PowerDNS WHMCS Module

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

- Description
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- Client Area
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Description

PowerDNS module **WHMCS**

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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

Manage

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 10 entries

Search:

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

Showing 1 to 2 of 2 entries

Previous 1 Next

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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Changelog

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v2.3 Released 02-04-2025

1. Added critical security fixes

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v2.2 Released 07-02-2025

1. Add automatic creation of zones if a domain was entered for services
2. Fix conflict of technical fields with the name "content" in some cases interfere with deleting and editing TXT, SRV records

---

v2.1 Released 16-11-2024

1. Add zone templates configuration to product configuration (https://doc.puq.info/books/powerdns-whmcs-module/page/product-configuration)
2. Some bug fix

---

v2.0 Released 23-09-2024

> **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 +

1. Translations added/updated (**Arabic, Azerbaijani, Catalan, Chinese, Croatian, Czech, Danish, Dutch, English, Estonian, Farsi, French, German, Hebrew, Hungarian, Italian, Macedonian, Norwegian, Polish, Romanian, Russian, Spanish, Swedish, Turkish, Ukrainian**)

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v1.0 Released 01-09-2024

First version

Installation and configuration guide

Installation and configuration guide

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-PowerDNS/php82/PUQ_WHMCS-PowerDNS-latest.zip
```

PHP 8.1

```
wget http://download.puqcloud.com/WHMCS/servers/PUQ_WHMCS-PowerDNS/php81/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)

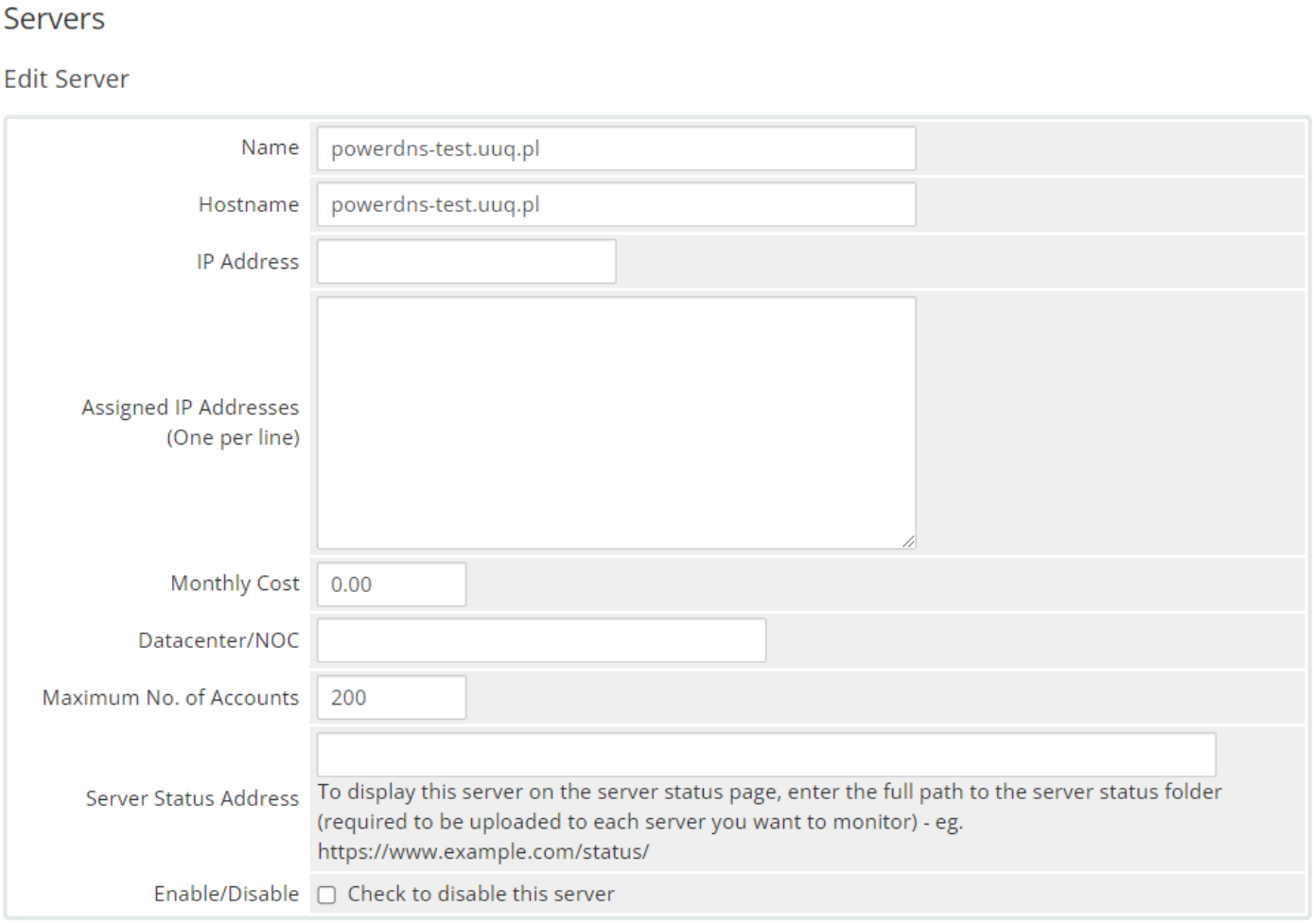
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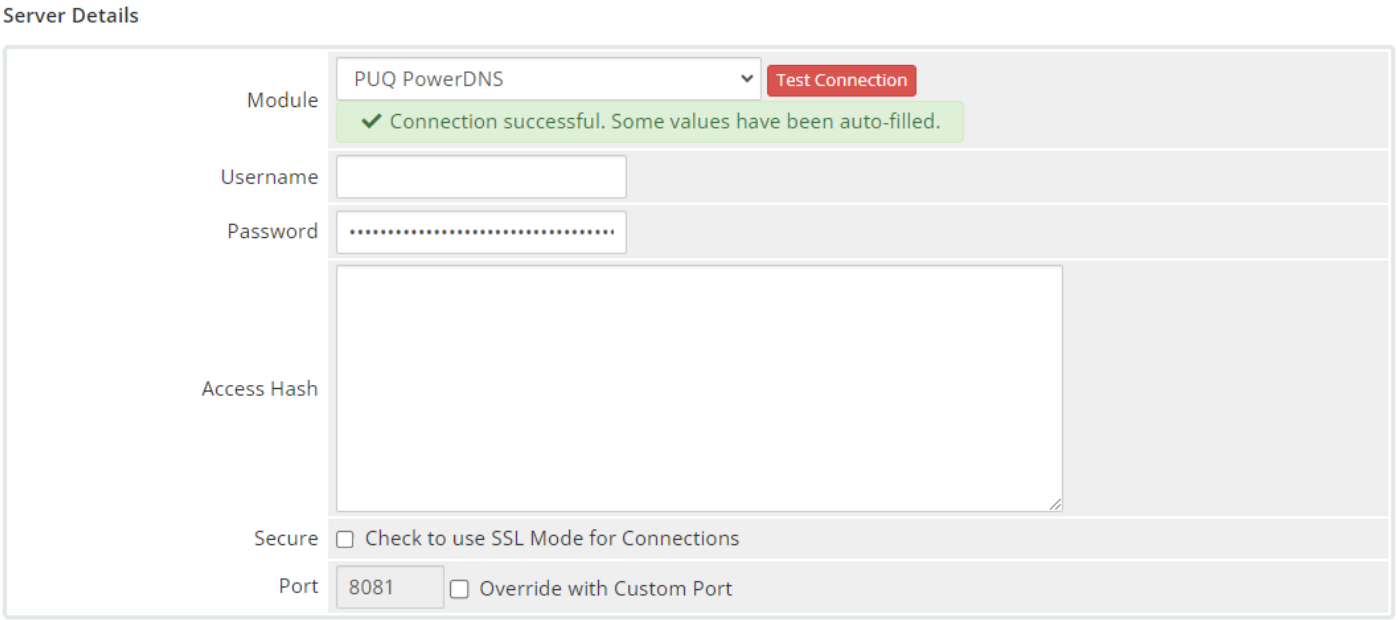
Add a new server to the system WHMCS.

```
System Settings->Servers->Add New Server
```

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



- 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



Product Configuration

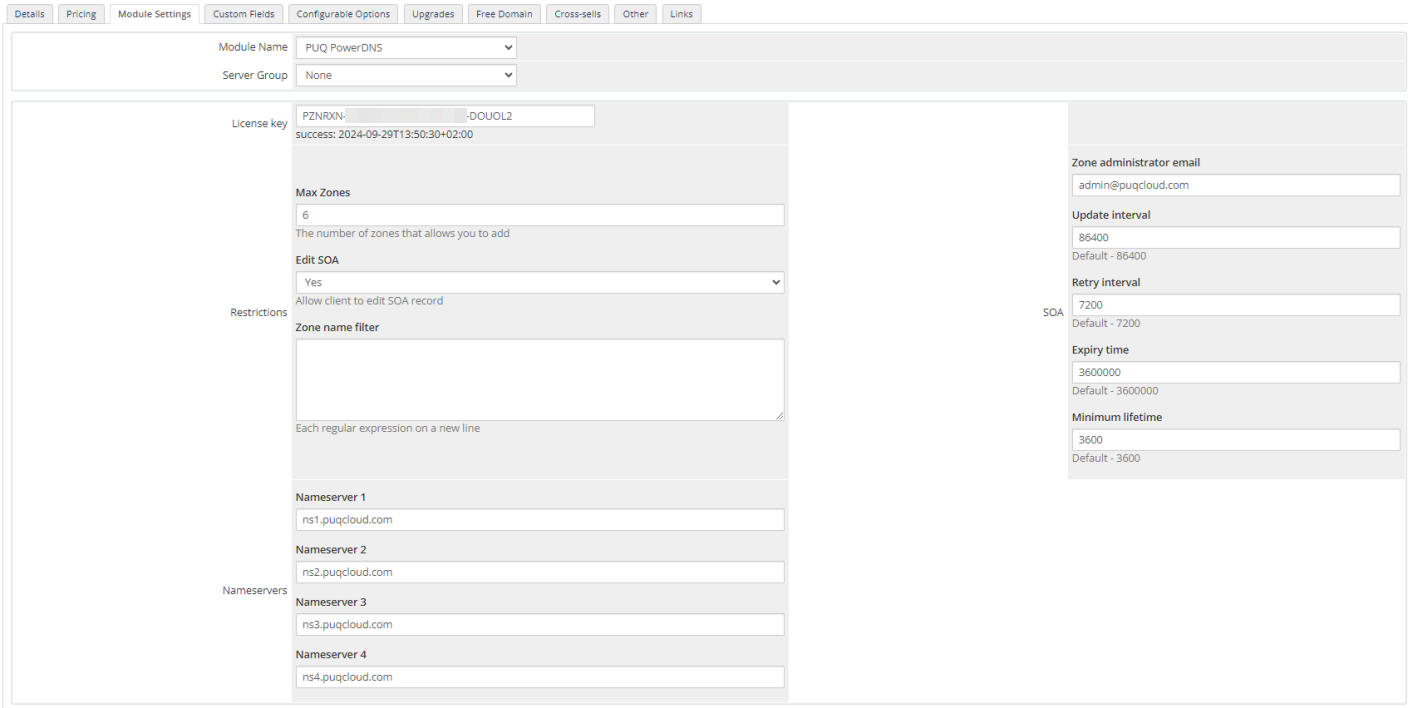
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Add new product to WHMCS

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

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



- **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.

Zone template



Here are the rules for creating DNS records. These records will be automatically generated when a zone is created. Placeholders like `{zone}` will be replaced with the actual zone name. The format for defining records is as follows:

Format:
`name type ttl content`

Explanation:

1. **name**:
   - This specifies the name of the subdomain or record.
   - For example, `ftp` will expand to `ftp.<zone.name>`.
   - Use `@` to refer to the main zone (root domain).
2. **type**:
   - The type of DNS record.
   - Examples include: `A`, `AAAA`, `MX`, `CNAME`, `TXT`, `SRV`, `CAA`, `DNSKEY`, `DS`, `NAPTR`, `TLSA`

.

3. **ttl (Time To Live)**:
   - The duration (in seconds) for which the record is cached by DNS resolvers.
   - Recommended default is `3600` seconds (1 hour).
4. **content**:
   - The value or data for the record, provided without abbreviations or placeholders.
   - For example, for an `A` record, this would be the IPv4 address.

These rules ensure consistency and accuracy when defining DNS records for your zones.

Example Zone Records Template

A Records (IPv4):

```
@           A       3600    192.168.1.1
@           A       3600    192.168.1.3
www         A       3600    192.168.1.2
www2        A       3600    192.168.1.3
```

AAAA Records (IPv6):

```
@           AAAA    3600    2001:0db8:85a3:0000:0000:8a2e:0370:7334
@           AAAA    3600    2001:0db8:85a3:0000:0000:8a2e:0370:7336
www         AAAA    3600    2001:0db8:85a3:0000:0000:8a2e:0370:7335
www2        AAAA    3600    2001:0db8:85a3:0000:0000:8a2e:0370:7335
```

CNAME Records (Aliases):

```
ftp         CNAME   3600    {zone}
ftp2        CNAME   3600    example.com
```

MX Records (Mail Exchange):

```
@           MX      3600    10 mail.{zone}
@           MX      3600    20 backupmail.{zone}
```

TXT Records (Text Data):

```
@           TXT     3600    v=spf1 ip4:192.168.1.1 -all
```

```
@           TXT     3600    SOME TXT TEXT
_dmarc      TXT     3600    v=DMARC1; p=none; rua=mailto:dmarc@{zone}
```

CAA Records (Certification Authority Authorization):

```
@           CAA     3600    0 issue      letsencrypt.org
@           CAA     3600    0 issuewild  comodoca.com
@           CAA     3600    0 iodef      mailto:admin@{zone}
```

NAPTR Record (Naming Authority Pointer):

```
_sip._udp   NAPTR   3600    100 10 S SIP+D2U * sip.{zone}.
```

SRV Records (Service Locator):

```
_sip._tcp   SRV     3600    10 5 5060 sipserver.{zone}
```

Key Notes:

- `@`: Represents the main zone (e.g., the root domain).
- **Placeholders like** `{zone}`: Will be replaced by the actual zone name during execution.
- **TTL (Time to Live)**: Use 3600 seconds by default, which is standard for DNS records.
- Adjust records based on your specific zone requirements. These templates cover common DNS record types for a functional zone configuration.

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.

Manage

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 10 entries

Search:

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

Showing 1 to 2 of 2 entries

Previous 1 Next

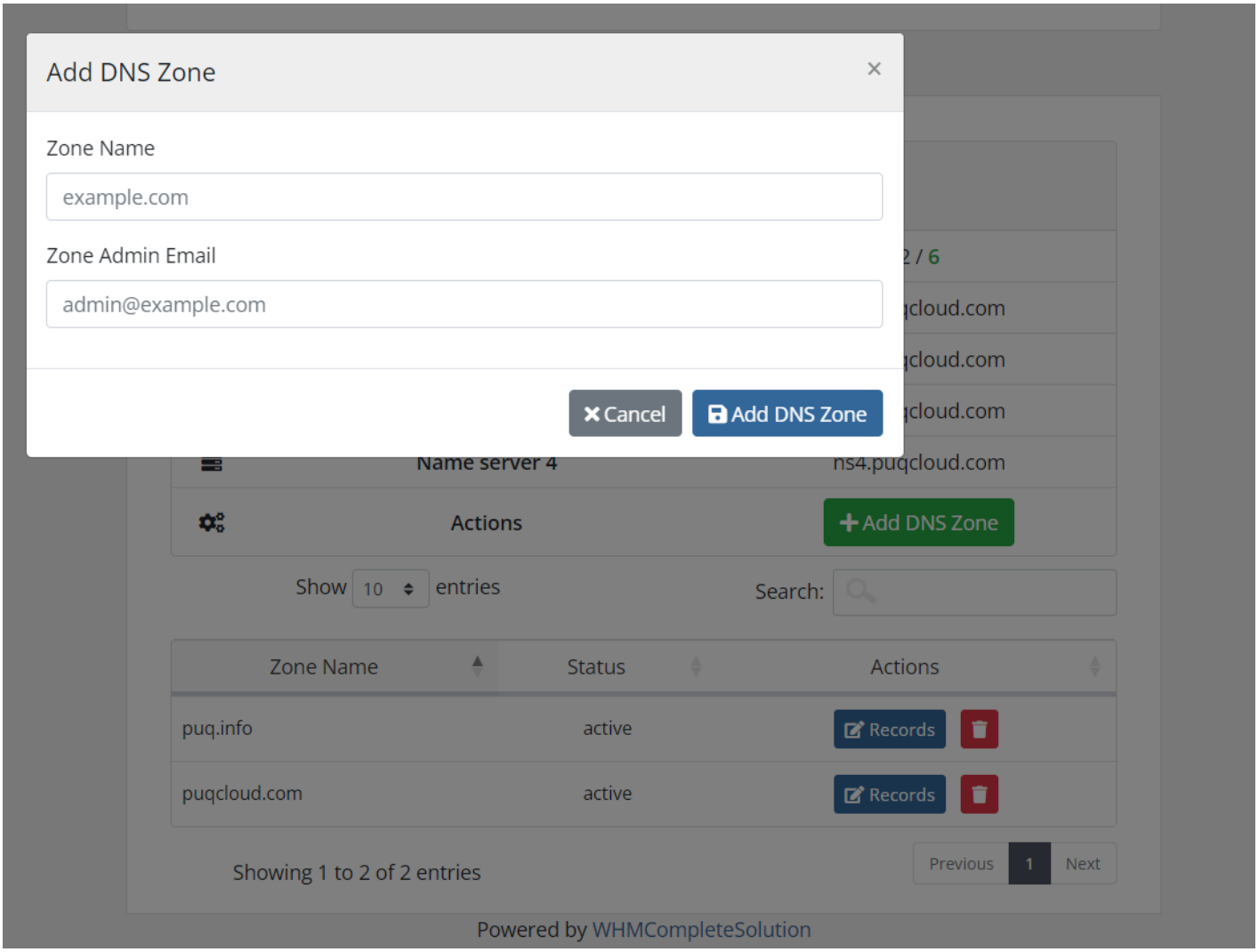
Client Area

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.



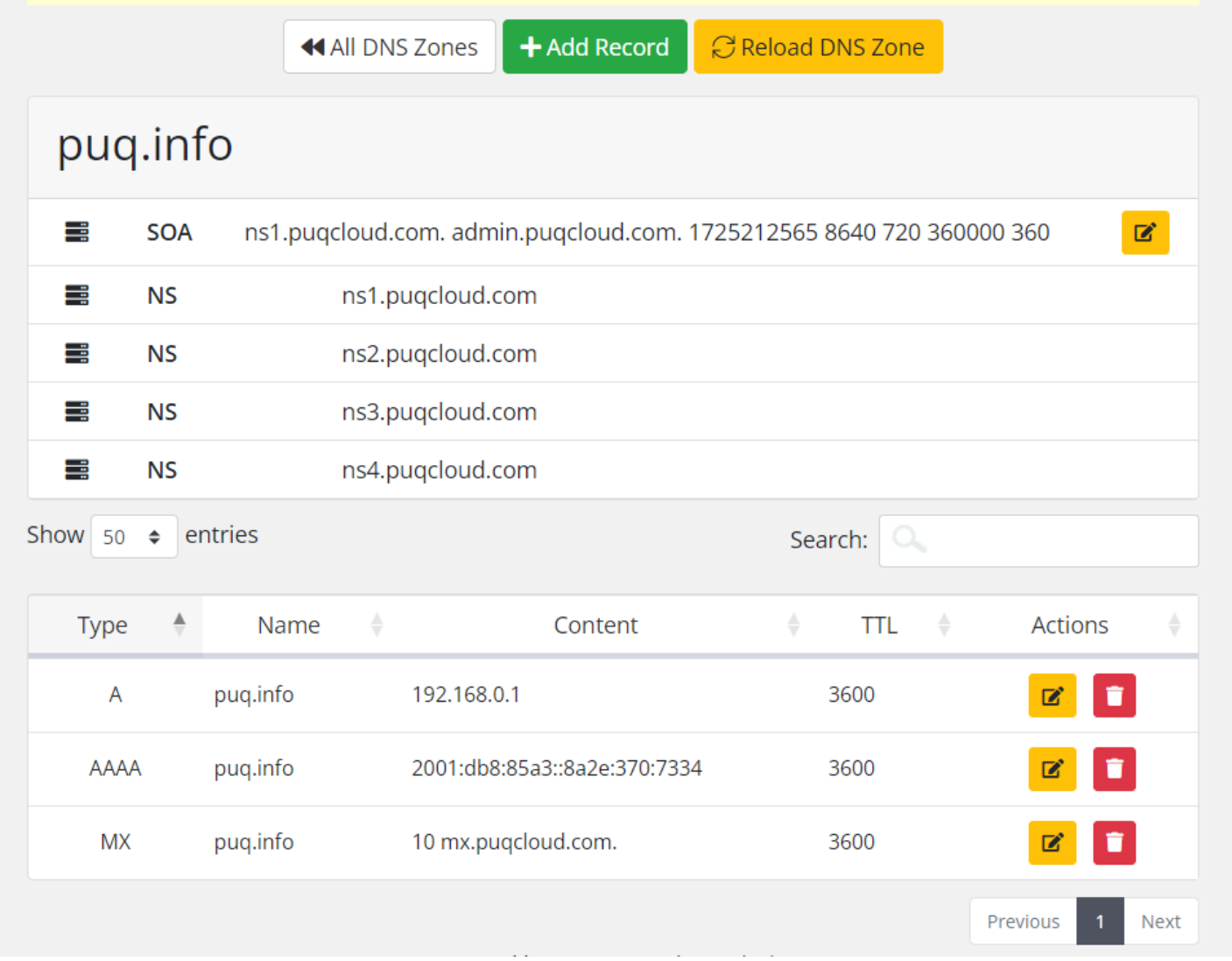
Client Area

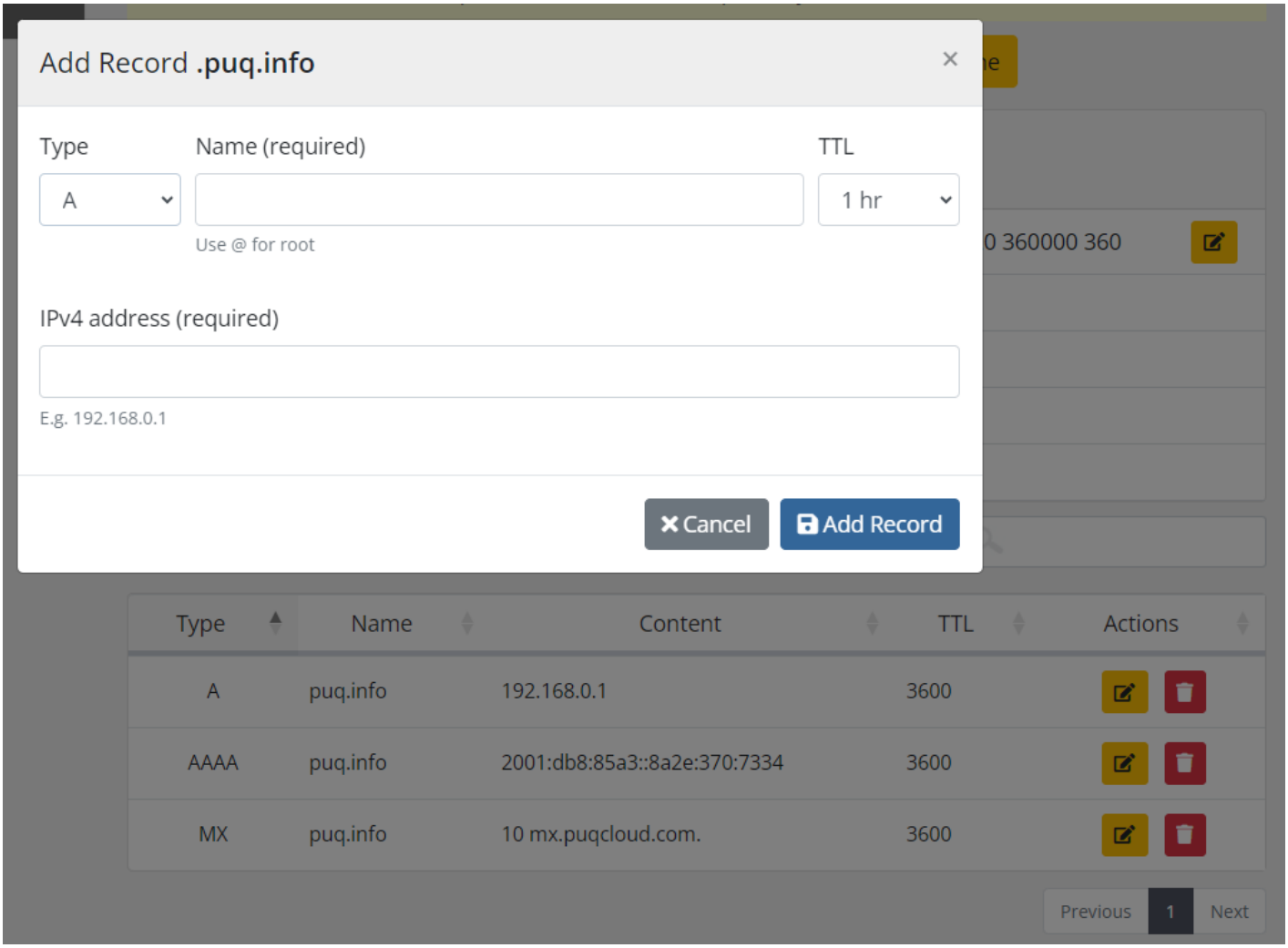
Managing DNS Records

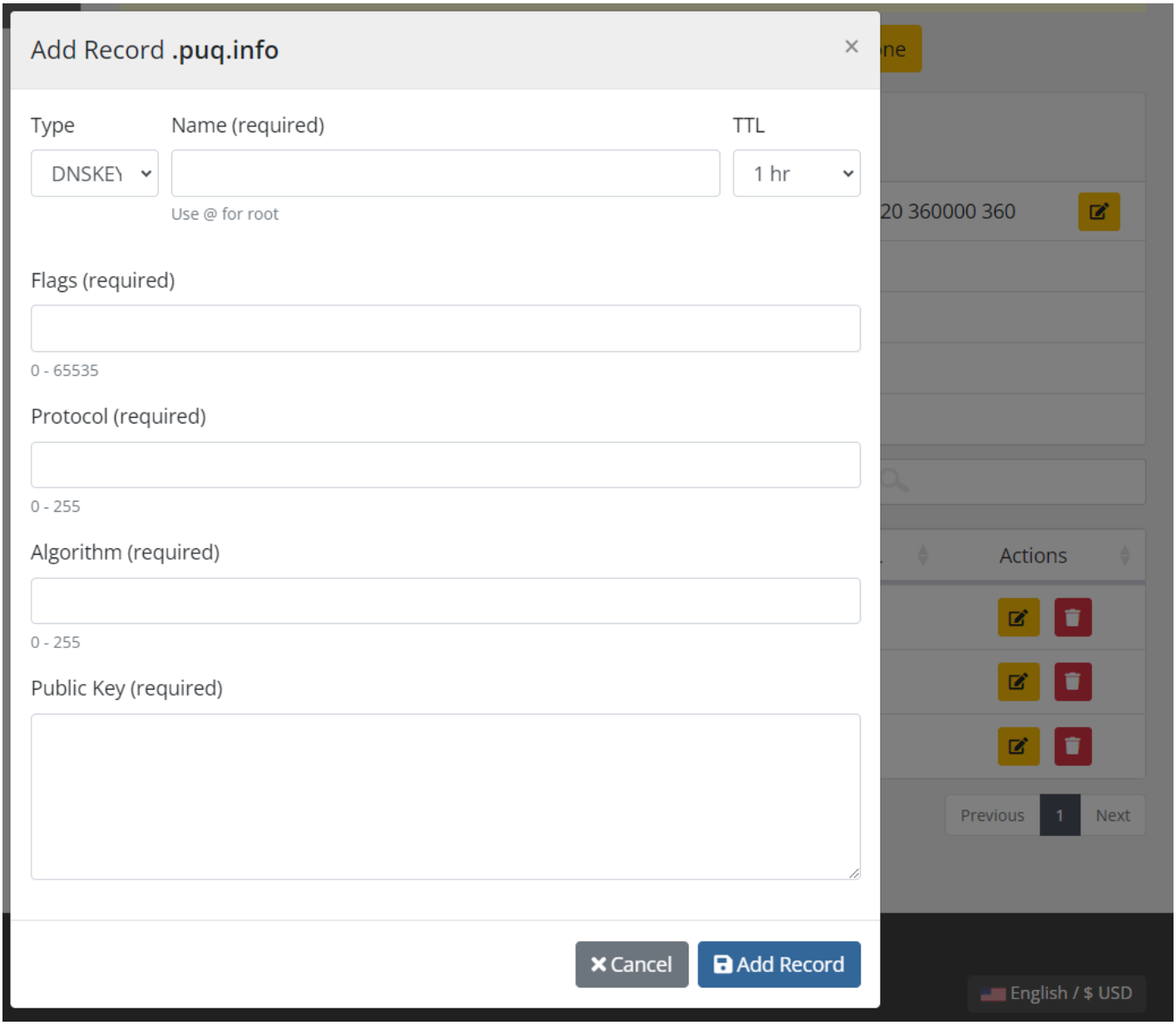
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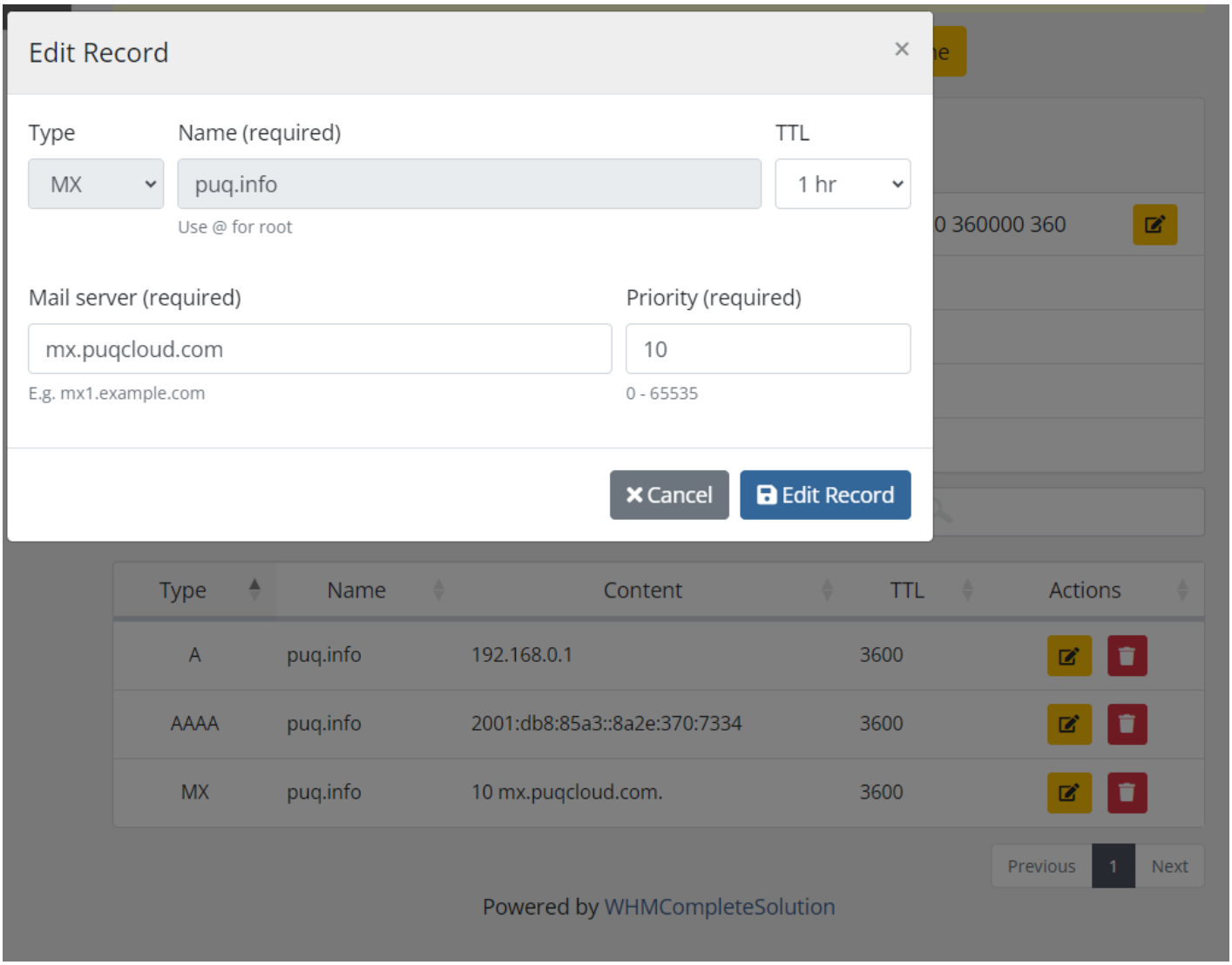
To manage records, you need to click the "**Records**" button on the selected zone, and on the page that opens, you will be able to manage the records.




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
0 360000 360
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



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
0 360000 360
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
Powered by WHMCompleteSolution

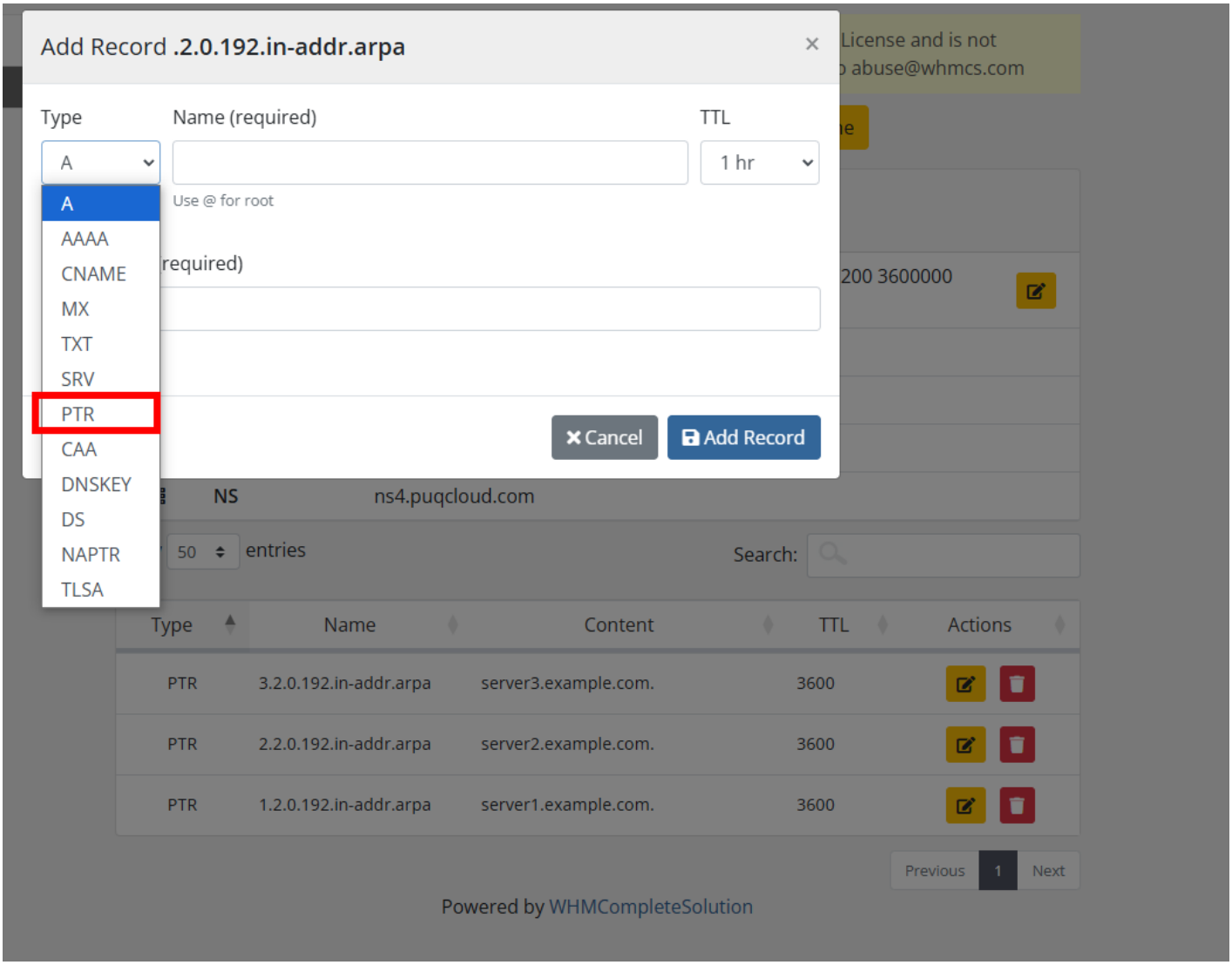
Client Area

PTR IPv4 and IPv6

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Module support PTR IPv4 and IPv6



All DNS Zones | + Add Record | Reload DNS Zone

2.0.192.in-addr.arpa

SOA	ns1.puqcloud.com. admin.puqcloud.com. 1732013636 86400 7200 3600000 3600	
NS	ns1.puqcloud.com	
NS	ns2.puqcloud.com	
NS	ns3.puqcloud.com	
NS	ns4.puqcloud.com	

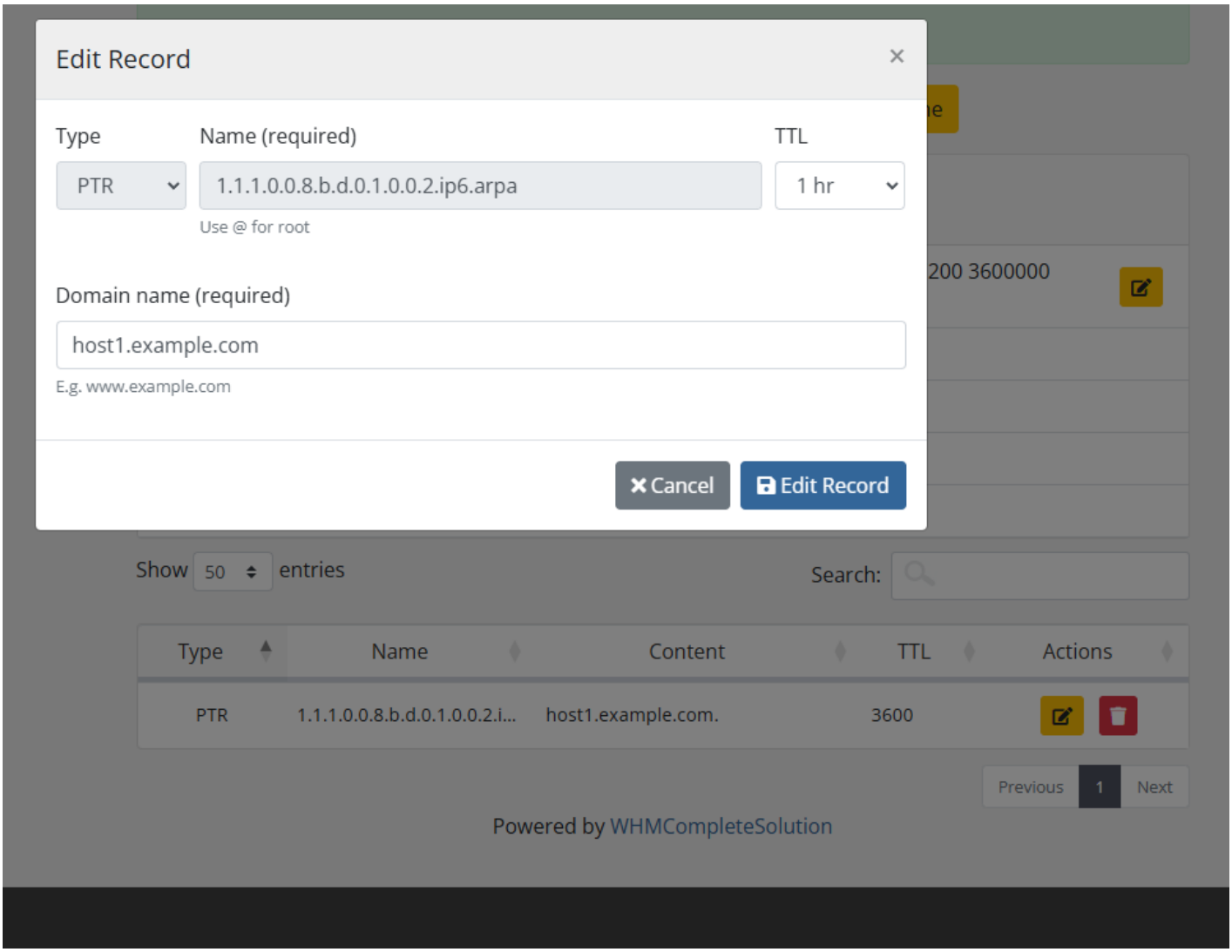
Show 50 entries

Search:

Type	Name	Content	TTL	Actions
PTR	3.2.0.192.in-addr.arpa	server3.example.com.	3600	
PTR	2.2.0.192.in-addr.arpa	server2.example.com.	3600	
PTR	1.2.0.192.in-addr.arpa	server1.example.com.	3600	

Previous 1 Next

Powered by WHMCompleteSolution


Edit Record
Type
Name (required)
TTL
PTR
1.1.1.0.0.8.b.d.0.1.0.0.2.ip6.arpa
1 hr
Use @ for root
Domain name (required)
host1.example.com
E.g. www.example.com
Cancel
Edit Record
200 3600000
Show 50 entries
Search:
Type
Name
Content
TTL
Actions
PTR
1.1.1.0.0.8.b.d.0.1.0.0.2.i...
host1.example.com.
3600
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Admin Area

Admin Area

Product Information

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Here is the data presented for the service admin in WHMCS

