

# Installation and configuration guide

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# Basic concepts and requirements

## ProxmoxKVM module **WHMCS**

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### Requirements for the successful operation of the module

- Minimal WHMCS version 8+
- Minimal Proxmox server or cluster version 7+
- Continuous and stable network availability between systems
- In the case of using static IP addresses, it is *necessary to have the required number of free IP addresses* that will be reserved for use in virtual machine services.
- If you are using a DHCP server in your virtual machine network, you will additionally need to configure it properly.
- *If you use VLAN* in your network, then you need to correctly configure your internal network so that the VLAN is available on all nodes of the cluster.
- In order for the noVNC console to work correctly, it is necessary to configure the VNC Web proxy on a *separate installation* (for example, a virtual machine) that will have access to the Internet and to the secure network of the Proxmox cluster / server.
- You need to set up a DNS API proxy. To synchronize forward and reverse DNS records.

In order to manage pools of IPv4 and IPv6 IP addresses, DNS zones you need to install the **PUQ Customization addon module (free)**

<https://doc.puq.info/books/puq-customization-whmcs-addon>

<https://download.puqcloud.com/WHMCS/addons/PUQ-Customization/>

<https://puqcloud.com/whmcs-addon-puq-customization.php>

If the module is set to use the DHCP server, the module does not manage the allocation of IP addresses and firewall rules, but only the throughput and setting the appropriate bridge and

In the case of using one Proxmox server, a **Directory** or **NFS** data store is required.

In the case of using a Proxmox cluster, the cluster must have a shared network storage.

- On one network storage, there should be both templates of virtual machines and disks of virtual machines. A configuration is allowed when the virtual machine template has 2 disks that can be stored on different network storages. For example, the system disk of the virtual machine is stored on the fast storage, and an additional disk is stored on the slow storage, designed for backups inside the virtual machine.
- For ISO images, you can use another network storage
- For backups to work, network storage is also required. You can use Proxmox Backup and Your server must still be available to all nodes in the cluster.

The configuration of datastores intended for backups must be configured in advance so that they do not rotate backup copies. Or the rotation has been configured so that it does not interfere with the number of spare copies in the client's package.

If you want to use firewall rules that will protect against IP address spoofing in virtual machines, You need in advance to properly configure the firewall on your server/cluster. The policy for incoming and outgoing traffic must be "DENY". The module adds permissive firewall rules on a virtual machine with the IP address of this machine.

## The logic of the module.

### Creating a new Virtual Machine.

1. After the client ordered and paid for the virtual machine services
  - An available IP address is selected from the list in the server settings. *!!! If the service is in the Terminated state, its assigned IP address will be taken into account when creating new machines and can be used for a new machine.!!!*
  - The available virtual machine ID is selected in such a way that it is unique in the WHMCS system and on the Proxmox server.
  - The fields with the domain name and the name of the virtual machine are generated and filled. The procedure uses the data supplied in the virtual machine package.
  - Starts the process of cloning a virtual machine from the desired virtual machine template.
2. Notifications are sent to the client that the virtual machine is in the process of being created (Welcome email)
3. Internal cron process monitors and cares about proper installation procedure.
4. Each time cron is executed, the module tries to continue setting up the virtual machine if

the cloning process is completed, virtual machine configuration steps in crontab job:

- Write the MAC address of the network card VM in the WHMCS database
- Set DNS Records
- Set CPU and RAM
- Set system disk size
- Set system disk bandwidth
- Created additional disk if needed
- Set additional disk size if needed
- Set additional disk bandwidth if needed
- Set network bridge and VLAN and bandwidth
- Set Firewall rules
- Configure cloud-nit (user, password, network configuration)
- Start VM
- Notify the client by e-mail that the virtual machine has been created, and the access parameters IP, user, password

### **An example of output from crontab log upon successful creation of a virtual machine**

```
=====
VM_id: 2001
Service_id: 4785
User_id: 1
VMSetDedicatedIp: The local status should be creation
VMClone: The local status should be set_ip
VMSetCpuRam: success
VMSetSystemDiskSize: success
VMSetSystemDiskBandwidth: success
VMSetCreatedAdditionalDisk: success
VMSetAdditionalDiskSize: success
VMSetAdditionalDiskBandwidth: success
VMSetNetwork: success
VMSetFirewall: success
VMSetCloudinit: success
VMStart: success
Remote_status: running
Local_status: ready
ServiceSendEmailVMReady: OK
```

## **Reinstalling the Virtual Machine.**

It is possible to reinstall VM from WHMCS panel.

The reinstallation process removes the virtual machine and recreate it using the parameters and characteristics and the actual data of the package.

1. After the reinstallation option has been chosen and run the virtual machine is removed. Backups are not deleted. After removal, the process of cloning the virtual machine from the selected virtual machine template is started.
2. Each time cron is executed, the module tries to continue setting up the virtual machine if the cloning process is completed, virtual machine configuration steps in crontab job:
  - Set CPU and RAM
  - Delete DNS Records
  - Set DNS Records
  - Set system disk size
  - Set system disk bandwidth
  - Created additional disk if needed
  - Set additional disk size if needed
  - Set additional disk bandwidth if needed
  - Set network Bridge and VLAN and bandwidth and MAC address
  - Set Firewall rules
  - Configure cloud-nit (user, password, network configuration)
  - Start VM
  - Notify the client by e-mail that the virtual machine has been ready, and provide access parameters IP, user, password

## Snapshots

1. The client has the ability to create/delete/restore snapshots of his virtual machine.
2. The number of snapshots is limited in the package configuration.
3. Snapshot lifetime is configured in the package configuration (is it in the range of 1-10 days maximum)
4. Snapshots are automatically deleted when their lifetime expires (using crontab jobs)

## Backups

1. The client has direct ability to create/delete/restore backups of his virtual machine.
2. The number of backups is limited in the package configuration.
3. In the case of a schedule configuration for creating automatic backups, the client has the opportunity to select only the day on which the backup should be created. Backup times are generated automatically and randomly each time an automatic backup task is saved.
- 4.

How automatic backups work.

- during cron execution, it checks which virtual machine has a schedule for today, and if the execution time of the scheduled copy is younger than the moment at which the cron job is running
- checks if there is no today's backup then
- checks if there is a free slot for a backup and if not, it deletes the oldest backup
- creates a backup

## Backup recovery

1. Before restoring a backup, the virtual machine must be in a powered off state.
2. After a successful backup restore, the module does the following processes with the virtual machine.
  - Set CPU and RAM if needed
  - Set system disk size if needed
  - Set system disk bandwidth if needed
  - Created additional disk if needed
  - Set additional disk size if needed
  - Set additional disk bandwidth if needed
  - Set network bridge and VLAN and bandwidth and MAC address if needed
  - Start VM
  - Notify the client by e-mail that the virtual machine restoring the backup ready
3. If for some reason it was not possible to restore the virtual machine from the backup, then the client is given the opportunity to try to restore the backup again or reinstall the virtual machine

During the creation and restoration of a backup, all operations for managing the virtual machine are suspended

## Reset password

The password reset procedure will work if the packages that are responsible for the operation of cloud-init have not been removed from the virtual machine

1. Before reset password, the virtual machine must be in a powered off state.
2. Processes that occur during the password change procedure
  - a new random password is generated and recorded in the client's service settings
  - Configure cloud-init (user, password, network configuration)
  - Start VM









## Mounting ISO image

ISO images are configured and stored in standard Proxmox way. You need to prepare storage (shared storage in case of Proxmox cluster) and upload ISO images to it in advance.

To organize and facilitate image selection, the module uses a display method that follows the file name formatting convention. Module displays ISO images names taken from Proxmox in WHMCS panel. One should pay attention to the correct naming of the image files.

ISO images are cataloged and sorted by the symbol "-" in the name of the ISO image.

For the name of the directory, the first occurrence is matched up to the symbol "-". If the name of the ISO image does not have a symbol "-" then such an image will be cataloged in the **OTHER** directory.

DEBIAN		
	debian-11.4.0-amd64-netinst.iso	 Mount
	debian-10.12.0-amd64-netinst.iso	 Mount
	debian-9.13.0-amd64-netinst.iso	 Mount
	debian-8.11.1-amd64-netinst.iso	 Mount

# 1. WHMCS setup(install/update)

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**Module is coded ionCube v13**

Supported php version:

- php 7.4 WHMCS 8.11.0 -
- php 8.1 WHMCS 8.11.0 +
- php 8.2 WHMCS 8.11.0 +

To install and update a module, you must perform one and the same action.

## 1. Download the latest version of the module.

PHP 8.2

```
wget http://download.puqcloud.com/WHMCS/servers/PUQ_WHMCS-Proxmox-KVM/php82/PUQ_WHMCS-Proxmox-KVM-latest.zip
```

PHP 8.1

```
wget http://download.puqcloud.com/WHMCS/servers/PUQ_WHMCS-Proxmox-KVM/php81/PUQ_WHMCS-Proxmox-KVM-latest.zip
```

PHP 7.4

```
wget http://download.puqcloud.com/WHMCS/servers/PUQ_WHMCS-Proxmox-KVM/php74/PUQ_WHMCS-Proxmox-KVM-latest.zip
```



All versions are available via link:

[http://download.puqcloud.com/WHMCS/servers/PUQ\\_WHMCS-Proxmox-KVM/](http://download.puqcloud.com/WHMCS/servers/PUQ_WHMCS-Proxmox-KVM/)

## 2. Unzip the archive with the module.

```
unzip PUQ_WHMCS-Proxmox-KVM-latest.zip
```

## 3. Copy and Replace "puqProxmoxKVM" from "PUQ\_WHMCS-Proxmox-KVM" to "WHMCS\_WEB\_DIR/modules/servers/"

# 2. Virtual machine templates

## ProxmoxKVM module **WHMCS**

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### Preface

Since the primary purpose of the module is to create and manage virtual KVM machines, the machine templates must be properly prepared and available in the Proxmox panel (standalone server or cluster).

You can try to use available templates from the Internet (which support cloud-init standard) and they should work fine, but we suggest initially using templates that are created according to our standards. We offer a basic set of images for **download**.

In order for the automatic installation of the virtual machine to work correctly, You need to prepare virtual machine templates for all operating systems that you want to provide for your customers to choose from.

### The physical state of the virtual machine template

- All parameters of the virtual machine must be less than the smallest package you offer to clients. (cpu, RAM, disk size)
- If you provide a virtual machine with two disks and host these disks on different storages, you need to create these boards in the template of the virtual machine on the necessary data storage, otherwise the additional disk will be created automatically on the same storage as the main disk.
- You need to add a **cloud-init** disk in order to automatically configure the virtual machine after cloning, your client parameters (network settings, authorization data)

### Virtual machine template software

- Install the desired operating system on the template virtual machine
- *During installation, partitions of the virtual machine disk must be divided so that the root partition is the last in the lists. **This is necessary in order for the automatic change of the system partition to work at the moment when the disk of the virtual machine is enlarged.***

- After installing the operating system, you need to install the *cloud-init* software suite

```
enable root ssh
nano /etc/ssh/sshd_config
PermitRootLogin yes
/etc/init.d/ssh restart
```

```
apt-get update
apt-get install network-manager resolvconf -y
apt-get install cloud-initramfs-growroot cloud-init cloud-utils -y
systemctl enable cloud-init-local.service
systemctl enable cloud-init.service
systemctl enable cloud-config.service
systemctl enable cloud-final.service
dpkg -l | grep cloud-*
```

Delete all from /etc/NetworkManager/dispatcher.d except cloud-init-hook-network-manager

```
deluser --remove-home debian
rm -R /home/debian/
cat /dev/null > ~/.bash_history && history -c && exit
```

## We have prepared templates for popular operating systems.

Templates are in the form of a virtual machine backup.  
In order to use it, you need to download the archive. Then copy it to the Proxmox server and restore the backup.

### Operating system configuration:

- hdd **5 GB** (virtio)
- disabled **swap**
- minimal server installation
- allow the **root** user to connect via ssh
- root password: **puqcloud**
- installed **cloud-initramfs-growroot cloud-init cloud-utils**
- localization and time zone **Europe/Warsaw**
- language **English**

## FAQ

If you need any other operating system or certain parameters, you can discuss it on our faq

<https://faq.puqcloud.com/>

Please note that we provide operating system templates only to demonstrate the functionality of our module.

YOUR USE OF THESE OPERATING SYSTEMS IS AT YOUR OWN RISK. WE DO NOT GUARANTEE CORRECT OPERATION AND SAFETY. WE DO NOT RECOMMEND TO USE THEM AS OPERATING SYSTEM TEMPLATES FOR YOUR CLIENTS.

# Download prebuild Proxmox OS templates

You can download the templates from the links below.

<https://files.puqcloud.com/>

## Debian

- [Debian-10](#)
- [Debian-11](#)
- [Debian-12](#)

## Ubuntu

- [Ubuntu-18](#)
- [Ubuntu-20](#)
- [Ubuntu-22](#)

## CentOS

- [CentOS-7](#)
- [CentOS-8](#)
- [CentOS-9](#)

## Proxmox

- [PBS-2.2](#)
- 

Official cloud images with root access.



## Debian

[Debian-10](#)

[Debian-11](#)

[Debian-12](#)

[Debian-13](#)



# Ubuntu

[Ubuntu-20.04](#)

[Ubuntu-22.04](#)

[Ubuntu-23.10](#)



# CentOS

[CentOS-7](#)

[CentOS-9](#)

# 3. Install VNCproxy and noVNC

## ProxmoxKVM module **WHMCS**

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### Preface

The module supports the ability to connect and use the console to manage a specific KVM virtual machine.

To connect to the virtual machine console, we will use third-party software.

**noVNC - the open source VNC client** - noVNC is both a VNC client JavaScript library as well as an application built on top of that library. noVNC runs well in any modern browser including mobile browsers (iOS and Android).

- Project site: <https://novnc.com>
- Project github: <https://github.com/novnc/noVNC>

As we only use external project we dont take any responsibility for data leak, hacks etc.

### We use golang to build our products.

We have used the following libraries

- <https://github.com/evangwt/go-vncproxy> (MIT License)
- <https://github.com/gin-gonic/gin> (MIT License)
- <https://pkg.go.dev/golang.org/x/net/websocket> (BSD License)

If you have any difficulties, you can use our public vncproxy server. *We strongly recommend setting up and using your own vncproxy server.* You will retain control over server

noVNC WEB proxy server: **vncproxy.puqcloud.com**

noVNC WEB proxy key: **puqcloud**

WEB ports: **80/443**

VNC ports: **5900-5999**

With vncproxy you make a proxy between the client and your **PROXMOX** server.

vncproxy must have an unequal stable network with the proxmox server, **ports 5900-5999** are enough

Also, if you use a domain name in connecting the **PROXMOX** server to the **WHMCS** system, this domain name must be correctly resolved from the vncproxy server

Let's start with installation.

# Installation process

## Domain definition

First, define a domain name for the vncproxy server, in our case it will be **vncproxy.puqcloud.com**

Further in the example, we will use the domain name **vncproxy.puqcloud.com**, but in all your configurations you must use your own domain name.

## NGINX installation and configuration

Secondly, you need to install a server with your favorite operating system. In our case, this is the **Debian 11** operating system. You also need to set up a DNS entry on your domain so that it returns the IP address of the server.

At first, if you haven't updated the package database recently, update it:

```
sudo apt update
```

Install nginx WEB server and Certbot



```
sudo apt install certbot nginx python3-certbot-nginx zip -y
```

## Download noVNC client

```
cd /root/  
wget https://github.com/novnc/noVNC/archive/refs/tags/v1.3.0.zip  
unzip v1.3.0.zip  
cp -R noVNC-1.3.0/* /var/www/html/  
rm v1.3.0.zip  
rm -r noVNC-1.3.0/
```

Now, going to **<http://vncproxy.puqcloud.com/vnc.html>** will open the noVNC client.

## Generate SSL certificate and install it in WEB server using certbot

```
certbot --nginx -d vncproxy.puqcloud.com
```

**In order for the certificate to be updated automatically, you must add to the crontab**

```
crontab -e
```

```
0 12 * * * /usr/bin/certbot renew --quiet
```

## NGINX virtual host configuration

Make the necessary settings in your domain configuration file in the nginx server

```
nano /etc/nginx/sites-available/default
```

```
server {  
    listen 80 default_server;  
    listen [::]:80 default_server;  
  
    root /var/www/html;
```

```

index index.html index.htm index.nginx-debian.html;

server_name _;

location / {
    try_files $uri $uri/ =404;
}

server {

    root /var/www/html;

    index index.html index.htm index.nginx-debian.html;
        server_name vncproxy.puqcloud.com; # managed by Certbot

    location / {
        try_files $uri $uri/ =404;
    }

    listen [::]:443 ssl ipv6only=on; # managed by Certbot
    listen 443 ssl; # managed by Certbot
    ssl_certificate /etc/letsencrypt/live/vncproxy.puqcloud.com/fullchain.pem; # managed by
Certbot
    ssl_certificate_key /etc/letsencrypt/live/vncproxy.puqcloud.com/privkey.pem; # managed by
Certbot
    include /etc/letsencrypt/options-ssl-nginx.conf; # managed by Certbot
    ssl_dhparam /etc/letsencrypt/ssl-dhparams.pem; # managed by Certbot


    location /vncproxy {
        proxy_pass http://127.0.0.1:8080/vncproxy;
        proxy_http_version 1.1;
        proxy_set_header Upgrade $http_upgrade;
        proxy_set_header Connection "Upgrade";
        proxy_set_header Host $host;
        proxy_set_header X-Real-IP $remote_addr;
        proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
    }
}

```

```
server {
    if ($host = vncproxy.puqcloud.com) {
        return 301 https://$host$request_uri;
    } # managed by Certbot

    listen 80 ;
    listen [::]:80 ;
    server_name vncproxy.puqcloud.com;
    return 404; # managed by Certbot
}
```

```
service nginx restart
```

## Next step is to install vncproxy

```
apt-get install screen -y
cd /root/
wget http://download.puqcloud.com/WHMCS/servers/PUQ_WHMCS-Proxmox-KVM/vncproxy/vncwebproxy
chmod +x vncwebproxy
```

We will run the script in the screen.

The first script parameter is a unique key. noVNC WEB proxy key - in WHMCS module parameter.

```
screen
./vncwebproxy puqcloud
```

After a successful launch, you can watch the execution log in the console.

```
root@vncproxy: ~# ./vncwebproxy puqcloud
[./vncwebproxy puqcloud]
proxmox- test. uuq. pl59002022/09/11 19:11:08 [vncproxy][debug] ServeWS
2022/09/11 19:11:08 [vncproxy][debug] request url: /vncproxy/proxmox-
test. uuq. pl/5900/d91bac199c2ce79392d8e175076e3780
2022/09/11 19:11:13 [vncproxy][info] close peer
[GIN] 2022/09/11 - 19:11:13 | 200 | 4.740249024s | 79.184.10.217 | GET
"/vncproxy/proxmox- test. uuq. pl/5900/d91bac199c2ce79392d8e175076e3780"
```

# Security

The security setting for the server should meet your standards.

Do not forget that for the correct operation of the server, you must allow connections to 80/443 ports. And outgoing connections to the PROXMOX server.

# 4. Create new server for Proxmox in WHMCS

## ProxmoxKVM module **WHMCS**

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## Preface

For the module to work properly, you must configure the server settings in Your main WHMCS panel. This is the place to set up a proxmox server or proxmox cluster, which will then be used to build KVM machines. Here we define the access data IP ranges and additional settings.

Attention.

If you have one server, or you do not use server groups. You need to make this server the default. By clicking on it with the mouse.

**Make this server the active default for new signups**

## Server creation

Login to Your WHMCS panel and create new server Proxmox in WHMCS (*System Settings->Products/Services->Servers*)

System Settings->Servers->Add New Server

[Products/Services](#)

• Enter the correct **Name** and **Hostname**

• In field Assigned IP Addresses you must enter a list of IP addresses of virtual machines that will be reserved for this server.

[Domain Pricing](#)

[Domain Registrars](#)

Starting with version 1.3, the module started supporting IPv4/IPv6 pools.

**In order to manage pools of IPv4 and IPv6 IP addresses, you need to install the PUQ Customization addon module (free)**

<https://doc.puq.info/books/puq-customization-whmcs-addon/page/ip-pools>

<https://doc.puq.info/books/puq-customization-whmcs-addon/chapter/module-puqproxmoxkvm>

<https://doc.puq.info/books/puq-customization-whmcs-addon>

<https://download.puqcloud.com/WHMCS/addons/PUQ-Customization/>

## Format to follow in the Assigned IP Addresses field.

To define the available pool of IP addresses, for each available IP number you should enter another line where the data is separated by the "|" separator. Each line with an IP number definition has the following structure:

<bridge>|<vlan\_tag>|<IP\_address>|<net\_mask>|<Gateway>|<DNS1>,<DNS2>

<bridge> - the bridge to which the machine is connected is virtual.

<vlan\_tag> - vlan which will be installed on the map of the network machine. In case of not using vlan, you need to set 0

### Example:

```
vmbr0| 10| 192. 168. 10. 2| 24| 192. 168. 10. 1| 8. 8. 8. 8, 1. 1. 1. 1
vmbr0| 10| 192. 168. 10. 3| 24| 192. 168. 10. 1| 8. 8. 8. 8, 1. 1. 1. 1
vmbr0| 10| 192. 168. 10. 4| 24| 192. 168. 10. 1| 8. 8. 8. 8, 1. 1. 1. 1
vmbr0| 30| 192. 168. 20. 2| 24| 192. 168. 20. 1| 8. 8. 8. 8, 1. 1. 1. 1
vmbr0| 30| 192. 168. 20. 3| 24| 192. 168. 20. 1| 8. 8. 8. 8, 1. 1. 1. 1
vmbr0| 30| 192. 168. 20. 4| 24| 192. 168. 20. 1| 8. 8. 8. 8, 1. 1. 1. 1
vmbr1| 333| 172. 16. 5. 2| 24| 172. 16. 5. 1| 8. 8. 8. 8, 1. 1. 1. 1
vmbr1| 333| 172. 16. 5. 3| 24| 172. 16. 5. 1| 8. 8. 8. 8, 1. 1. 1. 1
vmbr1| 333| 172. 16. 5. 4| 24| 172. 16. 5. 1| 8. 8. 8. 8, 1. 1. 1. 1
vmbr3| 0| 10. 0. 25. 2| 24| 10. 0. 25. 1| 10. 0. 10. 10, 10. 0. 10. 20
vmbr3| 0| 10. 0. 25. 3| 24| 10. 0. 25. 1| 10. 0. 10. 10, 10. 0. 10. 20
vmbr3| 0| 10. 0. 25. 4| 24| 10. 0. 25. 1| 10. 0. 10. 10, 10. 0. 10. 20
vmbr3| 0| 10. 0. 25. 5| 24| 10. 0. 25. 1| 10. 0. 10. 10, 10. 0. 10. 20
vmbr3| 0| 10. 0. 25. 6| 24| 10. 0. 25. 1| 10. 0. 10. 10, 10. 0. 10. 20
```

## Servers

### Edit Server

Name	<input type="text" value="proxmox-test.uuq.pl"/>
Hostname	<input type="text" value="proxmox-test.uuq.pl"/>
IP Address	<input type="text" value="192.168.12.85"/>
Assigned IP Addresses (One per line)	<div><div>vmbr0 10 192.168.10.2 24 192.168.10.1 8.8.8.8,1.1.1.1</div><div>vmbr0 10 192.168.10.3 24 192.168.10.1 8.8.8.8,1.1.1.1</div><div>vmbr0 10 192.168.10.4 24 192.168.10.1 8.8.8.8,1.1.1.1</div><div>vmbr0 30 192.168.20.2 24 192.168.20.1 8.8.8.8,1.1.1.1</div><div>vmbr0 30 192.168.20.3 24 192.168.20.1 8.8.8.8,1.1.1.1</div><div>vmbr0 30 192.168.20.4 24 192.168.20.1 8.8.8.8,1.1.1.1</div><div>vmbr1 333 172.16.5.2 24 172.16.5.1 8.8.8.8,1.1.1.1</div><div>vmbr1 333 172.16.5.3 24 172.16.5.1 8.8.8.8,1.1.1.1</div><div>vmbr1 333 172.16.5.4 24 172.16.5.1 8.8.8.8,1.1.1.1</div><div>vmbr3 0 10.0.25.2 24 10.0.25.1 10.0.10.10,10.0.10.20</div><div>vmbr3 0 10.0.25.3 24 10.0.25.1 10.0.10.10,10.0.10.20</div><div>vmbr3 0 10.0.25.4 24 10.0.25.1 10.0.10.10,10.0.10.20</div><div>vmbr3 0 10.0.25.5 24 10.0.25.1 10.0.10.10,10.0.10.20</div><div>vmbr3 0 10.0.25.6 24 10.0.25.1 10.0.10.10,10.0.10.20</div></div>

Enter the correct data in the username and password field

- In the **Server Details** section, select the "**PUQ Proxmox KVM**" module and enter the correct **username** and **password** for the **Proxmox web interface**.
- To check, click the "**Test connection**" button

Note that the username is entered with the Proxmox account type (@pam or @pve)

During operation, the module will automatically fill in the Access Hash field. This field does not need to be completed.

#### Server Details

Module	PUQ Proxmox KVM <span>Test Connection</span>
	✓ Connection successful. Some values have been auto-filled.
Username	root@pam
Password	*****
Access Hash	PVE:root@pam:631738FC::drXAr+4i1VbSnydqEa6zzj+cs6WQivErMvD/ijlNR9N/qat6afwgiKzpe8HSITUHyGhE9h7YcMJu78eScDG+t9NCY81OfF0XMe1TEUGUs1oBNCnODRYv3zgXLKPsK/FtF/cXAUCLRkT/Vu9o1CPIIY7Cr4CSgtjaeDaU7R8bxDn917hdmpZU1NfCjIRWDp/vR67ug9PZIMR0+cBS3KvzJBp3p3V3uJkC8NLnBpbN9ADfsTAFUKAPtYMqHYLHOZr4VaykDI0vlgYeywYOJovZkf+wtGU3GsaLnnDjCP1hpa9goV8PjO86u7TKMMVYqJ9xRzlf9YpQBcjzIHNO3Czpg==   631738FC:Wp260ln4k/hLTuFtQ8SrrNjAzGw2qKE0/jwlej2iGY
Secure	<input checked="" type="checkbox"/> Check to use SSL Mode for Connections
Port	8006 <input type="checkbox"/> Override with Custom Port

#### Attention

If you have one server, or you do not use server groups. You need to make this server the default. By clicking on it with the mouse.

#### Make this server the active default for new signups

PUQ Proxmox KVM			
<a href="#">proxmox-test.uug.pl*</a>		5/200 (3%)	Not Available <span>Login to Proxmox</span>
	Make this server the active default for new signups		



# 5. Synchronization of DNS records

## ProxmoxKVM module **WHMCS**

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Starting with version 1.4, the module started supporting

### **DNS Synchronization**

(cloudflare.com, HestiaCP)

In order to manage DNS zones to synchronization , you need to install the **PUQ Customization addon module (free)**

<https://doc.puq.info/books/puq-customization-whmcs-addon/page/dns-zones>

<https://doc.puq.info/books/puq-customization-whmcs-addon/chapter/module-puqproxmoxkvm>

<https://doc.puq.info/books/puq-customization-whmcs-addon>

<https://download.puqcloud.com/WHMCS/addons/PUQ-Customization/>

---

For your convenience, we have prepared a mechanism that generates basic domain entries for newly created servers.

Setting these entries is not necessary for the correct operation and use of the service.

In this version of the module, we do not have integration of procedures and mechanisms for synchronizing DNS records with various DNS servers. The module returns all IP addresses and DNS records as json using an http request. You need to do the integration with your DNS server yourself.

We want to introduce automatic integration of DNS records into popular services and DNS servers. But we don't know where to start. You can help us with this. Please visit our forum and post your needs. We will definitely try to implement them in future versions.

<https://faq.pugcloud.com/>

## How it works

In order to get all IP addresses and DNS records, you need to send a GET request.

```
https://<WHMCS-SERVER>/modules/servers/puqProxmoxKVM/lib/dns/dns.php
```

Answer:

```
[
  {
    "forward" : "vlan-1-4779.vps.uuq.pl",
    "ip" : "192.168.0.2",
    "reverse" : "mail.uuq.pl"
  },
  {
    "forward" : "vps-1-4780.vps.uuq.pl",
    "ip" : "192.168.0.3",
    "reverse" : "test.vps.uuq.pl"
  },
  {
    "forward" : "vlan-1-4781.vps.uuq.pl",
    "ip" : "192.168.0.4",
    "reverse" : "blabla.vps.uuq.pl"
  }
]
```

The script does not return entries that contain errors or are empty.

With this information, you can import DNS records into your DNS server.

## Security

For unauthorized access in the directory with the dns.php file, there is a .htaccess file in which you can allow access to specific IPs.

## .htaccess file example

```
order deny,allow  
deny from all  
allow from <allowed_IP_address>
```

# 6a. Email Template (puqProxmoxVKM Welcome Email)

## ProxmoxKVM module **WHMCS**

[Order now](#) | [Download](#) | [FAQ](#)

Create an email template for customer notifications.

System Settings->Email Templates->Create New Email Template

- **Email Type:** Product/service
- **Unique Name:** puqProxmoxVKM Welcome Email

**Subject:** Create New Email Template

Virtual Machine Order Information

Product/Service

**Body:**

**Unique Name**

Dear {\$client\_name},

Your order has been accepted for implementation.

Installing and pre-configuring the virtual machine will take some time.

Please wait for an e-mail with information that the virtual machine is ready for use, also with access parameters.

Product/Service: {\$service\_product\_name}

Payment Method: {\$service\_payment\_method}

Amount: {\$service\_recurring\_amount}

Billing Cycle: {\$service\_billing\_cycle}

Next Due Date: {{\$service\_next\_due\_date}}

Important note - if you have also purchased the backup options, do not forget to configure the schedule in the service's subpage.

Thank you for choosing us.

{{\$signature}}

Subject: Virtual Machine Order Information

File Edit View Insert Format Table Help

# 6b. Email Template (puqProxmoxKVM VM is ready)

ProxmoxKVM module **WHMCS**

[Order now](#) | [Download](#) | [FAQ](#)

Create an email template for customer notifications.

System Settings->Email Templates->Create New Email Template

- **Email Type:** Product/service
- **Unique Name:** puqProxmoxKVM VM is ready

**Subject:** Create New Email Template

Virtual Machine is ready

Product/Service

**Body:**

**Unique Name**

Dear {\$client\_name},

Your virtual machine is already ready.

You can connect to it using data.

Product/Service: {\$service\_product\_name}

Payment Method: {\$service\_payment\_method}

Amount: {\$service\_recurring\_amount}

Billing Cycle: {\$service\_billing\_cycle}

Next Due Date: {\$service\_next\_due\_date}

IP address: {\$service\_dedicated\_ip} or {\$service\_domain}

Username: {\$service\_username}

Password: {\$service\_password}

Thank you for choosing us.

{\$signature}

Subject: Virtual Machine is ready

# 6c. Email Template (puqProxmoxKVM Reset password)

ProxmoxKVM module **WHMCS**

[Order now](#) | [Download](#) | [FAQ](#)

Create an email template for customer notifications.

System Settings->Email Templates->Create New Email Template

- **Email Type:** Product/service
- **Unique Name:** puqProxmoxKVM Reset password

**Subject:** Create New Email Template

Reset password is ready

Product/Service

**Body:**

**Unique Name**

Dear {\$client\_name},

Password reset successful.

IP address: {\$service\_dedicated\_ip} or {\$service\_domain}

Username: {\$service\_username}

Password: {\$service\_password}

Thank you for choosing us.



























{ \$signature }

Subject: Reset password is ready

File Edit View Insert Format Table Help

Paragraph Verdana 11pt

**B** *I* ~~S~~ U A A    

Dear { \$client\_name },

Password reset successful.

IP address: { \$service\_dedicated\_ip } or { \$service\_domain }

Username: { \$service\_username }

Password: { \$service\_password }

Thank you for choosing us.

{ \$signature }

P

26 WORDS POWERED BY TINYMCE

# 6d. Email Template (puqProxmoxKVM Backup restored)

ProxmoxKVM module **WHMCS**

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Create an email template for customer notifications.

System Settings->Email Templates->Create New Email Template

- **Email Type:** Product/service
- **Unique Name:** puqProxmoxKVM Backup restored

**Subject:** Create New Email Template

Backup restored successful

Product/Service

**Body:**

**Unique Name**

Dear {\$client\_name},

Backup restored successful.

Product/Service: {\$service\_product\_name}

Payment Method: {\$service\_payment\_method}

Amount: {\$service\_recurring\_amount}

Billing Cycle: {\$service\_billing\_cycle}

Next Due Date: {\$service\_next\_due\_date}

IP address: {\$service\_dedicated\_ip} or {\$service\_domain}

Thank you for choosing us.

{signature}

# 6e. Email Template (puqProxmoxKVM Upgrade Email)

ProxmoxKVM module **WHMCS**

[Order now](#) | [Download](#) | [FAQ](#)

Create an email template for customer notifications.

System Settings->Email Templates->Create New Email Template

- **Email Type:** Product/service
- **Unique Name:** puqProxmoxKVM Upgrade Email

**Subject:** Create New Email Template ×

Virtual Machine upgrade is ready

**Email type**

**Body:** Product/Service ▼

Dear {\$client\_name},

Virtual Machine upgrade is successful.

Product/Service: {\$service\_product\_name}

Payment Method: {\$service\_payment\_method}

Amount: {\$service\_recurring\_amount}

Billing Cycle: {\$service\_billing\_cycle}

Next Due Date: {\$service\_next\_due\_date}

IP address: {{\$service\_dedicated\_ip}} or {{\$service\_domain}}

Thank you for choosing us.

{{\$signature}}

# 7. Troubleshooting

## ProxmoxKVM module **WHMCS**

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### CRON

In the event that the module does not work properly and activities are not performed, please check the operation of the CRON service in the first place.

Here you can read how the process of provisioning virtual machines works.

<https://doc.puq.info/books/proxmoxkvm-whmcs-module/page/basic-concepts-and-requirements>

If your problem is still not resolved, then please run the cron job manually and look at the output in the console.

```
/usr/bin/php7.4 -q /WHMCS_DIR/crons/cron.php
```

There must be something like that.

```
=====
VM_id: 2001
Service_id: 4785
User_id: 1
VMSetDedicatedIp: The local status should be creation
VMClone: The local status should be set_ip
VMSetCpuRam: success
VMSetSystemDiskSize: success
VMSetSystemDiskBandwidth: success
VMSetCreatedAdditionalDisk: success
VMSetAdditionalDiskSize: success
VMSetAdditionalDiskBandwidth: success
VMSetNetwork: success
VMSetFirewall: success
VMSetCloudinit: success
```

VMStart: success

Remote\_status: running

Local\_status: ready

ServiceSendEmailVMReady: OK