

PowerDNS WHMCS Module

The module allows to provide management of DNS records of zones as a separate product. Uses PowerDNS.

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Description

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The PUQ PowerDNS module allows you to create products that enable clients to manage DNS records within their DNS zone. The module uses the standard connection to the PowerDNS API and does not require additional configuration on the PowerDNS side.

Module features:

- Configuration of restrictions such as the number of zones and zone name filters.
- The module automatically blocks the zone if payment is not made.
- Automatic zone unblocking.
- Automatic zone deletion during service termination.

WHMCS minimal version: 8 +



PowerDNS minimal version: 4.9

Information

	Zones	2 / 6
	Name server 1	ns1.puqcloud.com
	Name server 2	ns2.puqcloud.com
	Name server 3	ns3.puqcloud.com
	Name server 4	ns4.puqcloud.com
	Actions	+ Add DNS Zone

Show entries

Search:

Zone Name	Status	Actions
puq.info	active	Records 
puqcloud.com	active	Records 

Showing 1 to 2 of 2 entries

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◀ All DNS Zones

+ Add Record

↻ Reload DNS Zone

puq.info

☰	SOA	ns1.puqcloud.com. admin.puqcloud.com. 1725212565 8640 720 360000 360	✎
☰	NS	ns1.puqcloud.com	
☰	NS	ns2.puqcloud.com	
☰	NS	ns3.puqcloud.com	
☰	NS	ns4.puqcloud.com	

Show 50 entries

Search:

Type	Name	Content	TTL	Actions
A	puq.info	192.168.0.1	3600	✎ 🗑
AAAA	puq.info	2001:db8:85a3::8a2e:370:7334	3600	✎ 🗑
MX	puq.info	10 mx.puqcloud.com.	3600	✎ 🗑

Changelog

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v1.0 Released 01-09-2024

First version

Installation and configuration guide

WHMCS

setup(install/update)

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

1. Download the latest version of the module.

PHP 8.1

```
wget http://download.puqcloud.com/WHMCS/servers/PUQ_WHMCS-PowerDNS/PUQ_WHMCS-PowerDNS-latest.zip
```

PHP 7.4

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

All versions are available via link:

https://download.puqcloud.com/WHMCS/servers/PUQ_WHMCS-PowerDNS/

2. Unzip the archive with the module.

```
unzip PUQ_WHMCS-PowerDNS-latest.zip
```

3. Copy and Replace "puqPowerDNS" to
"WHMCS_WEB_DIR/modules/servers/"

Setup guide: PowerDNS setup

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Disclaimer: This guide is intended for informational purposes only and provides a basic example of how to enable the API in PowerDNS. It is strongly recommended to refer to the official PowerDNS documentation for comprehensive and accurate instructions. Following official guidelines ensures that your setup is secure, reliable, and fully supported. This example may not cover all security considerations or configurations required for your specific environment. Use this guide at your own risk.

Install PowerDNS

Update the System

It is always safe to work with a system that is up-to-date. Updating your Debian system can be done using the simple command:

```
sudo apt update && sudo apt upgrade
```

Install the required tools:

```
sudo apt install curl vim git libpq-dev -y
```

Once all the packages have been updated to their latest stable versions, proceed with the below steps.

1 – Install PowerDNS Relational Database

PowerDNS supports innumerable database backends such as MySQL, PostgreSQL, Oracle e.t.c. Here, we will use the MariaDB as backend storage for PowerDNS zone files.

Install MariaDB on Debian using the below steps:

First, install the required tools:

```
sudo apt install software-properties-common gnupg2 -y
```

Then proceed and the MariaDB 10.6 repository on the system.

```
curl -LsS -O https://downloads.mariadb.com/MariaDB/mariadb_repo_setup  
sudo bash mariadb_repo_setup
```

Update your package index and install MariaDB.

```
sudo apt update  
sudo apt install mariadb-server mariadb-client
```

Once the installation is complete, start and enable MariaDB.

```
sudo systemctl start mariadb  
sudo systemctl enable mariadb
```

Login to the shell using the *root* user

```
sudo mysql -u root
```

Now create a PowerDNS database.

```
CREATE DATABASE powerdns;  
GRANT ALL ON powerdns.* TO 'powerdns_user'@ '%' IDENTIFIED BY 'Strongpassword' ;  
FLUSH PRIVILEGES;  
EXIT
```

Remember the password set for the user should ***not contain special characters*** since PowerDNS doesn't like this and will cause the error “**Access denied for user ‘powerdns_user’@‘localhost’ (using password: YES)**”

2 – Install PowerDNS on Debian

We will begin by disabling the **systemd-resolved** service. This service runs on port **53** providing network name resolution used to load applications but now we want to use PowerDNS.

Stop and disable **systemd-resolved** using the commands:

```
sudo systemctl stop systemd-resolved
sudo systemctl disable systemd-resolved
```

Proceed and remove the symbolic link for the file.

```
$ ls -lh /etc/resolv.conf
-rw-r--r-- 1 root root 49 Feb 23 04:53 /etc/resolv.conf
$ sudo unlink /etc/resolv.conf
```

Update the **resolv.conf** file.

```
$ sudo vim /etc/resolv.conf
nameserver 8.8.8.8
```

After the above adjustments, you can install PowerDNS from the default APT repositories using the command:

```
sudo apt install pdns-server pdns-backend-mysql
```

Install the latest release of PowerDNS available on the official [PowerDNS release](#) page. As of this guide, the stable release was at 4.6. The repository for this release can be added to the system as below.

```
sudo vim /etc/apt/sources.list.d/pdns.list
```

For **Debian 12**

```
deb [arch=amd64] http://repo.powerdns.com/debian bookworm-auth-46 main
```

For **Debian 11**

```
deb [arch=amd64] http://repo.powerdns.com/debian bullseye-auth-46 main
```

For **Debian 10**

```
deb [ arch=amd64 ] http://repo.powerdns.com/debian buster-auth-46 main
```

Import the GPG key signing for the repository.

```
curl -fsSL https://repo.powerdns.com/FD380FBB-pub.asc | sudo gpg --dearmor -o  
/etc/apt/trusted.gpg.d/pdns.gpg
```

Set the APT preferences.

```
$ sudo vim /etc/apt/preferences.d/pdns  
Package: pdns-*  
Pin: origin repo.powerdns.com  
Pin-Priority: 600
```

Update your APT package index.

```
sudo apt update
```

Now install the PowerDNS server and the MySQL backend as below.

```
sudo apt install pdns-server pdns-backend-mysql
```

3 – Configure the PowerDNS Database

Now that we have the PowerDNS database already created on MariaDB, we will proceed and import the database schemas to it. This normally saved under the ***/usr/share/pdns-backend-mysql/schema/*** as a ***schema.mysql.sql*** file.

Now import this schema to the created database(**powerdns**) in step 1.

```
mysql -u powerdns_user -p powerdns < /usr/share/pdns-backend-mysql/schema/schema.mysql.sql
```

You can then verify schema import as below.

```
sudo mysql -u root  
use powerdns;  
show tables;
```

After the schema has been imported, we will now configure the PowerDNS connection details to

the database.

This can be done by creating the file below.

```
sudo vim /etc/powerdns/pdns.d/pdns.local.gmysql.conf
```

In the opened file, edit the lines:

```
# MySQL Configuration
# Launch gmysql backend
launch+=gmysql
# gmysql parameters
gmysql-host=127.0.0.1
gmysql-port=3306
gmysql-dbname=powerdns
gmysql-user=powerdns_user
gmysql-password=Strongpassword
gmysql-dnssec=yes
# gmysql-socket=
```

Set the appropriate permissions for the file.

```
sudo chown pdns: /etc/powerdns/pdns.d/pdns.local.gmysql.conf
sudo chmod 640 /etc/powerdns/pdns.d/pdns.local.gmysql.conf
```

You can now verify the database connection.

```
sudo systemctl stop pdns.service
sudo pdns_server --daemon=no --guardian=no --loglevel=9
```

With the above output, the database connection is successful. Restart and enable the PowerDNS service.

```
sudo systemctl restart pdns
sudo systemctl enable pdns
```

Verify the port 53 is open for DNS.

```
sudo ss -alnp4 | grep pdns
```

Output:

```
udp    UNCONN 0      0          0.0.0.0: 53      0.0.0.0: *
users: ( ("pdns_server", pid=18530, fd=5) )

tcp    LISTEN 0      128        0.0.0.0: 53      0.0.0.0: *
users: ( ("pdns_server", pid=18530, fd=7) )
```

You can also check if PowerDNS is responding to requests.

```
$ dig @127.0.0.1

; <<>> DiG 9.16.22-Debian <<>> @127.0.0.1
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->HEADER<<- opcode: QUERY, status: REFUSED, id: 4882
;; flags: qr rd; QUERY: 1, ANSWER: 0, AUTHORITY: 0, ADDITIONAL: 1
;; WARNING: recursion requested but not available

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; QUESTION SECTION:
;. IN NS

;; Query time: 4 msec
;; SERVER: 127.0.0.1#53(127.0.0.1)
;; WHEN: Wed Feb 23 06:03:49 EST 2022
;; MSG SIZE rcvd: 28
```

To enable the API in PowerDNS

1 – Edit the PowerDNS Configuration File

The configuration file for PowerDNS is usually located at `/etc/powerdns/pdns.conf`. Open it for editing:

```
sudo nano /etc/powerdns/pdns.conf
```

2 – Enable the API

Find and modify the following lines, or add them if they are not present:

```
api=yes
webserver=yes
webserver-address=0.0.0.0
webserver-port=8081
```

- `api=yes`: Enables the API.
- `webserver=yes`: Enables the web server for accessing the API.
- `webserver-address=0.0.0.0`: Configures the server to listen on all IP addresses. If you want to restrict access to a specific IP, specify that IP address here.
- `webserver-port=8081`: Specifies the port on which the API web server will be available (default is 8081).

3 – Configure Access from Another Server

To allow access to the API from another server, set up authentication by adding the following line in `pdns.conf`:

```
api-key=your_api_key_here
```

- `api-key=your_api_key_here`: Set the API key that will be used to authenticate requests to the API. Replace `your_api_key_here` with a strong, secure key.

4 – Restart PowerDNS

After making these changes, restart PowerDNS to apply them:

```
sudo systemctl restart pdns
```

5 – Test the API

From another server, test the API by making a request using the API key, for example:

```
curl -X GET -H 'X-API-Key: your_api_key_here'  
http://ip_address_of_pdns_server:8081/api/v1/servers
```

Replace `your_api_key_here` with your API key and `ip_address_of_pdns_server` with the IP address of the server where PowerDNS is installed.

Add server (PowerDNS server)

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Add a new server to the system WHMCS.

System Settings->Servers->Add New Server

- Enter the correct **Name** and **Hostname**

Servers

Edit Server

Name	<input type="text" value="powerdns-test.uuq.pl"/>
Hostname	<input type="text" value="powerdns-test.uuq.pl"/>
IP Address	<input type="text"/>
Assigned IP Addresses (One per line)	<div></div>
Monthly Cost	<input type="text" value="0.00"/>
Datacenter/NOC	<input type="text"/>
Maximum No. of Accounts	<input type="text" value="200"/>
Server Status Address	<div><input type="text"/> To display this server on the server status page, enter the full path to the server status folder (required to be uploaded to each server you want to monitor) - eg. https://www.example.com/status/</div>
Enable/Disable	<input type="checkbox"/> Check to disable this server

- In the **Server Details** section, select the "**PUQ PowerDNS**" module and enter the **correct PowerDNS API key** in the **password field**.
- To check, click the "**Test connection**" button

Server Details

Module	<div><div>PUQ PowerDNS</div><div>▼</div></div> <div><input type="button" value="Test Connection"/></div> <div>✓ Connection successful. Some values have been auto-filled.</div>
Username	<input type="text"/>
Password	<input type="password" value="....."/>
Access Hash	<div></div>
Secure	<input type="checkbox"/> Check to use SSL Mode for Connections
Port	<div><input type="text" value="8081"/><input type="checkbox"/> Override with Custom Port</div>

Product Configuration

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Add new product to WHMCS

System Settings->Products/Services->Create a New Product

In the **Module settings** section, select the "**PUQ PowerDNS**" module

Details	Pricing	Module Settings	Custom Fields	Configurable Options	Upgrades	Free Domain	Cross-sells	Other	Links
Module Name: PUQ PowerDNS									
Server Group: None									
License key: PZNRXN-:DOUOL2 success: 2024-09-29T13:50:30+02:00									
Max Zones: 6 The number of zones that allows you to add									
Edit SOA: Yes									
Restrictions: Allow client to edit SOA record									
Zone name filter: Each regular expression on a new line									
Nameservers: Nameserver 1: ns1.puqcloud.com Nameserver 2: ns2.puqcloud.com Nameserver 3: ns3.puqcloud.com Nameserver 4: ns4.puqcloud.com									
SOA: Zone administrator email: admin@puqcloud.com Update interval: 86400 Default - 86400 Retry interval: 7200 Default - 7200 Expiry time: 3600000 Default - 3600000 Minimum lifetime: 3600 Default - 3600									

- **License key:** A pre-purchased license key for the "**PUQ PowerDNS**" module. For the module to work correctly, the key must be active
- **Max Zones:** The number of zones that will be available for the client to manage.
- **Edit SOA:** Whether to allow the client to manage the SOA record.
- **Zone name filter:** In this field, you can enter regular expressions to filter zone names that the client can add. Each filter should be on a separate line, and each filter is checked in sequence, meaning the zone will not be added if even one filter matches.

- **Nameservers:** In this section, enter the name servers that will be added to the zone (Your DNS cluster).
- **SOA:** In this section, enter all the SOA record parameters that will be used by default.

Client Area

Home screen

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On the product's home page in the client area, there is a list of NS servers that the client needs to set up on their domain in the registrar's settings. There is also a list of zones with the ability to manage them.



Information

	Zones	2 / 6
	Name server 1	ns1.puqcloud.com
	Name server 2	ns2.puqcloud.com
	Name server 3	ns3.puqcloud.com
	Name server 4	ns4.puqcloud.com
	Actions	+ Add DNS Zone

Show entries

Search:



Zone Name	Status	Actions
puq.info	active	Records 
puqcloud.com	active	Records 

Showing 1 to 2 of 2 entries

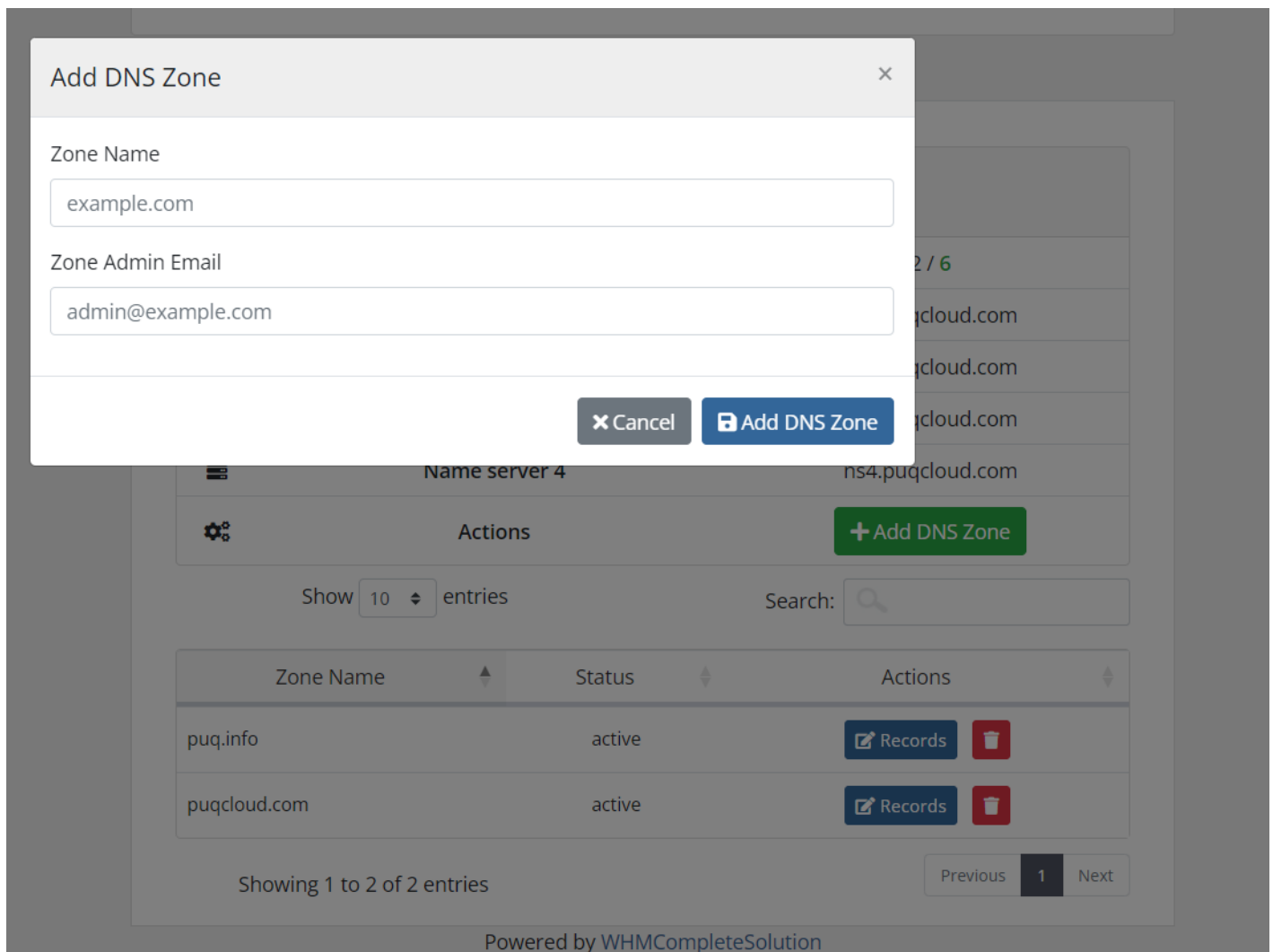
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Add DNS Zone

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When the "Add DNS Zone" button is clicked, a wizard for adding a new zone will open in a pop-up window.



Managing DNS Records

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To manage records, you need to click the "**Records**" button on the selected zone, and on the page that opens, you will be able to manage the records.

◀ All DNS Zones

+ Add Record

↻ Reload DNS Zone

puq.info

SOA	ns1.puqcloud.com.	admin.puqcloud.com.	1725212565	8640	720	360000	360	
NS	ns1.puqcloud.com							
NS	ns2.puqcloud.com							
NS	ns3.puqcloud.com							
NS	ns4.puqcloud.com							

Show 50 entries

Search:

Type	Name	Content	TTL	Actions
A	puq.info	192.168.0.1	3600	
AAAA	puq.info	2001:db8:85a3::8a2e:370:7334	3600	
MX	puq.info	10 mx.puqcloud.com.	3600	

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Add Record .puq.info

Type

Name (required)

TTL

A



1 hr



Use @ for root

IPv4 address (required)

E.g. 192.168.0.1

✕ Cancel

📁 Add Record

Type	Name	Content	TTL	Actions
A	puq.info	192.168.0.1	3600	
AAAA	puq.info	2001:db8:85a3::8a2e:370:7334	3600	
MX	puq.info	10 mx.puqcloud.com.	3600	

Previous

1

Next

Add Record .puq.info

Type

Name (required)

TTL

DNSKEY

1 hr

Use @ for root

Flags (required)

0 - 65535

Protocol (required)

0 - 255

Algorithm (required)

0 - 255

Public Key (required)

Cancel

Add Record

ne

20 360000 360

Actions

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Next

English / \$ USD

Edit records

Edit Record



Type

MX



Name (required)

puq.info

Use @ for root

TTL

1 hr



Mail server (required)

mx.puqcloud.com

E.g. mx1.example.com

Priority (required)

10

0 - 65535

✕ Cancel

📁 Edit Record

Type	Name	Content	TTL	Actions
A	puq.info	192.168.0.1	3600	
AAAA	puq.info	2001:db8:85a3::8a2e:370:7334	3600	
MX	puq.info	10 mx.puqcloud.com.	3600	

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Powered by WHMCompleteSolution

Admin Area

Product Information

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Here is the data presented for the service admin in WHMCS

Client Profile

Ruslan Polovyi - #1

SummaryProfileUsersContactsProducts/ServicesDomainsBillable ItemsInvoicesQuotesTransactionsTicketsEmailsNotes (0)Log

PowerDNS 5Go+ New AddonMore

Order # 933 - View Order

Product/Service PowerDNS 5

Server powerdns-test.uuq.pl (1/200 Accounts)

Domain

Dedicated IP

Username

Password

Status Active

Module Commands CreateSuspendUnsuspendTerminate

Registration Date 25/08/2024

Quantity 1

First Payment Amount 0.00

Recurring Amount 0.00Recalculate on SaveNo



Next Due Date N/A

Termination Date

Billing Cycle Free

Payment Method PayPal

Promotion Code None

	Serial	Zone	Status	Actions
zones	1725212488	puqcloud.com	active	 
	1725212565	puq.info	active	