientTool control.restore.start -datasource FileSystem -selection /home -time "2015-01-01 15:00:44"`

4. To monitor the recovery of the backup, enter the following command:

```
./ClientTool control.session.list
```

7.5 Saving a Backup on a NAS Server

1. Go to the directory of 1&1 Backup Manager:

```
cd /opt/1UND1US/bin
```

2. Start the recovery of the backup with the following command:

```
./ClientTool control.restore.start -datasource FileSystem -selection PATH -restore-to TEMPORARYPATH
```

Example: `./ClientTool control.restore.start -datasource FileSystem -selection /usr/local -restore-to /tmp/backup/last`

3. To monitor the recovery of the backup, enter the following command:

```
./ClientTool control.session.list
```

4. To save the backup on the NAS server, enter the following command:

```
scp -r /tmp/backup/last [user]@nasserver:[/NASSERVERPATH]
```

8 Configuring Standard Options

Content of this chapter:

- [Configuring Filters](#)

This chapter explains how to individually configure 1&1 Backup Manager.

8.1 Configuring Filters

You can specify the content of your backups with the extended filter system. When creating the exclusion filter, you specify the file type that is to be skipped when executing the backup.

8.1.1 Adding Filters

This is how to create a filter:

1. Go to the directory of 1&1 Backup Manager:

```
cd /opt/1UND1US/bin
```

2. Create a filter for the respective file extension with the following command:

```
./ClientTool control.filter.modify -add "*.FILEEXTENSION"
```

Example: `./ClientTool control.filter.modify -add "*.txt"`

8.1.2 Deleting Filters

This is how to delete a filter:

1. Go to the directory of 1&1 Backup Manager:

```
cd /opt/1UND1US/bin
```

2. Enter the following command to delete the respective filter:

```
./ClientTool control.filter.modify -remove "*" .FILEEXTENSION"
```

Example: `./ClientTool control.filter.modify -remove "*.txt"`

3. Enter the following command to check your filters:

```
./ClientTool control.filter.list
```

9 Open the 1&1 Backup Manager Help

To open the 1&1 Backup Manager Help follow the steps:

1. Go to the directory of 1&1 Backup Manager:

```
cd /opt/1UND1US/bin
```

2. To run the 1&1 Backup Manager, enter the following command:

```
./ClientTool
```

3. To open the help, enter the following command:

```
./ClientTool help
```

10 1&1 Service and Support

Should you have any questions concerning 1&1 Cloud Server, our team will be pleased to assist you. Your questions will be answered by e-mail around the clock within the shortest time possible.

The contact form is available in the [1&1 Control Panel](#) at **Help & Contact > Open Contact Form**.

Please state your question as clearly as possible - our customer support team will then be able to quickly provide the right solution for you.

11 Glossary

The glossary will explain the most important terms used in this manual. Terms highlighted in **blue** are explained in the respective → **entry**.

1&1 Control Panel

Customer area for 1&1 customers. The contractual and technical management of all Web Hosting packages are managed in the 1&1 Control Panel.

1&1 Cloud Panel

Customer area for 1&1 Cloud Server customers. In the 1&1 Cloud Panel, the technical management of the 1&1 Cloud Server is performed.

AES

Abbreviation for Advanced Encryption Standard. AES is an encryption algorithm which is available in the 1&1 Backup Manager with key sizes of 128 and 256 bits.

Backup

A copy of files, hard disks or programs. To ensure the recovery of data, backups are created on external media such as servers, hard disks, flash memory and CDs.

Backup Account

A profile required for creating and managing backups.

Bandwidth

The bandwidth is a measurement of how many information units can be transferred per second. The transfer speed is measured in "bps" (bits per second), but may also be given in other units such as Mbyte/s or Gbyte/s, respectively Mbit/s or Gbit/s.

Blowfish 448

Blowfish 448 is an **encryption algorithm**, working with a key size 448 bits.

Browser

Program for displaying websites (e.g. Internet Explorer, Mozilla Firefox).

Compression

The process of reducing the size of a file by means of algorithms.

Cron Daemon

A service for time-based execution of scripts and programs.

Database

An organized collection of data; the setup, management and structure of which is done via a database management system. The queries are effected by means of special query languages such as SQL or ODBC. 1&1 Backup Manager supports **MySQL** and **MSSQL** databases.

Encryption

Refers to the encoding of data to protect it from unauthorised access. The 1&1 Backup Manager supports the encryption algorithms → **AES** and → **Blowfish 448**.

LocalSpeedVault

LocalSpeedVault is a technology which saves your backups locally and on the backup server at the same time. The size of the backup will not change.

Load Balancer

A network load distribution system. Load balancers can determine both the load and the response time of each server and distribute the traffic on multiple servers with the help of rules.

Port

In network technology, a point inside a computer system at which data is transferred to other computer systems, e.g. via the → **TCP port**.

Proxy server

A → **Server** for caching data. When a website is loaded from the Internet, it is stored on the Proxy server as well. If the website is accessed again at a later time, it can be directly retrieved from the Proxy server and does not have to be transferred again.

Remote control

Access to another computer via a network or the Internet (e.g. via the Remote Desktop Connection under Windows), or via SSH (platform independent).

Script

Programme or set of instructions that can be executed by another programme; e.g. JavaScripts which can be read, interpreted and executed directly by the browser.



Server

A computer in a network providing services to other participants such as a → **Proxy server**.

TCP-Port

TCP (Transmission Control Protocol) is an essential part of the TCP/IP layer, based on the fourth level of the OSI layer model. TCP is connection-oriented and demands confirmation of receipt of every sent data packet. 1&1 Backup Manager uses the corresponding → **Port**.