

User manual for Garbo development  
studio

# User Documentation

Explanation, credentials,  
permissions

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## Contents

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## Explanation of Backup Solution

We at Garbo Development Studio's use a 3, 2, 1 Backup Solution.

3, 2, 1 says the following:

The 3, 2, 1 Principle states that there must be **3 Copies, 2 Mediums, 1 Offsite**

In this case the following would hold true

**3 Copies** → 1 copy on the hard drive of workstation

1 copy on the Win FileServer → Backup on TrueNAS

1 copy on the cloud with github

**2 Mediums** → 1 Medium Hard drive of workstation

1 Medium Win FileServer → Backup on TrueNAS

**1 Offsite** → GitHub Cloud

### The 3-2-1 Rule



Have at Least Three Copies of Your Data

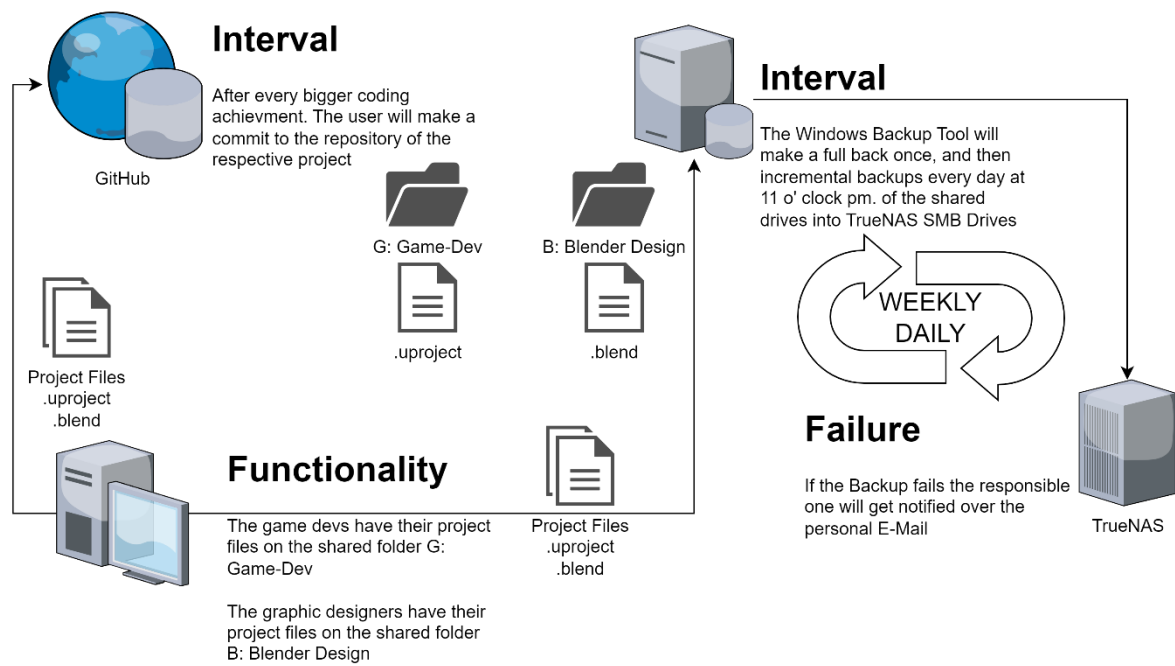


Store Two Copies on Different Storage Types



Keep One Copy Off-Site

## Backup Solution Visualization



so this doesn't really pose a threat.

## Automation

The backups are configured in such a way that the windows server will recognize when its 11 o' clock pm and it will automatically make a backup to TrueNAS.

However, the bulk will still be committed by hand, because of the commits to GitHub.

## Tests

The created procedure and the automation of the windows server are thoroughly tested, to ensure that they run smoothly and cater to our needs at Garbo-development-studio. The test in tale:

- The verification of whether backups are created and updated properly.
- The simulation of data loss and the restoration of data to assess the effectiveness of the procedure.
- The validation that automated backups occur at the scheduled times.
- Check whether the project files are accessible from different locations to ensure that the backup solution is functioning properly.

Comprehensive tests and checks ensure that the backup and recovery procedure meet the specific requirements of our company standards and that the data is reliably and securely protected. This ensures that in the event of an unexpected occurrence, such as data loss.

## Automated backup solution with Backup Scheduler

Garbo Development Studio continuously improves its games every year and every day. To ensure that the latest enhancements are always available, it is recommended to perform daily backups and upload the code onto GitHub and TrueNAS.

### Concrete advantages with GitHub

1. **Built in version control:** We don't have to do much, it already has version control with a SHA1-Checksum to validate that the commit is real.
2. **Reliability:** In the past years all employees at Garbo-development-studio have only made good experiences with GitHub, since it's reliable and you can download your progress anywhere.
3. **No-Vendor-Lock-in:** Since GitHub isn't a traditional Cloud Provider/Service it's easy to transport your data from one provider to another.
4. **Cost efficiency:** GitHub is incredibly cheap, even a GitHub Pro Organization only cost about 4 Euro per member, this means that we at maximum spend 20 to 25 Euro per month, given we are 5 members.

## Backup-Holding period

**On-Prem:** Until we don't have enough space and until we have no money left to spend.

**Cloud GitHub:** Until GitHub has no money for storage anymore.

## Emergency restoration plans

In case of a catastrophic failure of a disk we already have measures in place to prevent this from happening. We have configured TrueNAS' storage pools this way so that they use RAID 5 technology so even if a drive goes kaput, we always can restore them by using **XOR-Logic**.

### Advantages of automation

**Time Savings:** Automated backups can be scheduled to occur at specified times, eliminating the need for manual intervention.

**Reliability:** Automated backups reduce the risk of human errors that can lead to data loss.

**Consistency:** Automation ensures that backups are carried out regularly and consistently.

**Scalability:** With automated backups, you can easily scale up data protection efforts since the process is not dependent on manual capacity.

**Quick Recovery:** In the event of data loss, automated backups enable a fast and efficient data restoration.

## User and Permissions

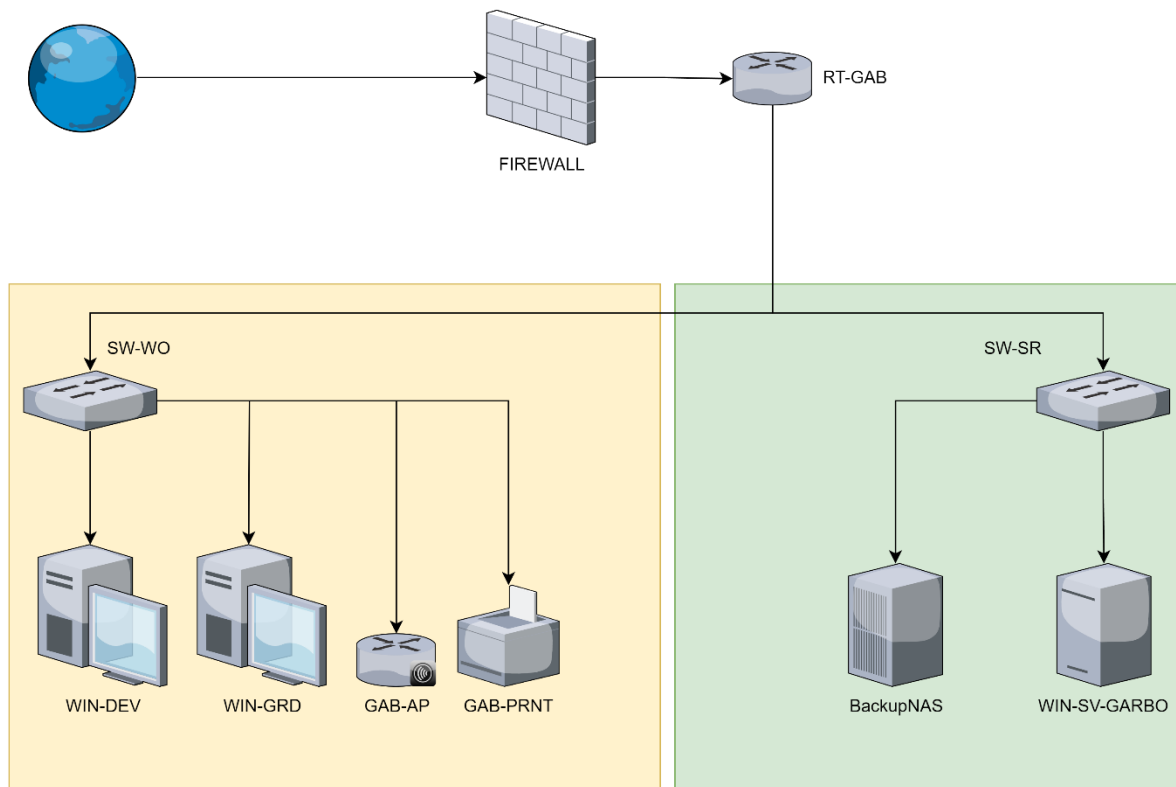
### User-table

FULL NAME	USERNAME	PASS	AD-ROLE	PERMISSIONS
Miguel Juan Carlos	MIJUCA	Ab1234!	GARBO-DEV	<b>R-W-X</b> to Game-Dev Shared Drive
Fabian Neumann	FABNEU	Ab1234!	GARBO-DEV	<b>R-W-X</b> to Game-Dev Shared Drive
Li Xiao Huawong	LIXAHU	Ab1234!	GARBO-DEV	<b>R-W-X</b> to Game-Dev Shared Drive
Patrick Janis Mustermann	PAJAMU	Ab1234!	GARBO-GRD	<b>R-W-X</b> to Graphic-Design Shared Drive
Marcelious Alexander III Unterernährer	MAALUN	Ab1234!	GARBO-GRD	<b>R-W-X</b> to Graphic-Design Shared Drive

### AD-Groups

AD-ROLE	TYPE
GARBO-MEMBER	Standard-auto-assigned
GARBO-DEV	Assigned if you are a developer
GARBO-GRD	Assigned if you are a graphic designer

## Network



## IP-Matrix Workstations

NAME	IP	User
<b>WIN-DEV-001</b>	DHCP	Miguel Juan Carlos Alejandro Ignacio Fernando Jose Francisco Ernesto Ricardo Antonio Guillermo Eduardo Roberto Esteban Alfonso Gonzales Hernandez Rodriguez de la Cruz de Jesus Gutierrez
<b>WIN-DEV-002</b>	DHCP	Fabio Neumann
<b>WIN-DEV-003</b>	DHCP	Li Xao Huawong
<b>WIN-GRD-001</b>	DHCP	Patrick Janis Mustermann
<b>WIN-GRD-002</b>	DHCP	Marcelious Alexander III Unterernährer



### Naming Conventions Workstations

Name	Name Full
<b>WIN-DEV</b>	<b>Windows-Developer</b>
<b>WIN-GRD</b>	<b>Windows-Graphic-Designer</b>

### IP-Matrix Components

NAME	IP	MAC
<b>RT-GAB</b>	192.168.5.1	A3:E6:F1:B3:C3:D5
<b>SW-SR</b>	192.168.5.10	3A:7B:9E:2F:4C:1D
<b>SW-WO</b>	192.168.5.15	8F:A2:C5:6B:0D:9E
<b>GAB-AP</b>	192.168.5.20	A1:B2:C3:D4:E5:F6
<b>GAB-PRNT</b>	192.168.5.25	A2:F3:E2:B5:F6:D9

### Naming Conventions Components

Name	Name Full
<b>RT-GAB</b>	<b>Router-Garbo</b>
<b>SW-SR</b>	<b>Switch-Server-room</b>
<b>SW-WO</b>	<b>Switch-Work-office</b>
<b>GAB-AP</b>	<b>Garbo-Access-Point</b>
<b>GAB-PRNT</b>	<b>Garbo-Printer</b>

### IP-Matrix Server/NAS

NAME	IP	MAC
<b>Backup-NAS</b>	192.168.5.110	00:1A:2B:3C:4D:5E
<b>WIN-SV-GARBO</b>	192.168.5.100	08:76:54:32:10:AB

### Naming Conventions Server/NAS

Name	Name Full
<b>Backup-NAS</b>	<b>Backup-NAS</b>
<b>WIN-SV-GARBO</b>	<b>Windows-Server-GARBO</b>

## Workstations / Server / TrueNAS

### Workstations

So before we dive into the configurations for the different workstations we need to address the different types of workstations we need, so there for I set some guidelines to which I need to hold myself true:

#### Developer workstation:

- Good CPU for computing power
- High amount of RAM
- Fast Storage device
- Adequate graphics card for developing with UE5

#### Graphic designer workstation:

- Good CPU for computing power to render
- High amount of RAM to render
- Medium fast Storage devices with focus point on storage safety rather than speed
- Good graphics card for graphic design and modelling in blender

With those guidelines in mind, I can now head on over to [digitec](#) to look for an adequate PC-configuration.

### Developer workstation

Name	Price	Amount
AMD Ryzen 7 5800X Processor	CHF 399.00	1
G.Skill RipJaws V 16GB DDR4-3600 CL16 Memory	CHF 129.00	2
Samsung 980 Pro 1TB NVMe SSD	CHF 229.00	1
MSI GeForce RTX 3060 Ti GAMING X 8G Graphics Card	CHF 699.00	1

## Graphic designer workstations

Name	Price	Amount
AMD Ryzen 9 5900X Processor	599.00	1
G.Skill RipJaws V 32GB DDR4-3600 CL16 Memory	259.00	2
Samsung 870 QVO 4TB SATA III SSD	229.00	1
MSI GeForce RTX 3070 GAMING X 8G Graphics Card	799.00	1

## Standardized Components

Now you might have noticed that some components are missing.

Name	Price	Amount
be quiet! Pure Base 500DX Midi Tower Case	129.00	1
Motherboards		
MSI B550M Mortar WiFi Micro ATX AM4 Motherboard	169.00	1
PSUs		
Seasonic Prime PX-1000 1000 W 80+ Titanium Certified Fully Modular ATX Power Supply	399.00	1
Coolers		
Be quiet! Dark Rock Pro 4	86.70	1

### Standardized Password

The Standardized Password for all Workstations is: **12345** → this means that it will use the local account not the AD Account

### Server

The Credentials for the windows server are:

**Username: Administrator**

**Password: Abcd12s8rkds!**

### TrueNAS

The Credentials for the WebGUI are as follows:

**Username: admin**

**Password: abcd12s8rkds**

The Credentials for the SMB Drives are as follows:

**Username: lixahu**

**Password: abcd12s8rkds**