CLOUD CALLING™

DNS Manager

4PSA DNS Manager 4.0.0

Administrator's User Guide

For more information about 4PSA DNS Manager, check:
http://www.4psa.com

Administrator's User Guide

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For suggestions regarding this manual contact:

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Preface

Who Should Read This Guide

This User Guide must be read by the 4PSA DNS Manager server administrator. The clients will also find useful certain sections of this Guide.

Chapter 1

About 4PSA DNS Manager 4.0.0

4PSA DNS Manager 4.0.0 is a server-level multitenant software automation solution that allows users with a minimum IT experience to manage DNS Zones. With 4PSA DNS Manager, you can create and administer DNS Zones and DNS Records, backup DNS Zones, manage DNS templates, gather DNS information from remote servers, etc. 4PSA DNS Manager can load DNS zone names from remote servers, regardless of the control panel or the operating system that runs on these servers.

Thanks to its advanced features, 4PSA DNS Manager is the ideal tool for automatic DNS management.

Where to Use 4PSA DNS Manager

Unlike other DNS management applications, 4PSA DNS Manager offers superior automation features and a friendly client level interface. Clients who use hosting services will find 4PSA DNS Manager to be a very easy to use solution. Most DNS applications are frustrating; it is a known fact that even some administrators do not fully understand all DNS functions. With 4PSA DNS Manager, these problems have become history.

Here are several utilization scenarios:

- Centralize DNS information from multiple servers.

  You will be able to offer two name servers no matter how many hosting servers you have and what platform or control panel they use. The centralization process is automatic and you do not have to add DNS Zone information to the 4PSA DNS Manager server.

  The interface scripts for most popular hosting panels like Plesk, Cpanel, Ensim, InterWorx Control Panel and Helm are included.

- Offer DNS redundancy.

  4PSA DNS Manager can act as a secondary DNS server, gathering zone names from all the participant servers and automatically updating DNS Zone information.

- Offer DNS hosting.

  Hosting companies can use your services for DNS redundancy. Because no work is actually required to update the list of DNS Zones, DNS hosting becomes a very simple task. Clients will love the nice interface and the Zone validation.

4PSA DNS Manager 4.0.0 Features

Some of the most important features offered by 4PSA DNS Manager 4.0.0 are:

- Administrator and client management levels.
- System designed for automatic DNS hosting.
- Client permissions and limits.
- Client actions auditing that logs information about DNS zone changes.
- Command line creation utilities.
- Supports both RFC1912 and timestamp SOA Serial number formats.
- System API third party integration.
- DNS Zone management:
  - Advanced Reverse DNS Zones management.
  - Create DNS Zones in interface (single Zones or from file).

  - Master/Slave Zones supported.
  - A, AAAA, CNAME, NAPTR, NS, MX, PTR, SRV, TXT Records supported.
  - Advanced Record management with owned and wide server level and client level DNS templates support.
  - Update DNS Zone information from remote servers (can retrieve the list of DNS Zones added in any control panel interface).
  - Per server or per client Start of Authority (SOA) Records: refresh time, retry time, expire time, minimum TTL, default TTL.
  - Automatic query of reverse DNS.
  - E 164 Zones support.
  - IPV6 reverse Zones support.
- Remote update locations management:
  - Remote Zone types/Update interval.
  - Remote update statistics
  - Advanced parallelism and QoS settings for maximum performance.
- Backup DNS Zones in CSV format:
  - Server level backup (backups for all DNS Zones on the server).
  - Client level backup (backups for all DNS Zones owned by a client).
  - Backups for separate DNS Zones.
- Runs on Red Hat servers. It can be installed on servers running Plesk (the Plesk server will be the centralized DNS server).
- Automatic import scripts for Plesk, Ensim, InterWorx Control Panel, Helm and Cobalt are included in the package.
- Create and manage client DNS templates.
- DNS Server monitoring with administrator alerting.
- Email notifications triggered by the actions of clients, administrators or other events.
- Custom buttons support that allow users to link and interact with other systems.
- Users sessions management with advanced options.
- Foreign and new .net domain names support.
- Skin-able interface.
- Language packs capabilities.

Chapter 2

Navigation

4PSA DNS Manager provides a multitenant software automation solution, designed to deliver advanced DNS hosting to service providers and businesses. The product's clear and intuitive web based interface is meant to ease the users' experience, reducing the time required to navigate between the wide range of available options.

The Navigation Panel

4PSA DNS Manager groups all the important features into several categories that can be accessed at any time from the navigation panel, available in the left side of the screen:

- General - This section allows you to access the management options for the clients and DNS Zones, as well as the global server settings and server preferences.

  - Clients - Clicking this link will open the Clients Management page that displays a list with all the clients currently set up in the system, while also providing the tools required to add new ones.

  - DNS Zones - Clicking this link will open the DNS Zones management page that displays a list with all the Zones currently set up in the system, while also providing the tools required to backup them and to add new ones, if required.

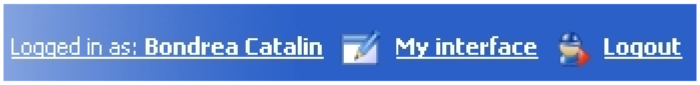
  - Settings - The system templates, the general options, the license, the interface preferences or the database settings are some of the options that can be configured from the Server Settings page.

- Options - To terminate your session and disconnect, click the Logout icon.

  In case you are impersonated as one of your client accounts, to return to your administrator context, click the Return to my account icon.

The Top Frame Controls

When navigating through the web interface, the top frame controls are always available and can be used to log out and to change your interface preferences.



The top frame controls

The three controls are:

- Logged in as: {your_contact_name} - Click this link to edit your contact details or if you want to change your password.

- My interface - If you want to change your interface preferences, click this link and use the controls available in the My Interface Settings page.

- Logout - Click this link to log out from your 4PSA DNS Manager account. The current session will be closed and you will be required to provide your username and password to log in again.

The Main Frame Controls

On the top right corner of each page displayed in the main frame you can find another set of controls, used primarily for navigation and for opening the help window.

By default, the only control ever present is the Help icon. Anytime, anywhere, when there is something you need more information about, click this link and read the help file.

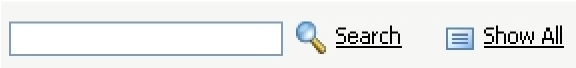
Note

Your browser must allow pop-up windows in order for the help file to be displayed on screen.

Going down in the application structure, you will be able to move up one level and return to the previous page by using the Up level icon.

Using the Search Functions

All the tables and lists available in 4PSA DNS Manager allow you to search for the desired items. The search functions can be simple or advanced. This section is intended to describe the basic search controls and to provide you an overview of how you can customize the tables layout.



Note

To hide/reveal the search options, click the Toggle search link.

These simple controls can be used for searching a specific word:

- Search – Use the text box to specify the words you are looking for. Click the Search link to display only the records that match your search criteria. The table will be updated accordingly.
- Show all – Click the Show all link to display the entire list.

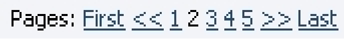
The search criteria is retained until a new search is performed and it is not lost when navigating to other pages.

The Table Controls

Each table in 4PSA DNS Manager provides several configuration tools designed to offer you a better overview of the available records. Depending on your preferences, you can:

1. Customize the total number of records displayed in each page by clicking the 10, 25 and 100 links available on the right side of the table. The total number of records as well as other details (e.g.: call cost) are shown on the left side.

   In the tables with more than one page of records, you can navigate between pages using the following controls:

   Pages: First << 1 2 3 4 5 >> Last

   Note

   Have in mind though that a larger number of records per page may cause your system to work slower.

2. Customize the table layout by choosing the columns to be displayed. To do so, click the Show columns icon and select (or deselect) the desired columns. This is especially useful for the tables with many columns where you have to scroll in order to see all the information.
3. Sort the table by a certain criterion. To do so, simply click a table header and the entire list will be sorted accordingly. The table header will be highlighted and an arrow will indicate how the list was sorted: ascendingly or descendingly. The sort direction can be changed by another click on the corresponding header.

How to Remove Table Records

4PSA DNS Manager offers you a straightforward method for removing the unnecessary records from a table. This method implies the following steps:

1. Choose the records you want to delete by selecting their corresponding check boxes available at the end of the table.
2. Click the Remove selected link. A confirmation pop-up window will be displayed.

> **Note**
>
> In some situations, another page will be opened and you will be required to review and confirm the removal.

3. Click Ok if you want to remove the record(s). If you do not want to proceed, click Cancel.

Chapter 3

Logging In

You can log in to the 4PSA DNS Manager interface using any of the available web browsers. Simply type in the address where the application was installed:

```
https://<installation_url>:8550/
```

> **Note**
>
> A default system administrator account is set up during 4PSA DNS Manager installation. The default administrator username is `admin` and the password must be chosen during installation.

Chapter 4

General Account Management

This chapter contains information about how to set up and modify your own contact details and on how to manage multiple accounts with administrator privileges. These features can be accessed from the Settings page as follows:

- From the Options section:
  - Administrator accounts

Manage the Administrator Accounts

4PSA DNS Manager allows the existence of multiple accounts with administrative rights.

The Administrator Accounts page allows you to:

- View all the administrator accounts currently available in the system.

- Define a new account by clicking the Add administrator account icon available in the Tools section.
- Edit the contact details of the existing administrators.
- Remove unused accounts.

4PSA DNS Manager displays the following information about the available accounts:

- Administrator name – The name of the person owning the account with administrative rights. If you want to modify the specified contact details, then click the available link .
- Company name – The name of the administrator's company.
- Created – The date when the administrator account was added to the system.

> Note
>
> The administrator account currently in use cannot be deleted.

Add a New Administrator Account

To create a new account with administrative rights, you have to fill in the following information:

- Company name
- Contact name
- Login – The username the administrator must provide in order to log in to the 4PSA DNS Manager interface.

  > Note
  >
  > The **Login** name must be unique in the system.

- Password – The password the administrator must provide in order to log in to the 4PSA DNS Manager interface.

  > Note
  >
  > The **Password** must be between 6 and 14 characters long and can contain the following character types:

- Any of the **26 letters of the Latin alphabet [a-z]**, also included in the American Standard Code for Information Interchange (ASCII). The scripts of non-Latin languages (such as Arabic, Cyrillic, Chinese, Greek, Indian, Korean or Japanese) are illegible.
- Any combination of the **10 decimals [0-9]**, also included in the ASCII.
- Special characters like: **!?@#$%\/*()_+={}`~[];:,.|^&**.

For security reasons, the **Password** cannot be the same as the **Login** name.

- Confirm password
- Phone
- Fax
- E-mail – The administrator's email address, which is used as the default bounce address for all his domains.
- Address
- City
- Postal/ZIP code
- State/Province - Use the drop-down list to select the administrator's state/province, if his home Country is United States.
- Country
- Language - The language the administrator's interface will be displayed in.
- Administrator notes - Use the text box to fill in any other additional information about the administrator account you think it is necessary.

Click Ok to add the new administrator account. Click Cancel to return to the previous page without saving anything.

Edit an Administrator Account

The administrator can modify the contact information of any of existing administrator accounts. For more details about the existing options, see the previous section.

Removal Confirmation

To finalize the removal, you have to review the list, select the Confirm removal check box and click Ok. If you do not want to delete these records, click Cancel to return to the previous page.

Chapter 5

Manage the Application

This chapter describes how can the 4PSA DNS Manager interface be customized to meet your user's layout, language, login or quick access requirements. Also, you can find useful information about how to manage your license. All these features can be accessed from the Settings page as follows:

- From the DNS Manager section:
  - Interface settings
  - Login preferences
  - Languages
  - Skins

    - License
- From the Options section:
    - Custom buttons

Manage Interface Preferences

4PSA DNS Manager allows the administrator to customize the application's default look and settings in the Interface Preferences page. Here, you can define the interface language, the application's skin and the number of rows in the records list. The administrator can also set some default values available for other users of the application. These default settings can be changed afterwards by the user from the same Interface Preferences page.

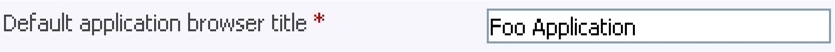
You can customize the following preferences:

- Interface Preferences
    - Default system-wide rows in table – Use this text box to set the number of list items per page that will be displayed by default in the user's context. The accepted values range from 1 to 9,999. The default value is 50.
    - Default system-wide interface skin – Use this drop-down list to choose one of the available interface skins that will be displayed by default in all the user interfaces.
    - Default system-wide language – Use this drop-down list to set the language that will be used by default in all the user interfaces. The list contains the language packs installed in the system.

> **Caution**
>
> 4PSA DNS Manager does not allow you to use language packs that were created for earlier versions of the interface. The following warning message is displayed:
>
> Outdated versions of the following language packs are installed: `{Language1} ({version}), {Language2} ({version})`
>
> 4PSA DNS Manager `{current version}` is installed. Until you install the correct versions of the above language packs, the interface will be displayed in English, regardless of the user language preference.

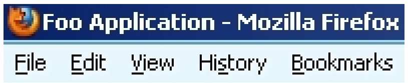
> The client account users will also see an English interface, if the version of their interface language is lower than the current version of the product. You can fix this problem by installing a language pack corresponding to the current version of the 4PSA DNS Manager.

- Default browser application title – The utilization of this field depends on the license type:
  - For normal licenses, the name filled in here will be displayed in the browser window. For example, if you set this value to

    Default application browser title * Foo Application

    and your browser is Mozilla Firefox, then it will be displayed like this:

    Foo Application - Mozilla Firefox

  - For whitebox licenses, the value filled in here will replace all the 4PSA DNS Manager references all over the interface, including the browser title.
- Show build number in application title – Select this check box if you want to display the 4PSA DNS Manager build number in the browser's title bar.
- Rows in table – Use this text box to set the number of rows that will be displayed in your interface.
- Interface skin – Use this drop down list to choose the skin used by your interface.
- System language – Use this drop down list to choose the language used by your interface.
- Program logo – Choose the logo that will be displayed on the top left side of the user's interface. You can use the available text box or the Browse... button to locate the file on your computer.

> Caution
>
> The image you want to use should be in a .gif, .jpeg or .png format and its height must not exceed 50 pixels.

- Logo URL – The logo file has a hyper link attached to it. Use this text box to fill in the destination of this hyper link. It can be your business website for example.

- Remove manufacturer links - Enable this option to hide all skin references to 4PSA DNS Manager manufacturer in the top and left areas.

> Note
>
> This option is available only for special 4PSA DNS Manager licenses.

Click Ok to save your changes. Click Cancel to go back to the previous page without updating the preferences. The Default button overwrites your own account settings with the default ones.

If you want to modify only your interface preferences, simply click the My interface icon available in the Tools area.

My Interface Settings

4PSA DNS Manager allows you to customize the application's default look from the Interface Settings page. There you can define the interface language and skin, the number of rows displayed in the tables for the logged in user (admin in your case) and several other options.

The following preferences can be customized according to your needs:

- Interface Preferences - This section displays the general customizable interface preferences:
  - Rows in table – Use this text box to set the number of rows that will be displayed in the interface for all the tables and lists. The accepted values range from 1 to 9,999. The default value is 50.
  - Interface skin – Use this drop-down list to choose the skin for your application interface.
  - System language – Use this drop-down list to select the language used by your application interface. All the messages, alerts, tool tips or context help will be displayed in this language.

> Caution
>
> 4PSA DNS Manager does not allow you to use language packs that were created for earlier versions of the interface. The following warning message is displayed:
>
> `Impossible to switch to preferred interface language` *`{outdated language}`*`, because an outdated language pack`

```
is installed on the system. Please contact your provider
to correct this situation.
```

Only the system administrator can fix this problem.

- Program logo – Choose the logo that will be displayed on the top left side of the user's interface. You can use the available text box or the Browse... button to locate the file on your computer.

Caution

The image you want to use should be in a `.gif`, `.jpeg` or `.png` format and its height must not exceed 50 pixels.

- Logo URL – The logo file has a hyper link attached to it. Use this text box to fill in the destination of this hyper link. It can be your business website for example.

Click Ok to save your changes. Click Cancel to go back to the previous page without updating the preferences. The Default button overwrites your own account settings with the default ones.

Manage the Login Preferences

The login module was designed to provide flexibility and protection against the common forms of break-in techniques.

You can configure the following settings that will be applied to all the system users:

- Login Preferences – This section includes login related settings that allow you to configure the login session policy.

Note

In order to prevent `Denial Of Service` attacks, after an invalid login attempt, 4PSA DNS Manager will block your IP for 5 seconds.

- Login expiration time – Use this text box to set after how many seconds a logged in user is automatically logged out due to the lack of activity. After this interval expires, in order to be able to use the interface, the user will have to re-log in. The accepted values range from 0 to 86,400 seconds. The default value is 7,200 seconds.

- Number of invalid attempts – Use this text box to limit the number of consecutive failed login attempts. The default value is 3 attempts.

  > Note
  >
  > If a user enters a wrong login/password combination for a number higher than the maximum **Number of invalid attempts**, then he will be restricted from accessing the interface for the period of time defined for the **Interval to block access after** option.

- Attempts interval – When a user fails to log in (due to incorrect username and/or password), the system starts counting the failed attempts. However, after a failed login attempt, if the user waits {attempts interval} seconds before trying again, the failed attempts counter will be reset. This allows the user to try to log in without the risk of exceeding the Number of invalid attempts. The default value is 600 seconds.
- Interval to block access after – Use this text box to set the time interval an user will be unable to login after the Number of invalid attempts has been exceeded. The default value is 600 seconds.
- Expiration time for new password – When an user forgets his password, 4PSA DNS Manager can assign a random password and send it to him. Use this text box to define for how many seconds the password will be valid after generation. The default value is 3,600 seconds.

- Password Strength – This section includes password related settings that allow the administrator to configure the login policy.
  - Password strength – Select the login policy suitable for your environment:
    - Very High - The password cannot contain the login name, must contain different case characters, cannot be a dictionary word and must contain at least one non alphanumeric character.
    - High - The password cannot contain the login name, must contain different case characters and cannot be a dictionary word.
    - Medium - The password cannot contain the login name and cannot be a dictionary word.
    - Low - The password cannot contain the login name.

Manage the Interface Languages

4PSA DNS Manager comes installed with a default language pack for English. You may add other languages, depending on your requirements, as it is advisable to make the menus, the context help and the entire interface available in the user's native language.

The Language Management page allow you to:

- View all the language packs currently available in the system.
- Upload a new language pack by clicking the Add language icon available in the Tools section.
- Enable/disable an existing language pack.
- Remove unused language packs.

4PSA DNS Manager displays the following information about the available language packs:

- S – The language pack's status:
  - ✓ Enabled
  - ✗ Disabled

  Click this icon to enable/disable a certain language pack.

> ⚠ Caution
>
> The language packs currently used in the interface cannot be disabled!

- Language pack – The language's 2-letter code (for example en for English).
- Language – The language's name in English.
- Version – The language pack version.

> ⚠ Caution
>
> You can add language packs corresponding to earlier product versions, but you will not be able to use them in the interface!
>
> For more details on this topic, see this note .

- Used – The number of accounts currently using this language for their interfaces.

> Note
>
> The default language file is displayed using **bold** characters.

> Note
>
> The **English** language pack cannot be removed and therefore 4PSA DNS Manager automatically disables its corresponding check box.
>
> Also, you cannot remove the language packs currently used by the customer accounts for their interfaces. The corresponding check boxes are also disabled.

Add a New Language Pack

Follow the next steps to add a new language pack:

1. Set the Path to the language pack file location. You can use this text box to fill in the language pack file's storage location or you can click the Browse... button to manually locate it.

   > Note
   >
   > The accepted format for the language pack file is `.tar.gz`.

2. Click Ok to add the new language pack to the system. Click Cancel to go back to the previous page without adding it.

Remove a Language Pack

To finalize the removal, you have to review the list, select the Confirm removal check box and click Ok. If you do not want to delete these records, click Cancel to return to the previous page.

Manage the Interface Skins

The 4PSA DNS Manager interface can be personalized using one of the available predefined skins or by adding new ones, designed to meet custom preferences.

The Skins Repository page allows you to:

- View all the skins currently available in the system.
- Upload a new skin by clicking the Add skin icon available in the Tools section.
- Enable/disable an existing skin.
- Remove unused skins.

4PSA DNS Manager displays following information about the available skins:

- Name – The name that identifies the skin.
- Description – A short description of the skin.
- Author – The skin's designer.
- Used – The number of reseller, client and extension accounts currently using this skin in their interface.

> Note
>
> The default skin is displayed using **bold** characters.

> Note
>
> You cannot remove skins that are currently selected by system users for their interfaces. Their corresponding check boxes are disabled.

Add a New Skin

Follow the next steps to add a new interface skin to the system:

1. Set the Path to the skin package file. You can use this text box to fill in the skin package file's storage location or you can use the Browse... button to manually locate it.

   > Note
   >
   > The accepted format for the skin package file is `.tar.gz`.

2. Click Ok to add the new skin to the system. Click Cancel to go back to the previous page without adding it.

Removal Confirmation

To finalize the removal, you have to review the list, select the Confirm removal check box and click Ok. If you do not want to delete these records, click Cancel to return to the previous page.

License Management

In order to use 4PSA DNS Manager, you need to have a license. The license key is generated based on the IP address of the server were the application is installed.

The License Management page allows you to:

- View the current license status and the utilization permissions.
- Update your license.

The information is grouped into several sections:

- License Key Status – In this section you can view more details about the status of the uploaded license key.
  - Your server IP – This is your server's main IP address. The license key must be issued for this IP, otherwise it will not work.
  - License key status - The status of the currently loaded license key.
- Upload License Key – Use this section to upload a new license key from your computer.
  - License key file - Use this form to upload the license key to the server. Click the Browse... button to locate the license key file on your computer. To finalize the activation, click Upload.

> Note
>
> If you can navigate through the 4PSA DNS Manager, then your license is valid and you do not have to upload a new one.

- License by Activation Code - Use this section to activate the application using a code.
  - Activation code - Use this text box to fill in the activation code that will be used to extend the license (the activation codes can be purchased from the 4PSA store).

- Get License Key from the Licensing Server – Use this form to query the licensing server. This function can only be used when there is a license key loaded on the server. The first time you install the product is required to upload the license key.
  - Last licensing server answer - This is the answer received on the last query from the license server (e.g.: License successfully provisioned 306591.0009 Apr 01, 2011 12:15:15). Click the Get license button to obtain a new answer from the license server.
- License Key Properties – This section contains a report with details about the current license.
  - License key number – The current loaded license key number.
  - License key ownership – The license key type. The possible values are:
    - Evaluation
    - Owned
    - Leased

> Note
>
> The Owned and Leased licenses are automatically renew before the **License key expires on** date.

  - License key issued for IP – The IP address for which the license key was issued.

> Note
>
> This line is not displayed for the **Evaluation** license type.

  - Maximum number of zones - The maximum number of allowed zones.
  - License key expires on – The license key's expiration date. After this date, the purchased product is no longer functional.
  - License key renewed on – The date when the license key was last renewed.

Manage the Custom Buttons

4PSA DNS Manager allows you to customize the functionality of the control panel by adding custom buttons linked to specific URLs.

The Custom Buttons management page allows you to:

- View the list of custom buttons defined at system level.
- Define a new button by clicking the Add custom button icon available in the Tools section.
- Modify the existing custom buttons' settings.
- Remove unused buttons from the system.

4PSA DNS Manager displays the following information about the available custom buttons:

- S – The button's status:
  - ✓ Enabled
  - ✗ Disabled
- A – The button's availability:
  - Available only for the current user.
  - Available for the first inheritance level.
- L – The button's location:
  - shows that the button is displayed in the left panel.
  - shows that the button is placed in the right panel.
- I – The icon associated with the button.

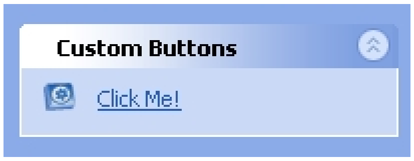
> **Note**
>
> If the default icon is associated with the button, then 4PSA DNS Manager displays

- Label – The button's tag displayed in the interface on which the users can click in order to access the specified page. To modify the custom button's preferences, click the available label .
- URL – The URL linked with the button. On click, the specified page opens.
- Priority – The value that defines the order in which the buttons are displayed in the interface. A lower priority implies a higher position. For example, if there are two buttons, one with priority 50 and the other one with 35, then the second button will be displayed first.

Add a New Custom Button

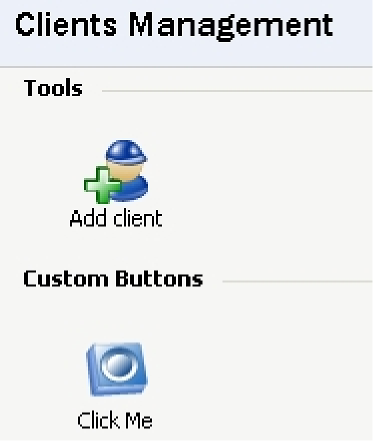
The Add Custom Button page allows you to fill in the information required to define the button. The customizable parameters are grouped into the following fieldset:

- Settings
  - Label – Use the available text box to specify the button's tag that will be displayed in the interface. The user will be able to click this label in order to access the specified URL .
  - Title – Here you can fill in the tool tip that will be displayed when the mouse is positioned on the button's icon.
  - Location – Use the radio buttons to choose where the new custom button will be displayed:
    - Navigation panel - The button will be displayed in the Custom Buttons section available in the left navigation panel.



> Note
>
> In the pictured example, a non-default image is used for the custom button.

    - User's context - The button will be displayed in the user's management page, in the Tools section.



> **Note**
>
> In the pictured example, the default image is used for the custom button.

- Default image for all skins – If this check box is selected, then 4PSA DNS Manager will display the new custom button will be displayed in all the available skins using the default button icon. If you wish to load custom icons, then deselect this check box. 4PSA DNS Manager will display additional controls:
  - Use the Browse... button to locate a graphic file on your computer.
  - Select the check box corresponding to the skin where you want the icon to be used.
  - Select the All skins check box if you want to use the same icon for all the 4PSA DNS Manager skins installed on the server.
  - You can use the − + buttons to add icons for different skins at the same time.

> **Note**
>
> You can upload image files up to maximum 10 KB per file. Exceeding this limit will trigger an error message.

- Client ID – When this option is selected, the ID of the currently selected client is appended to the URL linked with the button.

  E.g.: `http://www.4psa.com/interface.php?client=<cl_id>`

- URL – Use this text box to fill in the URL that will opened when the button label is clicked from the interface.
- Context help – Here you can fill in the button description that will appear in the context help area on mouse-over.
- Inheritance level – Use this drop-down list to specify the button's visibility:
  - 0 – The button is visible only to the system administrator.
  - 1 – The button is visible only to the system administrator and client users.
- Action – Use the radio buttons to choose how the page whose URL you specified earlier will open:
  - In the Current window.

- In a New window.

Click Ok to create the button. Click Cancel to go back to the previous page without adding the button to the system.

Edit Custom Buttons

To edit the a custom button's parameters, follow the next steps:

1. Choose the button you want to modify and click its Label.
2. The editable data is grouped into the Settings fieldset.

   The following supplementary options are available when editing a button that has one ore more custom images associated:

   - Existing images - The currently used image and the skins where it is visible are displayed (e.g.: 🧩 [All skins]).
   - Keep existing images - If you deselect this check box, then you will be able to choose other images for the custom button using the controls available at the Skin specific image option.

   > **Note**
   >
   > For more information, see the Add a New Custom Button section.

3. Click Ok to save your changes. Click Cancel to return to the previous page without modifying anything.

Chapter 6

Manage the System Features

All the settings that define the system behavior, including the interface, the license management, the server preferences or the general options can be managed starting from this page by clicking the corresponding icons grouped into five functional sections.

As a system administrator, you are able to control the following features:

- Options - Choose the desired core functionality you want to manage by clicking the corresponding icon.
    - Administrator accounts
    - Sessions
    - Custom buttons

    - 4PSA DNS Manager settings
    - Global transfer IPs
- System Templates - The customization templates can be managed from this section.
- 4PSA DNS Manager - In this section you can find the application customization options.
    - Interface settings
    - Login preferences
    - License
    - Access
    - Languages
    - Skins
    - Audit logs
- Database - This section groups all the database related options.
    - XML export
    - XML import

Manage the System Settings

The System Settings page allows you to customize the 4PSA DNS Manager system behavior by configuring its general settings, grouped into the following fieldsets:

- Remote Updates Preferences
    - Remove zones no longer present in update source – When this option is enabled, the DNS Zones that have been updated via a remote update location will be deleted if the file that was retrieved from the remote location NO LONGER CONTAINS the definition for the respective zones. This setting helps administrators keep the 4PSA DNS Manager server perfectly synchronized with the remote update locations. This option can be:
        - on
        - off
        - client setting
    - Lock zones to an update source – When this option is enabled, a zone will be associated with a single update remote location (the first update location where the zone description is retrieved from). Any other update location that contains a duplicate description will be ignored. This option can be:
        - on
        - off
        - client setting
- Default DNS SOA Records

  The SOA (Start of Authority) Record defines the global parameters of the DNS Zone. There is only one SOA Record allowed per DNS Zone file.

  The administrator is able to set the SOA parameters values for all the DNS Zones that have no custom configurations. Also, these SOA parameters will be the default parameters for the DNS Zones belonging to client accounts that have no custom configurations.

  The following options are available:

    - Refresh time – 32 bit time value in seconds. This is the period of time that the secondary name server should wait before checking with the primary server to see whether the data has been modified. The default value is 10,800 seconds.

> **Note**
>
> RFC 1912 recommends 1,200 to 43,200 seconds, if your data is volatile, or 43,200 (12 hours) if it is not.

- Retry time – Signed 32 bit value in seconds. When a secondary name server requests for a Zone refresh from the primary server and this fails to respond, the secondary name server waits for the refresh time before attempting another Zone refresh after the failed attempt. The default value is 3,600 seconds.

- Expire time – Signed 32 bit value in seconds. This setting indicates when the Zone is no longer authoritative and new interrogation of the root servers is required. It applies to Slaves only. The default value is 604,800 seconds.

> **Note**
>
> RFC 1912 recommends 1,209,600 to 2,419,200 seconds (2–4 weeks).

- Minimum TTL – This value is used as the default TTL for new Records created within the Zone. It is also used by other DNS servers to cache negative responses (for example when a Record does not exist). The default value is 86,400 seconds.

- Default TTL – Signed 32 bit value in seconds. This is the amount of time that Zone Records are kept in a remote host cache. It is recommended that this value be set large. A small value will force remote servers to query the DNS server again for unchanged data. The default value is 604,800 seconds.

- Daemons Monitoring
  - Monitor round robin – When this option is enabled, 4PSA DNS Manager will monitor the rrmonitd daemon. When rrmonitd is down, the system will attempt to restart it. rrmonitd verifies whether the records from poll provide answers according to the monitoring protocol. If a record concurs, it will remain enabled, otherwise, it will be disabled automatically.
  - Monitor DNS server – When this option is enabled, 4PSA DNS Manager will monitor the DNS server. When the DNS server is down, the system will attempt to restart the server.
  - Monitor MySQL server - When this option is enabled, 4PSA DNS Manager will monitor the MySQL server. When the MySQL server is down, the system will attempt to restart it.

- Interface monitoring - When this option is enabled, 4PSA DNS Manager will monitor the apache server bundled in the product. When the server is down, the system will attempt to restart it.
- Monitor zonemngd - When this option is enabled, 4PSA DNS Manager will monitor zonemngd. When zonemngd is down, the system will attempt to restart it. zonemngd is a daemon that periodically writes the zone from the database to named.conf and to the zone files on disk.
- Monitor updateurld - When this option is enabled, 4PSA DNS Manager will monitor updateurld. When updateurld is down, the system will attempt to restart it. updateurld is a daemon that periodically imports the zones from remote update locations to the database.
- Send monitoring alerts to - The email address where the monitoring alerts will be send to.

- Email Preferences
  - Server sends emails from address – Use this text box to specify the email address used for sending notification email.
  - In the 'From' email field appears – Use this text box to specify the sender's name for email notifications sent by 4PSA DNS Manager. The default value is 4PSA DNS Manager.
- Global Preferences
  - Maximum uploaded file size - The maximum allowed size for the uploaded files. The default value is 2,000 KB.
  - Log events on level - Use the available drop-down list to adjust the level of detail employed when logging events:
    - Emergency (0)
    - Alert (1)
    - Critical (2)
    - Error (3)

      > Note
      >
      > This is the default selection.
    - Warning (4)
    - Notice (5)
    - Info (6)
    - Debug (7)

> **Note**
>
> In order to avoid unnecessary stress on the system's resources, it is recommended to use levels above `Error (3)` only for debugging and for limited periods of time.

- `Delete logs older than {x} days on a log level higher than (log_level)` - Sets the parameters for automatically clearing outdated logs. The 4PSA DNS Manager will delete logs with levels higher or equal to the selected level. For instance, selecting level `Warning (4)` will delete the following types of log entries: `Warning (4)`, `Notice (5)`, `Info (6)` and `Debug (7)`. The default values are:
  - `{x}` - 7 days
  - `{log_level}` - `Critical (2)`

> **Note**
>
> You can keep the logs for maximum 1 year (365 days).

Click `Ok` to save your preferences. If you want to return to the previous page without committing the changes, then click `Cancel`. To revert to the default values, click `Default SOA`.

Global Transfer IPs

The Global Transfer IPs are DNS server IPs that are allowed to transfer (copy) the Zone information from the server (master or slave for the Zone). These IPs will be recorded in the `named.conf` file in the `acl` (Access Control Lists) clauses.

The Manage Transfer IPs for Allowed DNS Slave Servers page allows you to:

- View the global transfer IPs list.
- Add new IPs using the available controls.
- Remove unused IPs from the system.

4PSA DNS Manager displays the following information about the available transfer IPs:

- `IP Address` - The IP or the IP/Mask address of the DNS server allowed to transfer Zone information from the server.

Add New Global Transfer IPs

To add new IP addresses, you must simply specify the desired address or the IP/Mask address in the Slave DNS server IP or IP/Mask address text box (e.g: 192.168.14.11/24, 192.168.1.1/16) and click Ok.

To add multiple IP or IP/Mask addresses in the same time, use the ➖ ➕ icons.

Manage the Access Policy

4PSA DNS Manager allows you to set up an access policy for administrator level users. There are two policy types:

- Deny - This policy can be used when you want to forbid access to the 4PSA DNS Manager system administrator account to certain IP addresses. All the requests coming from the IPs on the deny list will be rejected. The administrator will be able to log in to his account and access the interface from any other IP not included in this list.
- Allow - Select this policy if you want to allow only certain IP addresses the access to the 4PSA DNS Manager system administrator account. Only the request coming from the IPs on the allow list will be accepted. The administrator will NOT be able to log in to his account and access the interface from any other IP not included in this list.

The Access management page allow you to:

- View all the denied or allowed networks currently available in the system.
- Add new IP addresses by clicking the Add network icon available in the Options section.
- Navigate between the denied and the allowed networks management pages by clicking the Switch to allow / Switch to deny icons available in the Options section.
- Remove unused IP addresses.

4PSA DNS Manager displays the following information about each denied or allowed IP address:

- IP - The network's IP address.

- Mask - The network's subnet mask.

Add Allowed or Denied Networks

In order to add denied or allowed networks, use the available controls:

- Subnet or IP address - Use the available text box to fill in the subnet or IP address to which you want to deny/allow access.
- Use the ⊟ ⊞ buttons to add several subnet or IP addresses at the same time.

> **Note**
>
> When adding multiple IPs, you cannot set both the **Deny** and the **Allow** policies for the same address.

- Click Ok to add the IP(s) to the allow/deny list. Click Cancel to go back to the previous page.

Removal Confirmation

To finalize the removal, you have to review the list, select the Confirm removal check box and click Ok. If you do not want to delete these records, click Cancel to return to the previous page.

Manage the User Sessions

4PSA DNS Manager allows you to manage the sessions established by the users who have logged in to the system.

The User Sessions table displays the following information about the current sessions:

- T - The account type of the user that generated the session:
    - Administrator account
    - Client account
- Login – The username used to log in.
- Client name – The name of the corresponding user.

- Login time – The date and time when the session was started.
- Expire time – The time left until the end of the user's session.
- IP Address - The IP address the user logged in from.

To terminate an existing session, select its corresponding check box and click the ✗ Remove selected link. 4PSA DNS Manager will ask for your confirmation before ending the chosen session. You can terminate one or more sessions at the same time.

> Note
>
> You cannot delete your own sessions, but only those of the other users connected to the server.

Audit Logs

4PSA DNS Manager centralizes information about the changes suffered by the DNS Zones belonging to all the client accounts that have the appropriate permission enabled. These records track the actions performed either by the system administrator or by the client account owner on the DNS Zones, offering you a detailed overview of the changes that took place.

The Audit Logs management page has two sections:

- Clear Logs

  You can remove the stored audit logs from the database using one of the two available options:

  - Clear logs starting from {date} To {date} - Select this radio button if you want to clear the logs recorded in a certain period of time. Use the available text boxes or the 📅 calendar buttons to specify the interval's starting and end date. The accepted date format is yyyy-mm-dd.
  - Clear logs older than {number} {period} - Select this radio button if you want to clear the logs older than the specified {number} of days/ weeks/ months/years. Use the drop-down list to select the {period}.

- Audit Log Records

  Using the available controls, you can:

  - Visualize all the events that took place.
  - Obtain detailed information on a specific event.
  - Search for certain logs.

- Remove unuseful DNS Zone logs.

4PSA DNS Manager displays the following information about the available Audit Log Records:

- Client - The client on behalf which the event was performed. Not only the client account owner can manage its Zones, but the system administrator as well.

  The displayed format is `client_login (userID)`, for example joedoe (2748).

  > Note
  >
  > Have in mind that the actions can be performed from three different environments:
  >
  > 1. The web interface.
  > 2. SystemAPI.
  > 3. The command line.

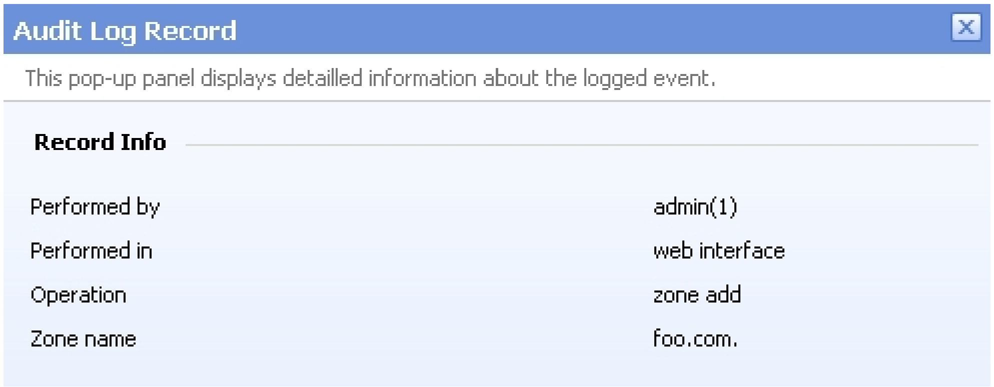
- Event - The audited event. 4PSA DNS Manager records 12 different event types:
  - Zone Add - A new DNS Zone was added to the client account.
  - Zone Delete - One of the existing DNS Zones was removed from the client account.
  - Zone Record Edit - The Zone record's preferences were modified (this includes both enabling and disabling the record).
  - Zone Record Delete - One of the existing records was removed from an existing DNS Zone.
  - Zone Record Add - A new record was added to one of the existing DNS Zones.
  - Zone Change Type - The DNS Zone type was changed either form Master to Slave or from Slave to Master.
  - Zone Change Status - The DNS Zone was either enabled or disabled.
  - Zone SOA Change - The SOA (Start of Authority) record that defines the global parameters for a DNS Zone was modified.
  - Zone Slave Transfer IP Added - A new IP address allowed to transfer the Zone information from the server (master or slave for the zone) was added.

        - Zone Slave Transfer IP Deleted - A transfer IP address for one of the available Zones was removed.
        - Zone Master IP Added - Each Slave Zone must have defined a master IP address. Therefore, each time the Zone type is changed from Master to Slave, if the master IP address does not exist, you will be required to provide one. This event is displayed in pair with Zone Change Type.
        - Zone Master IP Deleted - The master IP address defined for a Slave Zone was removed.
    - Description - The name of the Zone, followed by several details about the Event that took place. The displayed information depends on the Event type:
        - For Zone Add and Zone Delete:

          {zone_name}

          Example: foo.com

          On click, a pop-up panel with detailed information about the audited event is displayed:

          This pop-up panel displays detailled information about the logged event.

          Record Info

          Performed by admin(1)
          Performed in web interface
          Operation zone add
          Zone name foo.com.

          Event info

          The following details are available:

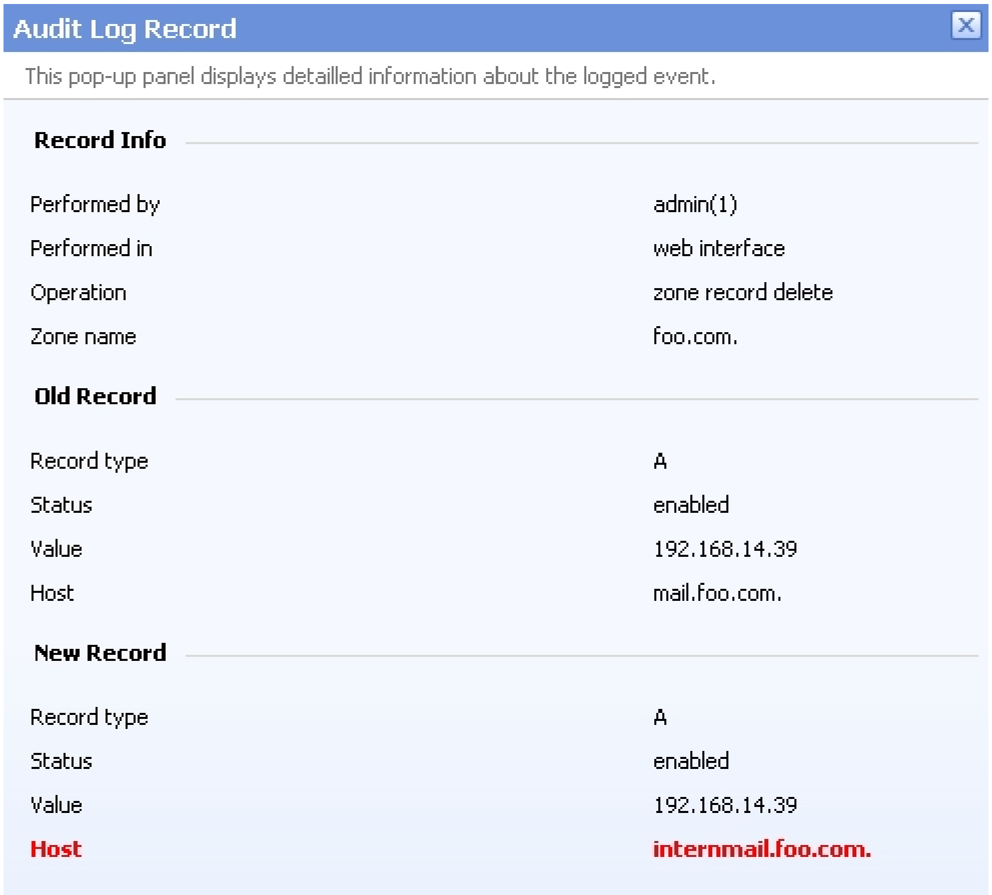
          - Record Info
              - Performed by - The user that performed the audited action. It can be both the system administrator who added/removed the client's DNS Zone or the client account owner himself. The displayed format is client_login (userID), for example admin(1) or joedoe (12).
              - Performed in - The environment used to perform the action:
                  - web interface
                  - command line

        - SystemAPI
    - Operation - The performed action's descriptive name.
    - Zone name - The name of the DNS Zone the action was performed on, for example foo.com.
- For Zone Record Edit:

  {zone_name} {record_type} {record_name_old} {record_name_new}

  Example: foo.com MX record mail.foo.com changed to internmail.foo.com

  On click, a pop-up panel with detailed information about the audited event is displayed:



Audit Log Record

This pop-up panel displays detailled information about the logged event.

Record Info

Performed by	admin(1)
Performed in	web interface
Operation	zone record delete
Zone name	foo.com.

Old Record

Record type	A
Status	enabled
Value	192.168.14.39
Host	mail.foo.com.

New Record

Record type	A
Status	enabled
Value	192.168.14.39
Host	**internmail.foo.com.**

Event info

The following details are available:

- Record Info
- Old Record - Details about the record that was modified:

- Record type - The type of the DNS record the action was performed on.

  4PSA DNS Manager supports the following DNS records types:

  - For E.164 Zones (used for mapping telephone numbers into DNS, for example a Zone in the e164.arpa domain):

    NS and NAPTR

  - For Froward Zones (regular Zones):

    A, NS, AAAA, CNAME, MX, TXT and SRV

  - For Reverse Zones (used for reverse DNS lookup, for example a Zone in the in-addr.arpa domain):

    PTR, NS, CNAME and TXT

  In the given example, the DNS Zone name was changed from mail.foo.com to internmail.foo.com, which implied the modification of an A record type (it returns a 32-bit IPv4 address, most commonly used to map hostnames to an IP address of the host, but also used for DNSBLs, storing subnet masks, etc.).

  > Note
  >
  > For more details about the DNS record types, check this section.

- Status - Displays if the record type is enabled or disabled.

- Value - The record's given value that depends on the DNS Zone type,

- Host - The DNS record's hostname (e.g.: mail.foo.com.).

> Note
>
> For the NS and SRV record types, one extra field is displayed:
>
> - **Priority** - This DNS record's importance in the Zone.

> Note
>
> For the SRV record type, the following extra fields are displayed:
>
> - **TTL**
> - **Port**
> - **Weight**

For more information, see this section.

> Note
>
> The order these fields are displayed varies, as the preference that was modified is displayed on the last position.

- New Record

  The same fields as for the Old Record section are displayed, except the cases when one of the record's preferences was removed.

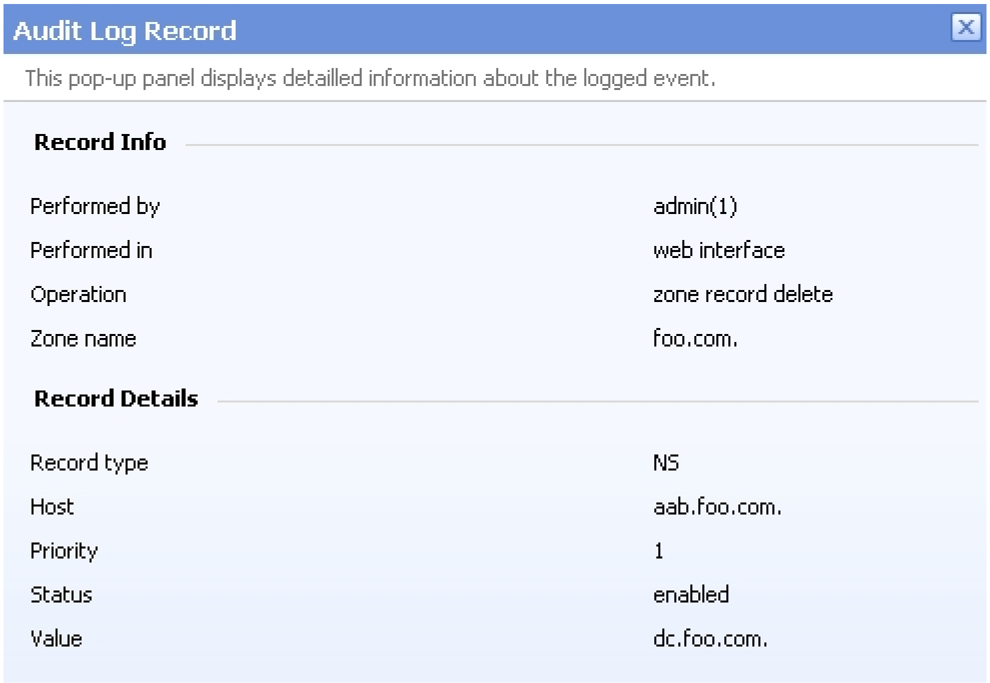
  The updated preference is displayed with red characters.

- For Zone Record Delete and Zone Record Add:

  {zone_name} {record_type} {record_name}

  Example: foo.com MX record internmail.foo.com

  On click, a pop-up panel with detailed information about the audited event is displayed:



Audit Log Record

This pop-up panel displays detailled information about the logged event.

Record Info

Performed by	admin(1)
Performed in	web interface
Operation	zone record delete
Zone name	foo.com.

Record Details

Record type	NS
Host	aab.foo.com.
Priority	1
Status	enabled
Value	dc.foo.com.

Event info

The following details are available:

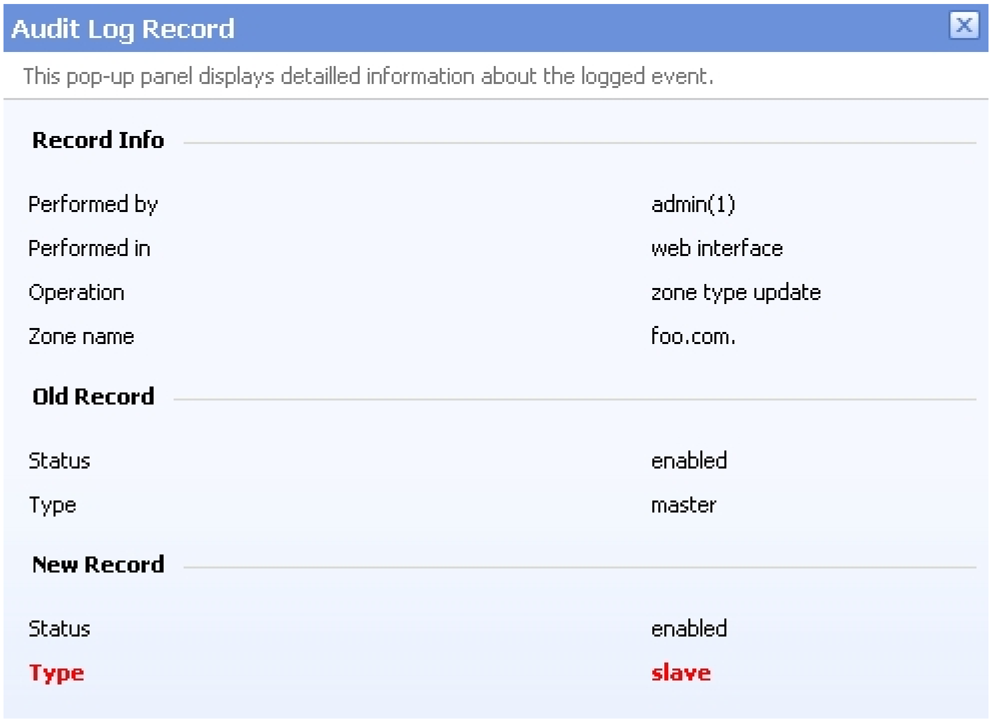
- Record Info
- Record Details - The details about the removed Zone record are similar to the ones displayed for the previous event.

- For Zone Change Type:

  {zone_name} {record_old_type} {record_new_type}

  Example: foo.com changed to slave zone

  On click, a pop-up panel with detailed information about the audited event is displayed:

  Audit Log Record

  This pop-up panel displays detailled information about the logged event.

  Record Info

Performed by	admin(1)
Performed in	web interface
Operation	zone type update
Zone name	foo.com.

  Old Record

Status	enabled
Type	master

  New Record

Status	enabled
Type	**slave**

  Event info

  The following details are available:

  - Record Info
  - Old Record
    - Status - The DNS Zone can be enabled or disabled.
    - Type - Displays if the DNS Zone was either master or slave.
  - New Record

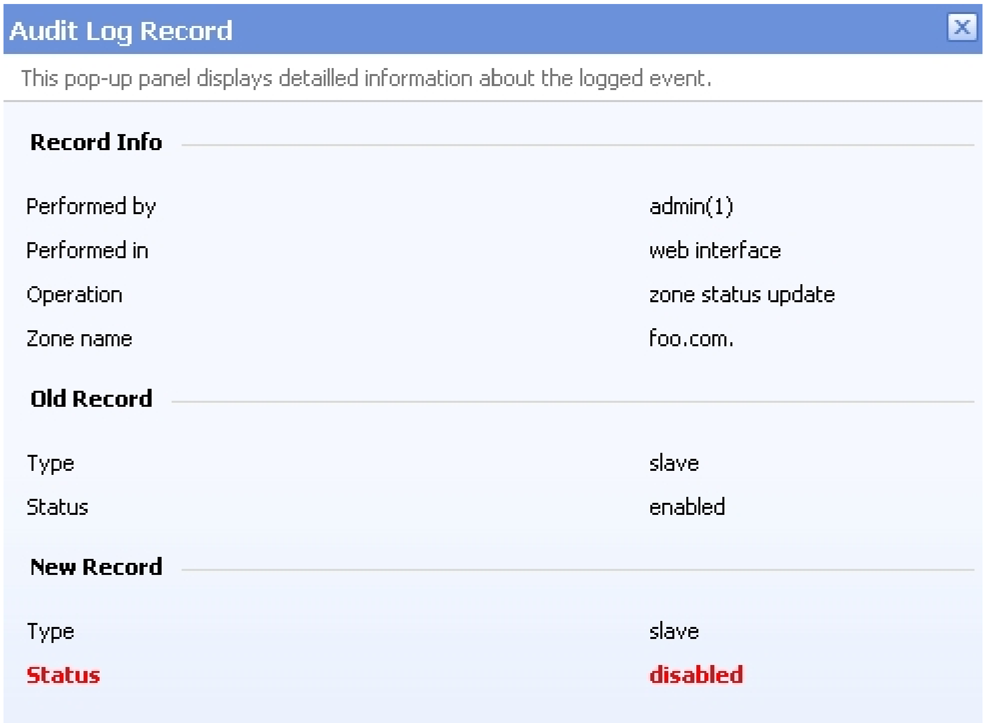
    The new DNS Zone Type is displayed with red characters.

- For Zone Change Status:

  {zone_name} {old_status} {new_status}

  Example: foo.com status changed to enabled

  On click, a pop-up panel with detailed information about the audited event is displayed:



Audit Log Record

This pop-up panel displays detailled information about the logged event.

Record Info

Performed by	admin(1)
Performed in	web interface
Operation	zone status update
Zone name	foo.com.

Old Record

Type	slave
Status	enabled

New Record

Type	slave
Status	**disabled**

Event info

The following details are available:

- Record Info
- Old Record
  - Type - Displays if the DNS Zone was either master or slave.
  - Status - The DNS Zone was either enabled or disabled.
- New Record

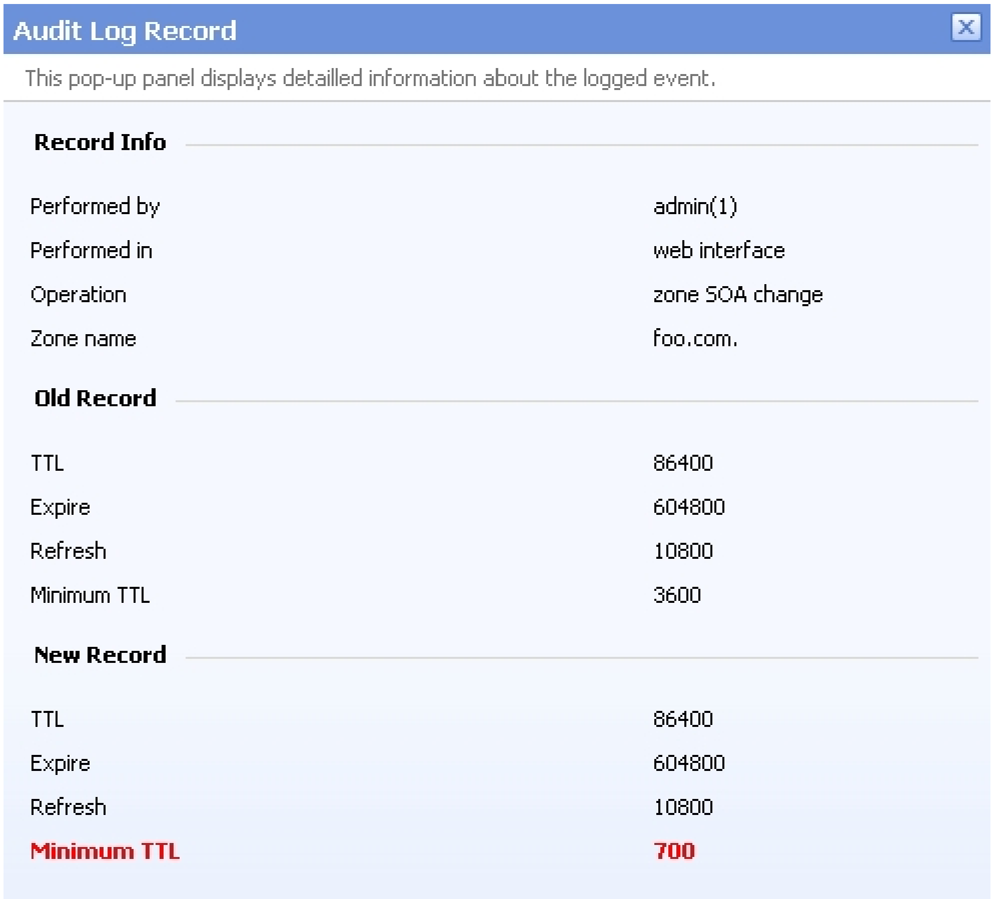
  The new DNS Zone Status is displayed with red characters.

- For Zone SOA Change:

  {zone_name}

  Example: foo.com SOA records edited

  On click, a pop-up panel with detailed information about the audited event is displayed:



Audit Log Record

This pop-up panel displays detailled information about the logged event.

Record Info

Performed by	admin(1)
Performed in	web interface
Operation	zone SOA change
Zone name	foo.com.

Old Record

TTL	86400
Expire	604800
Refresh	10800
Minimum TTL	3600

New Record

TTL	86400
Expire	604800
Refresh	10800
Minimum TTL	**700**

Event info

The following details are available:

- Record Info
- Old Record
  - TTL
  - Expire
  - Refresh
  - Minimum TTL

Note

For more details, see the Setting SOA Parameters section.

> **Note**
>
> The order these fields are displayed varies, as the preference that was modified is displayed on the last position.

- New Record

  The same fields as for the Old Record section are displayed.

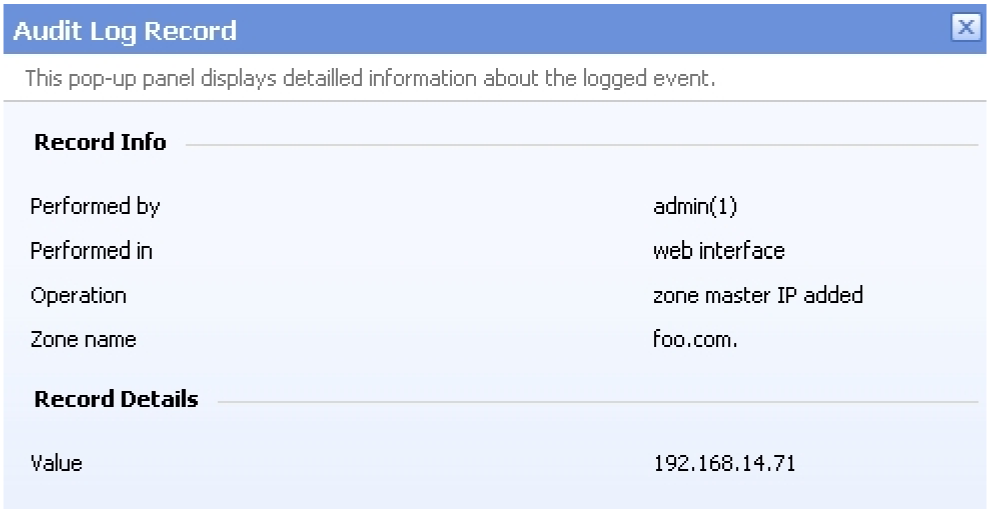
  The updated preference is displayed with red characters.

- For Zone Master IP Added and Zone Master IP Deleted:

  {zone_name} {ip}

  Example: foo.com master IP 3.4.5.6

  On click, a pop-up panel with detailed information about the audited event is displayed:

  Audit Log Record

  This pop-up panel displays detailled information about the logged event.

  Record Info

Performed by	admin(1)
Performed in	web interface
Operation	zone master IP added
Zone name	foo.com.

  Record Details

Value	192.168.14.71

  Event info

  The following details are available:

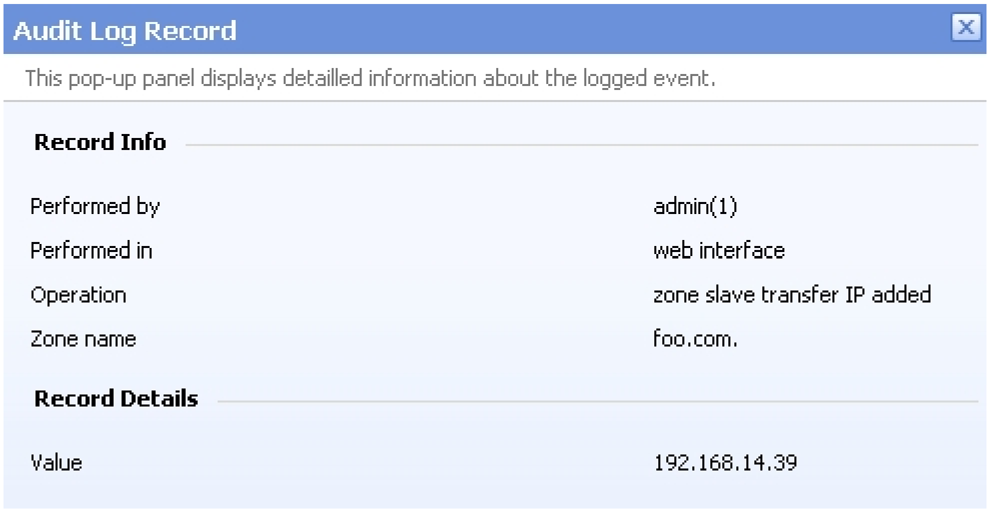
  - Record Info
  - Record Details
    - Value - The added/removed master transfer IP address .

- For Zone Slave Transfer IP Added and Zone Slave Transfer IP Deleted:

  {zone_name} {ip}

  Example: foo.com slave IP 3.4.5.6

On click, a pop-up panel with detailed information about the audited event is displayed:



Audit Log Record

This pop-up panel displays detailled information about the logged event.

Record Info

Performed by	admin(1)
Performed in	web interface
Operation	zone slave transfer IP added
Zone name	foo.com.

Record Details

Value	192.168.14.39

Event info

The following details are available:

- Record Info
- Record Details
    - Value - The added/removed slave transfer IP address .
- Date - The date and time the event took place.

Searching the Audit Logs

When the number of Audit Log Records is too big and you are searching for a specific event, you can use the following controls:

Search {description} event {event} client {client_id} between {start_date} and {end_date}

where:

- {description} - Use the text box to fill in a part of the event description you are interested in.
- {event} - Use the available drop-down list to select the event type you are looking for.
- {client_id} - You can select from the drop-down list the client (e.g.: joedoe (12)) whose audited events you want to be displayed.

- {start_date} - Use the text box or click the corresponding calendar icon to specify the date starting with which you want the audit logs to be displayed.
- {end_date} - Use the text box or click the corresponding calendar icon to specify the date until with which you want the audit logs to be displayed.

XML Export

4PSA DNS Manager allows the administrator to export THE ENTIRE database in .xml format. This feature can be used for backup or for migration purposes.

An administrator account will export all of the following items:

- Administrators' accounts details
- Administrators' accounts interface preferences
- Administrators' accounts custom buttons
- Global transfer IPs
- Global DNS templates
- Email templates
- DNS Manager settings
- Default interface settings
- Login settings
- Global access policy
- Clients' accounts details
- Clients' settings
- Clients' remote locations
- Clients' DNS templates
- Clients' custom buttons
- Clients' interface settings
- Clients' DNS zones

To export the database to a .xml file, simply click the XML export icon and confirm your choice.

XML Import

4PSA DNS Manager allows the administrator to import an `.xml` file that is a database backup.

An administrator account is able to import administrators, clients and zone accounts and also global server settings from the `.xml` file. The details of the existing administrators' and clients' account will be updated.

> Note
>
> The accounts are identified through the login username.
>
> When a new account is created using this method, an email will be sent to the address found in the `.xml` file (in the **Account Details** section), along with the password for the newly created account.
>
> The existing client's account details will be updated.
>
> Using the `.xml` file, new zones can be created. The records from existing zones are replaced with the records from the `.xml` file.
>
> The Zones that do not have any records will not be created.
>
> The zones that are defined on the server will not be deleted if they do not exist in the `.xml` file.

To import a database from a `.xml` file, simply click the XML import and use the Browse button to locate the backup file.

Chapter 7

Manage the System Templates

The system templates are collections of predefined settings that can be used to easily configure DNS Zones, email messages or to manage various custom files.

4PSA DNS Manager offers three template types that can be accessed from the designated section of the Server Settings page:

- DNS templates
- Email templates
- File templates

Manage the DNS Templates

The administrator can set server-wide DNS templates that can be used by any new DNS Zone added to the system. The server global DNS templates are available to all the clients that have not setup their own DNS templates.

The Server Global DNS Templates management page allows you to:

- Visualize the existing Templates.
- Use the available controls to define a New DNS Template .
- Search for certain templates.
- Edit one of the existing DNS templates.
- Remove unused templates.

4PSA DNS Manager displays the following information about the available templates:

- S – The DNS template availability:
    - Owned
    - Wide

  Click this icon to change the DNS template's availability.
- Name – The name that identifies the template. Click the link to manage the template.
- Type - The DNS Zone type that can be set up using the template:
    - Forward
    - Reverse
    - E.164
    - IPV6

  Note

  This is basically a Reverse Zone with IPV6 support.

Caution

When you delete a template, the Zones created with it will not be affected!

Add a New Sever Global DNS Template

To create a global DNS Template, you must follow the next steps:

1. Fill in a Template name.

   > **Note**
   >
   > 4PSA DNS Manager also accepts **internationalized domain names (IDN)**, Internet domain names that contain non-ASCII characters.

2. Choose the template type using the available radio buttons:
   - Forward - A template for forward DNS zones.
   - Reverse - A template for reverse DNS zones.
   - Reverse IPV6 - A template for reverse IPV6 DNS zones.
   - E.164 - A template for E.164 DNS zones.
3. Next, choose the template availability using the available radio buttons:
   - Owned template - These templates can be used only by the system administrator.
   - Wide template - This templates can be used by all the clients.
4. Click Ok. The Server Global DNS Template {tpl_name} page will open, allowing you to define the DNS records and the Template IPs.
5. Next, you should set up the DNS records by clicking the Add DNS record icon available in the Tools section.
6. If you want, you can now add the Template IPs .

> **Note**
>
> Wherever you want the domain name to be automatically replaced by the name of the newly created domain, enter `[domain]` in the domain name field. In order to have an IP address automatically replaced, use the `[ip]` tag.

Edit the Server Global DNS Templates

When you want to edit an existing DNS template, you can modify and add new DNS records and template IPs or you can change the template's availability, as described in the DNS Template Management page.

DNS Template Management

The Server Global DNS Template {tpl_name} page offers all the controls required to manage the DNS template:

- Visualize the existing DNS Record(s).
- Set up a new DNS record by clicking the Add DNS record icon available in the Tools section.
- Add new Template IPs .
- Change the template's availability by clicking the corresponding icon:
  - Owned template - These templates are defined by the system administrators and are available for administrators only.
  - Wide template - These templates are defined by the system administrators, but they can be also used by the clients.
- Search for certain DNS records.
- Edit one of the existing DNS records.
- Remove unused DNS records.

4PSA DNS Manager displays the following information about the available DNS records:

- Host – The DNS record's host name or the IP address.
- Record type – The DNS record's type .
- Value – Depending on the record type, this field displays an IP address, an alias, a name server, a host name, or a text.
- Priority - The Zone's priority.
- Weight - The Zone's weight.
- M – To edit a DNS record's details, click the Modify icon.

Add DNS Records to Template

To add a record to a DNS template, you must first choose the Record type and next configure its specific parameters accordingly.

Note

4PSA DNS Manager also accepts **internationalized domain names (IDN)**, Internet domain names that contain non-ASCII characters.

The following DNS record types are available:

- Forward DNS Zones
- Reverse DNS Zones
- Reverse IPV6 DNS Zones
- E.164 DNS Zones

Edit a DNS Template Record

The Edit Record from Global Template {tpl_name} page offers you the required tools to modify the chosen record:

- Record Type
  - Record type - To change the record's current type, use this drop-down list that contains all the supported record types.
- {record_type} Record

Note

All the parameters displayed in section depend on the **Record type** previously chosen.

Note

The domain name can be automatically replaced by the name of the newly created domain if `[domain]` is specified in the domain name field. In order to have an IP address automatically replaced the `[ip]` tag must be used.

Removal Confirmation

To finalize the removal, you have to review the list, select the Confirm removal check box and click Ok. If you do not want to delete these records, click Cancel to return to the previous page.

Managing a Template's IPs

The Server Global DNS Template {tpl_name} - IP Management page allows you to:

- Visualize the existing Template IPs.
- Add new master IPs.
- Search for certain IPs.
- Remove unused IPs.

4PSA DNS Manager displays the following information about the available template IPs:

- Type - The IP address type:
  - Master
  - Slave (allow transfer)
- IP Address - The IP address.

To add an IP address to the template, fill in the information required in the Add Template IPs fieldset:

- Add the following master IP - For master IPs assigned to slave zones.
- Add the following allow transfer IP or IP/Mask to master zones - For allow transfer IPs assigned to master zones.

To add/remove multiple IP addresses, use the ➕ ➖ icons.

Removal Confirmation

To finalize the removal, you have to review the list, select the Confirm removal check box and click Ok. If you do not want to delete these records, click Cancel to return to the previous page.

Removal Confirmation

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Manage the Email Templates

4PSA DNS Manager can send email notifications to its users when standard events occur. The text of the notifications can be customized. The system can be set up to send only certain notifications and only to determined users.

Based on the requirements, you can set the notification preferences for the events listed in the Email Preferences management page. The users interested in receiving these emails are:

- The system administrator – This user could be interested in monitoring all the events in the system.
- The client account owners – These users could be interested in the events targeting their accounts.

Note

If you want all the email notifications from a specific category to be sent to a certain user, then click the corresponding column header link (e.g.: Administrator).

If you want to manage the users that will receive certain notifications, follow the next steps:

1. From the available check boxes, select the ones corresponding to the users you want to notify.
2. Click **Ok** to save your options. Click **Cancel** to return to the previous page without saving the changes.

Therefore, as a system administrator, you can enable email notifications for the client account owners as well as for your own account. You are the only user allowed to modify the email notification settings and therefore you must pay attention to how and when you customize them, as the changes impact you clients as well.

When an account is created, the new owner can receive an email message notifying him that the account was registered. This notification is made only if the upper level account owner has the notification enabled.

Note

The email notification will be sent to the email address specified in the account information.

The notification emails can also be sent to an email address specified in the Custom column. This address can be different for each selected event.

If you want to customize the requirements for sending the account related warning emails, then you can use the following option available in the Preferences section:

- Send expiration notices {x} days in advance – Use this text box to specify how many days before the account expiration a notifications is dispatched to the users.

To customize the subject or the content of an email notification, follow the next steps:

1. Click the icon corresponding to the chosen event.
2. A new page, allowing you to edit the email subject and email body, opens. Modify the text, keeping in mind the following rules:
   - You may use only plain text when writing the email subject and content. The email is also sent in plain text format.
   - You can include tags that will be automatically replaced by the system with the appropriate content.

     Example:

     [recipient_name] is replaced with the name of the person receiving the notification.
3. Click Ok to save the changes to the email. Click Cancel to return to the previous page without saving the changes.

The events that can trigger an email notification are described in the next sections, along with the tags used by every notification.

The 'Client Account Creation' Email Template

This email notification is triggered by the creation of a new client account.

The default tags used by this notification are listed below:

- [contact_name] - The name of the client that has just been created, as it was specified in the provided client information.
- [recipient_name] - The name of the person who receives the email.
- [login] - The username that will be used to connect to the client account, as it was specified in the provided client information.
- [password] - The password that will be used to connect to the client account, as it was specified in the provided client information.

- [company_name] - The name of the company, as it was specified in the provided client information.
- [phone] - The user's telephone number, as it was specified in the provided client information.
- [fax] - The user's fax number, as it was specified in the provided client information.
- [address] - The user's address, as it was specified in the provided client information.
- [email] - The user's email address, as it was specified in the provided client information.
- [city] - The user's city of residence, as it was specified in the provided client information.
- [state] - The user's state of residence, as it was specified in the provided client information.
- [country] - The user's country of residence, as it was specified in the provided client information.
- [zip] - The user's postal/zip code, as it was specified in the provided client information.
- [notes] - The notes/comments that were filled in the provided client information.

The 'Client Account Expiration Warning' Email Template

The email notification triggered by this event is sent {x} days in advance, as specified in the Send expiration notices field available in the Preferences section of the Email Templates Management page.

The default tags used by this notification are listed below:

- [contact_name] - The name of the client whose account is set to expire. This is the name specified in the provided client information.
- [recipient_name] - The name of the person who receives the email.
- [company_name] - The name of the company, as it was specified in the provided client information.
- [login] - The username used to connect to the client account, as it was specified in the provided client information.
- [expire_date] - The date when the user's account expires.

The 'Client Account Expired' Email Template

The email notification triggered by this event is sent after the client account has expired.

The default tags used by this notification are listed below:

- [contact_name] - The name of the client whose account has just expired. This is the name specified in the provided client information.
- [recipient_name] - The name of the person who receives the email.
- [company_name] - The name of the company, as it was specified in the provided client information.
- [login] - The username used to connect to the client account, as it was specified in the provided client information.
- [expire_date] - The date when the client account expired.

The 'Remote Update Locations Limit Reached' Email Template

4PSA DNS Manager sends this notification to the selected users when the remote update locations limit allowed for a client account is reached.

Note

The administrator can receive notification emails only when new client accounts are created in the system. The administrator notification is sent to the admin who created the client.

The default tags used by this notification are listed below:

- [name] - The name of the client whose account has reached the limit imposed for remote update locations.
- [login] - The username used to connect to the client account, as it was specified in the provided client information.
- [url_limit] - The remote update locations limit imposed to the client account.

The 'Remote Update Failure' Email Template

4PSA DNS Manager sends this notification to the selected users when the maximum number of update attempts from a certain remote update location is reached.

The default tags used by this notification are listed below:

- [remote_location] - The remote update locations are files located on remote machines that contain DNS Zone information. This tag is replaced with the URL address from where 4PSA DNS Manager is able to automatically download the files using the HTTP, HTTPS and FTP protocols in order to load DNS Zone information from remote servers.
- [hostname] - The remote server's hostname.
- [date] - The date the maximum number of update attempts for the specified remote update location was reached.
- [name] - The name of the client whose account has reached the maximum number of update attempts for the specified remote update location.
- [login] - The username used to connect to the client account, as it was specified in the provided client information.

The 'DNS Zones Limit Reached' Email Template

4PSA DNS Manager sends this notification to the selected users when the DNS Zones limit allowed for a client account is reached.

The default tags used by this notification are listed below:

- [name] - The name of the client whose account has reached the maximum number DNS Zones.
- [login] - The username used to connect to the client account, as it was specified in the provided client information.
- [dns_limit] - The maximum number of DNS Zones specified for the client account.

The 'Forgot password' Email Template

When an user forgets his account's password, he can request a new one. In this case, 4PSA DNS Manager sends an email message containing a temporary password to the user who has requested it. This password is valid only for the time period specified in the Settings >> Login Preferences >> Expiration time for new password field.

The default tags used by this notification are listed below:

- [recipient_name] - The name of the person who receives the email.
- [login] - The username used to connect to the 4PSA DNS Manager interface, as it was specified in the provided client information.
- [new_password] - The new password, generated in order to replace the forgotten one.
- [valid_minutes] - The new password can be activated only for the time specified here.
- [url] - The new password activation URL that must be clicked by the user to certify the change.
- [ip] - The IP address of the user who has requested the new password.

Note

This notification can be sent only to a custom email address.

Manage the File Templates

The mismanagement file template defines the characteristics of a zone, such as the name of its configuration file and zone-specific options. The file template also informs the administrator on how the DNS zone information is written in the namedropping file.

The File Templates page displays the following information about the available template:

- M - Click the icon to view the differences between the default and the current template.
- Name - The template name. Click the link to edit the file content.
- Description - A short description of the template.
- Modified - The date the template was last modified.

Edit a File Template

This page displays the File template content. To modify it, you must edit the available data.

Chapter 8

Manage the Client Accounts

To access the Clients Management page, click the Clients link available in the left navigation panel.

Clients' Management Page

The Clients Management page displays the list of all the clients registered in the system and it allows you to add new ones or to manage an existing client account using the controls available in the following sections:

- Tools - You can set up a new client account by clicking the Add client icon.
- Custom Buttons - This section is displayed only when there is at least one custom button with the Location set to User's context.
- Clients - 4PSA DNS Manager displays a list with all the clients registered in the system.

Multiple operations can be performed on a client account:

- Add a new client to the system.
- Search for certain clients.
- Enable/disable client accounts.
- Enable/disable control panel access for a client.
- Manage individual client accounts.
- Remove existing client accounts.

4PSA DNS Manager displays the following information about each client:

- S – The client account's status:
  - ✓ Enabled
  - ✗ Disabled

  Click this icon to turn OFF/ON the client account.
- A – This icon specifies whether the client has permission to log in and use the 4PSA DNS Manager interface or not:
  - ● Allowed
  - ○ Not allowed

  Click this icon to enable/disable the control panel access.
- Client name – The name of the client account. Click the link to enter the client's management page .
- Company name – The name of the client's company.
- Created – The date the client account was added to the system.
- DNS Zones – The number of DNS Zones the client has in 4PSA DNS Manager.

Group Operations on Client Accounts

4PSA DNS Manager allows you to simultaneously change the DNS zone settings, permissions and limits for two or more client accounts:

1. Choose the desired clients by selecting their corresponding check boxes available on top of the table.
2. Click the Global operations link.

3. The Client Group Operations that can be performed on the selected accounts are grouped into the following sections:

   - Auditing

     Use the available radio buttons to enable/disable client actions auditing .

   - DNS Zone Settings

     This section allows you to modify the DNS Zone SOA Settings . For each setting, you have the following options:

     - Do not change – When you select this option, the corresponding limit is not modified for any of the selected client accounts.
     - Value – When you select this option, the adjacent text box is enabled. You must fill in a value that limits the corresponding setting.
     - Increase – When you select this option, the adjacent text box and drop-down list are enabled. Use the drop-down list to select the increase method: units or percent. Use the text box to specify the number of units or the percent by which the corresponding value is increased.
     - Decrease – When you select this option, the adjacent text box and drop-down list is enabled. Use the drop-down list to select the decrease method: units or percent. Use the text box to specify the number of units or the percent by which the corresponding value is decreased.

   - Permissions

     The clients' permissions can be modified as well using the available radio buttons.

   - Limits

     If required, you can set new limits for the client accounts. For each limit, you have the following options:

     - Do not change – When you select this option, the corresponding limit is not modified for any of the client accounts you have selected.
     - Unlimited – When you select this option, the corresponding limit is set to unlimited.
     - Value – When you select this option, the adjacent text box is enabled. You must fill in a value that limits the corresponding feature value.
     - Increase – When you select this option, the adjacent text box and drop-down list are enabled. Use the drop-down list to select the increase method: units or percent. Use the text box to specify the number of units or the percent by which the corresponding limit is increased.
     - Decrease – When you select this option, the adjacent text box and drop-down list is enabled. Use the drop-down list to select the decrease

method: units or percent. Use the text box to specify the number of units or the percent by which the corresponding limit is decreased.

4. Click Ok to confirm the operations or Cancel to return to previous page without committing anything.

Add a New Client Account

To create a new client account, you must fill in all the information required in the Client Account Information fieldset. More details about these options can be found here .

> Note
>
> The **Login** name must be unique in the system.

The mandatory fields are marked with an asterisk. Click Ok to add the new client account. Click Cancel to return to the previous page without creating the account.

Removal Confirmation

To finalize the removal, you have to review the list, select the Confirm removal check box and click Ok. If you do not want to delete these records, click Cancel to return to the previous page.

Client Account Management

The Client {client_name} page allows you to manage the DNS zone settings, permissions and limits, DNS Templates, DNS Zones backups, remote update locations or custom buttons and to have an overview of all the client's DNS Zones. The information is grouped into the following sections:

- Tools - Here you can find all the features that can be customized for the current client. To access the desired area, simply click its corresponding icon:
    - Switch client OFF or Switch client ON

- Edit account details
    - Client settings
    - DNS templates
    - Add DNS Zones
    - Remote updates
    - Backup DNS Zones
    - Custom buttons
    - Impersonate
    - XML export
- Custom Buttons - This section is displayed only when there is at least one custom button with the Location set to User's context.
- DNS Zones - 4PSA DNS Manager displays a list with all the client's DNS Zones.

  4PSA DNS Manager displays the following information about each Zone:

- S – The DNS Zone's status:
    - ✓ Active
    - ✗ Inactive

  Click this icon to change the Zone's status.
- T – The DNS Zone's type:
    - Master

  - Slave

- DNS zone name – The name of the DNS Zone. Click the name link to manage the Zone.
- First name server – The host name of the first name server registered on the DNS Zone.

> **Note**
>
> The first name server of slave zones is not displayed.

- Created – The date the zone was added to the system.

Searching the DNS Zones List

When you are searching for specific DNS Zone, you can use one or all the available filters:

Search {name} and include [] records also

where:

- {name} - Use the available text box to specify the name of the DNS Zones you are looking for.
- [] - Select this check box if you want the search to be performed through the Value field from the DNS records.

Change the DNS Zones Owners

You can change the owner for one or more of the DNS Zones by following the next steps:

1. Choose the desired DNS Zones by selecting their corresponding check boxes available at the end of the table.
2. Click the Change owner link.
3. In the new opened page, select the client who will be the new owner of the DNS Zones.

> **Note**
>
> When a Zone is moved from one client to another, the Zone ownership passes to the control panel.

4. Click Ok to finalize the transfer or Cancel to return to previous page without changing anything.

SPF Rules

You can add Server Policy Framework (SPF) rules to your DNS zones. SPF allows the owner of an Internet domain to use special format DNS TXT rules to specify which machines are authorized to transmit e-mail for that domain. To do so, follow the next steps:

1. Choose the desired DNS Zones by selecting their corresponding check boxes available on top of the table.
2. Click the SPF rules link.
3. > **Note**
   >
   > SPF rules can be defined only for forward master Zones added from the control panel.

   Use the controls to manage the Global SPF Rules:

- First, to create a SPF for one of the origin's subdomains, you have to fill in the subdomain in the Host text box. The format must be `subodmain.[domain]`.

  Leaving this field empty generates the TXT record for `$ORIGIN`.

- Next, define the rule. The standard rule format is:

  {qualifier} {mechanism} {URL}

  where:

  - {qualifier} - Use the drop-down list to select one of the available qualifiers:
    - + Pass
    - - Fail
    - ~ SoftFail
    - ? Neutral
  - {mechanism} - Use the drop-down list to select one of the available mechanisms and modifiers.

    The following mechanisms are available:

    - `all`

- ip4
- ip6
- a
- mx
- ptr
- exists
- include

And the following modifiers:

- redirect
- exp

- {URL} - Use the available text box to specify the target URL.

- Use the + − icons to add/remove rules from the list.

4. Click Ok to confirm the rules or Cancel to return to previous page without commiting anything.

Glue Records

Name servers in delegations appear listed by name, rather than by IP address. This means that a resolving name server must issue another DNS request to find out the IP address of the server to which it has been referred. Since this can introduce a circular dependency if the nameserver referred to is under the domain that it is authoritative of, it is occasionally necessary for the nameserver providing the delegation to also provide the IP address of the next nameserver. This record is called a glue record.

In practice, the glue records are used for two purposes:

1. To speed up queries and consequently reduce DNS load by providing the name and IP addresses (the glue) for all authoritative name servers, both within and external to the domain.
2. To break the query deadlock for referrals which return name servers within the domain being queried.

Note

The **Glue Records** can only be defined for forward master DNS Zones managed from the interface.

In order to create a Glue Record, a NS and an A record meeting the following requirements must exist:

- The NS record must NOT have a corresponding A record.
- The A record MUST be defined on $ORIGIN or on a subdomain of $ORIGIN.

The following table displays an example of the records that are required in order to create a Glue Record.

Table 8.1. Required Records

Host	Record Type	Value
sub.example.com	NS	ns.sub.example.com
sub.example.com	A	1.2.3.4

Table 8.2. Resulting Glue Record

Host	Record Type	Value
ns.sub.example.com	A	1.2.3.4

To create a Glue Record, you must follow the next steps:

1. Choose the desired DNS Zones by selecting their corresponding check boxes available on top of the table.
2. Click the Glue records link.
3. Review your selection and click Ok confirm or Cancel to go back to the previous page without gluing the records.

Global Operations on DNS Zones

4PSA DNS Manager allows you to simultaneously change records belonging to two or more DNS Zones:

1. Choose the desired DNS Zones by selecting their corresponding check boxes available on top of the table.
2. Click the Global operations link.
3. The Global Operations page displays, depending on the type of DNS Zones you have selected, one or more of the following sections:
   - Forward Zones
   - Reverse Zones
   - E.164 Zones

Each section offers the controls required to specify the rules for the respective Zone type.

The general formula is:

If {record_type} {matching_algorithm} {search_criteria} {action} {new_value}

where:

- {record_type} - Use the drop-down list to choose the type of the records that will be modified. The available options are:
  - NS, A, AAAA, CNAME, MX, TXT and SRV records for forward zones.
  - NS, PTR and TXT records for reverse zones.
  - NS and NAPTR records for E.164 zones.
- {matching_algorithm} - Use the second drop-down list to choose the matching algorithm:
  - equals when the value parameter of the records must be identical to the given value.
  - contains when the value parameter of the records must contain the given value.
- {search_criteria} - Use this text box to specify the search criteria.

> Note
>
> * can be used to match any set of characters.

- {action} - Use the third drop-down list to select the action you would like to perform on the matching records. The available options are:
  - replace with if you want to modify the matching records.
  - drop record if you want to erase them.
- {new_value} - The last text box must contain the new value that will be used to modify the respective records.

> Note
>
> This text box is disabled if you previously selected drop record.

> **Note**
>
> In order to have the domain name automatically completed, you must enter `[domain]` in the text box.

For MX forward Zones, the global operations formula is:

If {Mail exchanger MX} {item} {matching_algorithm} {search_criteria} {item} {action} {new_value}

This allows you to change both the Zone's value and priority using the {item} drop-down list.

4. Use the ➕ ➖ icons to add/remove rules from the list.
5. Click Ok to confirm the rules or Cancel to return to previous page without commiting anything.

Edit Client Information

You can edit the contact details specified for any existing client account. More details about the options available in the Client Account Information fieldset can be found here .

> **Note**
>
> The **Login** name must be unique in the system.

The mandatory fields are marked with an asterisk. Click Ok to add the commit the changes. Click Cancel to return to the previous page without saving anything.

Manage the Client Settings

The client behaviour can be customized from the Settings for {client_name} DNS Zones page. The available options are structured into four fieldsets:

- Auditing

  4PSA DNS Manager offers, starting with version 4.0.0, the auditing feature that tracks and records all the DNS Zones changes for the current account.

To initialize recording, simply select the Enable client actions auditing check box. All the records are detailed and can be visualized in the [Audit Logs] page.

For all the clients that have the auditing feature enabled, 4PSA DNS Manager logs 12 events for the DNS Zones, including adding, removing, changing a Zone's status or modifying the SOA settings. More information about these events can be found [here] .

> Note
>
> ONLY the interface events are logged!
>
> The changes can be performed in three ways:
>
> 1. From the interface.
> 2. Using SystemAPI.
> 3. Using the command line.

> Note
>
> The audit records ARE NOT DELETED when the user is deleted!

> Note
>
> When you make changes in a client account, the audit is made based on the client context where the changes are performed and only if that account has the auditing feature enabled. In other words, the changes performed by the system administrator can be audited as well.

- Zone SOA Settings

  You can change the following settings that apply to the domains belonging to the chosen client:

  - Remove zones no longer present in update source – When this option is enabled, DNS Zones that have been updated via a remote update location will be deleted if the file that was retrieved from the remote location NO LONGER CONTAINS the definition for the respective zones. This setting helps administrators keep the 4PSA DNS Manager server perfectly synchronized with the remote update locations.

  - Lock zones to an update source – When this option is enabled, a zone will be associated with a single update remote location (the first update location where the zone description is retrieved from). Any other update location that contains a duplicate description will be ignored.

- Warn if an update from a location fails more than {x} times - Use the available text box to specify the number of subsequent failed updates 4PSA DNS Manager will attempt before displaying a warning. This parameter is optional. The possible values rang between 1 and 100.
- Refresh time – 32 bit time value in seconds. This is the period of time that the secondary name server should wait before checking with the primary server to see whether the data has been modified. The default value is 10,800 seconds.

> Note
>
> RFC 1912 recommends 1,200 to 43,200 seconds if your data is volatile or 43,200 (12 hours) if it is not.

- Retry time – Signed 32 bit value in seconds. When a secondary name server requests a Zone refresh from the primary server and this fails to respond, the secondary name server waits for the refresh time before attempting another Zone refresh after the failed attempt. The default value is 10,800 seconds.
- Expire time – Signed 32 bit value in seconds. This setting indicates when the Zone is no longer authoritative and new interrogation of the root servers is required. It applies to slaves only. The default value is 604,800 seconds.

> Note
>
> RFC 1912 recommends 1,209,600 to 2,419,200 seconds (2–4 weeks).

- Minimum TTL – This value is used as the default TTL for new Records created within the Zone. It is also used by other DNS servers to cache negative responses (for example when a Record does not exist).
- Default TTL – Signed 32 bit value in seconds. This is the amount of time that Zone Records are kept in a remote host cache. It is recommended that this value be set large. A small value will force remote servers to query the DNS server again for unchanged data. The default value is 604,800 seconds.

- Permissions

  These permission levels describe the 4PSA DNS Manager behavior when using Zones added in the interface or from remote update locations:

  - Allow to add/remove remote update locations – When this option is enabled, the client is allowed to add new remote update locations.

- Allow to modify remote update locations – When this option is enabled, the client is allowed to edit current remote update locations.
- Allow to add/remove DNS templates – When this option is enabled, the client is allowed to add new DNS templates to the system and delete personal templates.
- Allow round robin management - When this option is enabled, the DNS Round Robin icon will be visible in the client's Tools section when editing a forward DNS zone, regardless of the user being logged in with administrator or client credentials.
- Forward DNS Zones management - This section contains permissions regarding the management of forward DNS zones. The following options are available:
  - Manage forward DNS zones and records - When this option is enabled, the client is allowed to add and remove forward DNS zones AND records.
  - Manage forward DNS records only - When this option is enabled, the client is allowed to add and remove ONLY forward DNS records.
  - View forward DNS zones and records - When this option is enabled, the client is allowed only to VIEW forward DNS zones and records.
- Reverse DNS Zones management - This section contains permissions regarding the management of reverse DNS zones. The following options are available:
  - Manage reverse DNS zones and records - When this option is enabled, the client is allowed to add and remove reverse DNS zones AND records.
  - Manage reverse DNS records only - When this option is enabled, the client is allowed to add and remove ONLY reverse DNS records.
  - View reverse DNS zones and records - When this option is enabled, the client is allowed only to VIEW reverse DNS zones and records.
  - Forbid access to reverse DNS zones - When this option is enabled, the client has no access to reverse DNS zones.
- E.164 DNS zones management - This section contains permissions regarding the management of E.164 DNS zones. The following options are available:
  - Manage E.164 DNS zones and records - When this option is enabled, the client is allowed to add and remove E.164 DNS zones AND records.

- Manage E.164 DNS records only - When this option is enabled, the client is allowed to add and remove ONLY E.164 DNS records.
- View E.164 zones and records - When this option is enabled, the client is allowed only to VIEW E.164 DNS zones and records.
- Forbid access to E.164 DNS zones - When this option is enabled, the client has no access to E.164 DNS zones.

> Note
>
> Permission changes become available only for `updateurl` by pressing the Update Now button.

- Limits

  You can impose the following limitations to the client account:

  - Maximum number of DNS Zones – Use the available text box to specify the maximum number of DNS Zones that the client can add to the system.
  - Maximum number of remote update locations – Use the available text box to specify the maximum number of remote update locations the client is allowed to add to the system.
  - Account expiration date – Use the available controls to set an expiration date for the client account. Starting this date, he will no longer be allowed to access the interface.

> Note
>
> If you do not want to limit a parameter, select the **Unlimited** check box.

> Note
>
> The **Currently used** values are displayed next to these limits. You can not define limits below the currently used values.

To confirm your settings, click Ok. Click Cancel to return to the previous page without applying your changes. If you would like to revert the settings to their default values, click the Default SOA icon.

Add a New DNS Zone

4PSA DNS Manager allows you add a single DNS Zone, multiple DNS Zone names from a local file or multiple DNS Zones with complete DNS Records.

Note

4PSA DNS Manager also accepts **internationalized domain names (IDN)**, Internet domain names that contain non-ASCII characters.

Note

Starting version 4.0.0, 4PSA DNS Manager offers support for the 128 bits Internet Protocol Version 6 addresses, vastly expanding the number of Zones that can be allocated. The IPv6 Zones are added just like the normal reverse Zones.

4PSA DNS Manager validates a Zone as an IPv6 reverse Zone if its name contains `IP6.ARPA.`

Add a Single DNS Zone Name

In order to add a single DNS Zone name, you must fill in all the information required in the Add DNS Zone name fieldset:

- DNS Zone name – Use the available text box to fill in a valid and unique DNS Zone name. Here are some examples for all the supported DNS Zones types:
  - For a forward Zone, you must use the following format:

    `<lower level domain(s)>.<top level domain>`

    For example:

    - `racksoft.com`
    - `wikipedia.org`
    - `amazon.co.uk`
  - For a reverse Zone, you must use the following format:

    `<lower level domain(s)>.IN-ADDR.ARPA.`

    For example:

    - `2.85.64.IN-ADDR.ARPA.`
    - `4.3.2.1.IN-ADDR.ARPA.`

  Note

  For reverse Zones, 4PSA DNS Manager accepts the following Zone name types:

  - Class A (/8) - `1.IN-ADDR.ARPA.`

- Class B (/16) - `2.1.IN-ADDR.ARPA.`
- Class C(/24) - `3.2.1.IN-ADDR.ARPA.`
- Zone names with a mask lower than 24 (having a numeric value higher than 24) - `192/26.1.2.3.IN-ADDR.ARPA.` that covers the IPs between `3.2.1.192` and `3.2.1.255`; or `4.3.2.1.IN-ADDR.ARPA.` for a complete /32 delegation.

According to the recommendations specified in RFC 4183, 4PSA DNS Manager supports both **/** and **-** as mask delimiters. The delimiter can be:

- Included in the **DNS Zone name**, for example `128/25.27.116.87.IN-ADDR.ARPA.` or `128-25.27.116.87.IN-ADDR.ARPA.` In this case, the delimiter is stored in the data base as provided and the **Reverse zone separator** option is disabled.
- Not included in the **DNS Zone name**, for example `3.2.1.IN-ADDR.ARPA.` In this case, you can choose the **Reverse zone separator** **/** and **-**.

  For the Class C(/24) reverse Zones, the separator can always be chose according to your requirements.

- For an IPV6 reverse Zone, you must use the following format:

  `<reverse_ipv6_chunk_nibbles>.IP6.ARPA.`

  where `<reverse_ipv6_chunk_nibbles>` can contain from 1 to 32 nibbles. A nibble is half an octet that corresponds to a single hexadecimal digit.

  For example:

  - `8.b.d.0.1.0.0.2.IP6.ARPA.` (/32 = 8 nibbles)
  - `b.a.9.8.7.6.5.0.4.0.0.0.3.0.0.0.2.0.0.0.1.0.0.0.0.0.0.0.1.2.3.4.IP6` (/128 = 32 nibbles)

- For an E.164 Zone, you must use the following format:

  `<lower level domain(s)>.E164.ARPA.`

  For example:

  - `2.2.3.E164.ARPA`
  - `1.1.1.E164.ARPA`

- DNS Zone template – Use the drop-down list to select one of the available DNS Zone templates to be used to create the Zone. You can select `Do not use DNS Zone template` if you want to manually set it up.

- Template IP – This field is available only when a DNS Zone template is selected. All [ip] occurrences in the DNS Zone template will be replaced by this IP.
- DNS Zone type – Use the radio buttons to choose the DNS Zone type:
  - Master
  - Slave

> Note
>
> A slave zone will acquire it's zone data only after receiving the notification from the respective master zone, or after it is manually reloaded on the server. 4PSA DNS Manager does not reload slave zones due to the extra overhead involved on busy environments, therefore it is recommended to set up notifications on master zones.

- Forward zone - Regular zone.
- Reverse zone – Zone used for reverse DNS lookup (ire. a zone in the IN-ADDR.ARPA. domain).
- Reverse zone separator - When the separator is included in the reverse Zone's name (e.g.: 128/25.27.116.87.IN-ADDR.ARPA.), you cannot change the selection as the drop-down list is disabled. In this case, the separator detected in the Zone's name will be selected (for our example, /).

  If the Zone's name does not include the separator (for example, for the Class C(/24) reverse Zones), then you can use the drop-down list to select the records separator:
  - /
  - -

> Note
>
> This option is displayed for **Reverse zones** only.
>
> 4PSA DNS Manager is compliant with the recommendations specified in RFC 4183.

- E.164 zone - An E.164 zone used for mapping telephone numbers into DNS (i.e. a zone in the E164.ARPA. domain).
- Allow DNS Zone transfer – When this option is enabled, allowed slave servers will be able to retrieve the Zone information from the master server (in this case the 4PSA DNS Manager system).

> **Note**
>
> This option is enabled only if the previously chosen Zone type is `master`.

- Slave DNS servers IP addresses – When the Allow DNS Zone transfer option is enabled, you can enter the IP addresses of the slave DNS servers in this text box. Use the ➕ ➖ icons to add/remove slave IP addresses. The DNS Zone will be transferred only to these IP addresses.

> **Note**
>
> This option is enabled only if the previously chosen Zone type is `slave`.

- Transfer DNS Zone from master servers – The DNS Zone information will be transferred from the master DNS servers with the IP addresses set in the field below.

> **Note**
>
> This option is available for `slave` DNS Zones only.

- Master DNS servers IP addresses – Use this text box to specify the IP addresses of the master DNS servers.

> **Note**
>
> This option is available for `slave` DNS Zones only.

Click OK to create the new DNS Zone. Click Cancel to return to the previous page without adding anything.

Adding Multiple DNS Zones with Complete DNS Records

In order to add multiple DNS Zones with complete DNS Records, click the Full zones from file icon available in the Tools area. The following fields will be displayed:

- Select file – Use the available text box to fill in the name of the file containing the DNS Zone names or click the Browse icon to locate the desired file.

Note

The uploaded file MUST be in dump format (identical to the file generated by backing up DNS zones in 4PSA DNS Manager). For more information on the dump file format, please read the Supported Dump File examples appendix.

Note

A slave zone will acquire it's zone data only after receiving the notification from the respective master zone, or after it is manually reloaded on the server. 4PSA DNS Manager does not reload slave zones due to the extra overhead involved on busy environments, therefore is recommended to setup notifications on master zones.

- Allow DNS Zone transfer – When this option is enabled, allowed slave servers will be able to retrieve the Zone information from the master server (in this case the 4PSA DNS Manager system).
- Add the following allow transfer IP or IP/Mask to master zones - The IP addresses specified in this field will be recorded in the allow transfer clauses of the namedropping file for master DNS zones
- Add the following master IP - The IP addresses specified in this field will be recorded in the masters clauses of the namedropping file for slave DNS zones

Click OK to create the new DNS Zones. Click Cancel to return to the previous page without adding anything.

Edit a Client's DNS Zone

The client's DNS Zone can be fully managed from the DNS Zone {name} of Client {client_name} page. Here you can find all the controls required to control the DNS Zone and its records.

Warning

The records of the zones added from a remote location cannot be modified from the interface. In this case, 4PSA DNS Manager displays the following warning message:

This zone is managed by Remote Update and cannot be edited in the interface.

For detailed information, see this section.

Managing DNS Zones Remote Update Locations

The remote update locations are files located on remote machines that contain DNS Zone information. 4PSA DNS Manager is able to automatically download these files using the HTTP, HTTPS and FTP protocol in order to load DNS Zone information from remote servers.

Note

For more details about remote update locations, including integration with a current infrastructure see the Remote Update Location Configuration chapter.

Warning

If the **Remove zones no longer present in update source** setting is activated for the respective client account, the DNS Zones that have been updated via a remote update location will be deleted if the file that was retrieved from the remote location NO LONGER CONTAINS the definition for the respective zones. If this option is activated, 4PSA DNS Manager displays the following warning message:

```
Zones that are not found in the source update URL will be removed from the system.
```

Warning

If the **Lock zones to an update source** setting is activated for the respective client account, a zone will be associated with a single update remote location (the first update location where the zone description is retrieved from). Any other update location that contains a duplicate description will be ignored. If this option is activated, 4PSA DNS Manager displays the following warning message:

```
Zones will always be updated from the same URL source for each zone. The URL priorities will not change the update source for existing zone.
```

The Remote Update Locations page allows you to:

- View all the Remote Update Locations currently available in the system.

- Instantly update the DNS Zone information with data from the remote location by clicking the Update Now icon available in the Tools section.
- Visualize a list of the events that occurred during the remote updates by clicking the Remote logs icon.

> **Note**
>
> If no update operation was ever performed, then the icon is displayed.

- Add a New Remote Update Location.
- Search for certain remote locations.
- Turn on/off an existing remote update location.
- Edit the parameters of any available location.
- Remove unused location.

4PSA DNS Manager displays following information about the available remote locations:

- S - The remote update location's status:
  - ✓ On
  - ✗ Off

  Click this icon to change the location's status.
- Remote location - The URL where the file that contains update information can be found.

> **Note**
>
> The remote update locations can also be in IDN format.

> **Caution**
>
> When a remote location is updated, 4PSA DNS Manager clears the hash for all the owner's remote locations!

- Priority – When one zone is defined in two files that can be found in two remote locations, the remote location with the highest priority will be taken into consideration.
- Update interval – The number of minutes between two consecutive retrievals of the remote location - the refresh interval.
- Last updated - The date and time the remote location was updated for the last time.
- M – Click the 📝 icon to edit the remote update location's details.

Add a New Remote Update Location

To add a New Remote Update Locations to the system, you must fill in all the required details:

- Remote update location – The URL of the file that contains the update information (HTTP, HTTPs and FTP protocols supported).

> Note
>
> The remote update locations can also be in IDN format.

> Note
>
> 4PSA DNS Manager does NOT support the following URL formats:
>
> - ftp://username:password@domain.com
> - ftp://username:password@192.168.10.10

- Keep minimum {x} minutes between updates – Use the available drop-down list to select the number of minutes between two consecutive retrievals of the remote location. The possible values range from 2 to 2,880 minutes. The default value is 2.
- Remote URL priority – The priority of the zone definitions downloaded from this URL over other (duplicate) zone definitions. Using the drop-down list, you can choose one of the five priority levels:
  - very low
  - low
  - medium
  - high
  - very high

> Note
>
> When there are two or more locations that update the same zone(s) having different priorities, the location that last updates a zone is called the **Owner location**.
>
> If the **Lock zones to an update source** setting is:
>
> - **disabled** - Then the zones will be updated by the remote update URL with the highest priority.
> - **enabled** - Then the zones will be updated by the remote update owner location, ignoring the priorities.

- Username - The HTTP, HTTPs or FTP authentication username.
- Password - The TTP, HTTPs or FTP authentication password.
- Add the following master IP - The IP addresses specified in this field will be recorded in the masters clauses of the namedropping file for the slave DNS Zones. Use the + − icons to add/remove several records in the same time.
- Add the following allow transfer IP or IP/Mask to master zones - The IP addresses specified in this field will be recorded in the allow transfer clauses of the namedropping file for the master DNS Zones. Use the + − icons to add/remove several records in the same time.

Click OK to add the new remote update location. Click Cancel to return to the previous page without adding anything.

Editing Settings of a Remote Update Location

The Remote Update Location: {location_name} page allows you to:

- Change the status of the remote update location by clicking the corresponding icon available in the Tools area:
  - Switch Off - Disable an active update location.
  - Switch On - Enable a disabled update location.
- Visualize a list of the events that occurred during the remote update of the current location by clicking the Remote Logs icon.

Note

If no update operation was ever performed, then the icon is displayed.

- Change the Remote Update Location parameters.

Note

For more information about these fields, see the Add a New Remote Update Location section.

Note

If the remote location details are modified, then the application will force the update of the remote locations.

Remote Logs

The Remote Update URL Logs page displays a list of events that occurred during remote updates.

The following information is available:

- Date - The date and time the event occurred.
- Level - The event type.
- Message - An explanatory message regarding the event.
- Log data - Specific information regarding the event.

You can clear the remote update logs by clicking the Clear logs icon.

Removal Confirmation

To finalize the removal, you have to review the list, select the Confirm removal check box and click Ok. If you do not want to delete these records, click Cancel to return to the previous page.

Manage the Client's DNS Templates

The DNS templates automate the Zone configuration by inserting predefined, dynamically generated records.

The client DNS templates are available only to the current client account. When no client specific template is available, the client can choose the server template from the DNS Zone creation step.

The DNS Templates of Client {client_name} management page allows you to:

- Visualize the existing Templates.
- Use the available controls to define a New DNS Template.
- Search for certain templates.
- Edit one of the existing DNS templates.
- Remove unused templates.

4PSA DNS Manager displays the following information about the available templates:

- Name – The name that identifies the template. Click the link to manage the template.
- Type - The DNS Zone type that can be set up using the template:
  - Forward
  - Reverse
  - Reverse IPV6
  - E.164

⚠ Caution

When you delete a template, the Zones created with it will not be affected!

Add a New Client DNS Template

To create a DNS Template for the current client, you must follow the next steps:

1. Fill in a Template name.

> **Note**
>
> 4PSA DNS Manager also accepts **internationalized domain names (IDN)**, Internet domain names that contain non-ASCII characters.

2. Choose the template type using the available radio buttons:
   - Forward - A template for forward DNS zones.
   - Reverse - A template for reverse DNS zones.
   - Reverse IPV6 - A template for reverse IPV6 DNS zones.
   - E.164 DNS Zones
   - E.164 - A template for E.164 DNS zones.
3. Click Ok. The DNS Template {tpl_name} of Client {client_name} page will open, allowing you to define the DNS records and the Template IPs.
4. Next, you should set up the DNS records by clicking the Add DNS record icon available in the Tools section.
5. If you want, you can add now the Template IPs .

Edit the Server Global DNS Templates

When you want to edit an existing DNS template, you can modify and add new DNS records and template IPs, as described in the DNS Template Management page.

Client's DNS Template Management

The DNS Template {tpl_name} of Client {client_name} page offers all the controls required to manage the DNS template:

- Visualize the existing DNS Record(s).
- Set up a new DNS record by clicking the Add DNS record icon available in the Tools section.

- Add new Template IPs.
- Search for certain DNS records.
- Edit one of the existing DNS records.
- Remove unused DNS records.

> Note
>
> For more information, see the DNS Template Management section.

Add DNS Records

To add a record to a DNS template, you must first choose the Record type and next configure its specific parameters accordingly.

> Note
>
> 4PSA DNS Manager also accepts **internationalized domain names (IDN)**, Internet domain names that contain non-ASCII characters.

The following DNS record types are available:

- Forward DNS Zones
- Reverse DNS Zones
- Reverse IPV6 DNS Zones
- E.164 DNS Zones

Edit a DNS Template Record

The Edit Record from Template {tpl_name} page offers you the required tools to modify the chosen record:

- Record Type
  - Record type - To change the record's current type, use this drop-down list that contains all the supported record types.
- {record_type} Record

> Note
>
> All the parameters displayed in section depend on the **Record type** previously chosen.

Note

The domain name can be automatically replaced by the name of the newly created domain if [domain] is specified in the domain name field. In order to have an IP address automatically replaced the [ip] tag must be used.

Removal Confirmation

To finalize the removal, you have to review the list, select the Confirm removal check box and click Ok. If you do not want to delete these records, click Cancel to return to the previous page.

Removal Confirmation

To finalize the removal, you have to review the list, select the Confirm removal check box and click Ok. If you do not want to delete these records, click Cancel to return to the previous page.

Manage Client's Custom Buttons

The Custom Buttons page allows you to manage the custom buttons available for the selected client and to define new ones.

For a detailed overview, see the Manage Custom Buttons section from the Manage the Application chapter.

Note

The **A**vailability level determines if the button is visible for the current client only or for all the client accounts in the system.

Add a New Client's Custom Button

If you want to add a new custom button to the client account, then you have to fill in all the required details from the Settings section.

For more information, see the Add a New Custom Button section.

The difference between the administrator's custom buttons and the client's is the inheritance level. For the client, the two available levels have the following significance:

- 0 – The button is visible only to the system administrators and to the client account that created it.
- 1 – The button is visible to the system administrators and to all the client accounts in the system.

Edit the Client's Custom Buttons

For more details on how to edit the reseller's custom buttons, see the Edit Custom Buttons section.

Client Backup

4PSA DNS Manager offers you the possibility to save a backup copy with all the client's preferences and existing DNS Zones. The .dnsm file that will be stored on your local drive has the following naming convention:

{client_name}-{date}.dnsm

where:

- {client_name} is the name of the current client, for example Foo.
- {date} is the date when the file is saved, for example 20110216. The default format is yyyymmdd.

Impersonate

4PSA DNS Manager offers the possibility to impersonate a client account owner. This option allows management access for the parent account owners in order to modify the child account's permissions and limits.

If you impersonate, you will be able to view the interface from a client's perspective. To do so, click the Impersonate icon available in the Tools section.

Note

The **Impersonate** feature can only be used for enabled users with control panel access. Any attempt to use this feature for a disabled account or an account without control panel access will trigger the following error message:

You cannot use impersonate on an user that is disabled or doesn't have control panel access.

Note

When you impersonate a client, the application will change the skin to the one used by the chosen client, if different from the one you are currently using.

To return to normal view mode, just click the Return to my account link located in the left navigation panel.

XML Export

4PSA DNS Manager allows you to export the client's data in .xml format. This feature can be used for backup or for migration purposes.

You can export all of the following items:

- Client account details
- Client account interface settings
- Client account custom buttons
- Client Transfer IPs
- Client DNS templates
- Login settings
- Client remote locations
- Client DNS zones

To export the database to a .xml file, simply click the XML export icon and confirm your choice.

Chapter 9

Manage the DNS Zones

To access the DNS Zones page, click the DNS Zones link available in the left navigation panel.

DNS Zones' Management Page

This page displays the list of all the DNS Zones in the system and it allows you to add new ones or to manage an existing Zone using the controls available in the following sections:

- Tools - You can set up a new client account by clicking the Add DNS zones icon.
- DNS Zones - 4PSA DNS Manager displays a list with all the Zones defined in the system.

  Multiple operations can be performed:

  - Add a new DNS Zone to the system.

- Search for certain Zones.
- Enable/disable DNS Zones.
- Manage individual DNS Zones.
- Remove existing Zones.

4PSA DNS Manager displays the following information about each Zone:

- S – The Zone's status:
  - ✓ Enabled
  - ✗ Disabled

  Click this icon to enable/disable the DNS Zone.
- T – The DNS Zone type:
  - Master
  - Slave
- DNS Zone name – The name of the DNS Zone. Click the link to enter the Zone's management page .
- First name server – The host name of the first name server registered on this DNS Zone.

> **Note**
>
> The first name server of slave zones is not displayed.

- Created – The date and time the Zone was added to the system.

Searching the DNS Zones List

When you are searching for specific DNS Zone, you can use one or all the available filters:

Search {name} and include [] records also

where:

- {name} - Use the available text box to specify the name of the DNS Zones you are looking for.
- [] - Select this check box if you want the search to be performed through the Value field from the DNS records.

Change the DNS Zones Owners

You can change the owner for one or more of the DNS Zones by following the steps described in this section.

DNS Zones SPF Rules

You can add Server Policy Framework (SPF) rules to your DNS zones. SPF allows the owner of an Internet domain to use special format DNS TXT rules to specify which machines are authorized to transmit e-mail for that domain. To do so, follow the steps described in this section.

Glue DNS Zones Records

Name servers in delegations appear listed by name, rather than by IP address. This means that a resolving name server must issue another DNS request to find out the IP address of the server to which it has been referred. Since this can introduce a circular dependency if the nameserver referred to is under the domain that it is authoritative of, it is occasionally necessary for the nameserver providing the delegation to also provide the IP address of the next nameserver. This record is called a glue record.

In practice, the glue records are used for two purposes:

1. To speed up queries and consequently reduce DNS load by providing the name and IP addresses (the glue) for all authoritative name servers, both within and external to the domain.
2. To break the query deadlock for referrals which return name servers within the domain being queried.

> Note
>
> The **Glue Records** can only be defined for forward master DNS Zones managed from the interface.

For more information, see this section.

Global Operations on DNS Zones

4PSA DNS Manager allows you to simultaneously change records belonging to two or more DNS Zones by following the steps described in this section.

Add a New DNS Zone

4PSA DNS Manager allows you add a single DNS Zone, multiple DNS Zone names from a local file or multiple DNS Zones with complete DNS Records.

> Note
>
> 4PSA DNS Manager also accepts **internationalized domain names (IDN)**, Internet domain names that contain non-ASCII characters.

Add a Single DNS Zone Name

In order to add a single DNS Zone name, you must fill in all the information required in the Add DNS Zone Name fieldset. More information about all the required parameters can be found here .

Adding Multiple DNS Zones with Complete DNS Records

In order to add multiple DNS Zones with complete DNS Records, click the Full zones from file icon available in the Tools area.

For a detailed overview of the required input parameters, check this section.

Select Client

When you want to add a new DNS Zone directly from the DNS Zones management page, you have to select a client account to which this Zone will be added to. The Select Reseller allows you to choose the desired account.

v displays a table with all the clients available in the system, providing the following information about each one of them:

- Client name - The name of client. Click the link to select the desired client account.

> Note
>
> If the maximum number of Zones had been reached and you cannot add another one to that particular client, the ! icon is displayed. Also, the client's name is not underlined anymore.

- Company name – The name of the client's company.
- Created – The date the client account was added to the system.
- DNS Zones – The number of DNS Zones the client has in 4PSA DNS Manager.

Edit a DNS Zone

> Warning
>
> The records of the zones added from a remote location cannot be modified from the interface. In this case, 4PSA DNS Manager displays the following warning message:
>
> `This zone is managed by Remote Update and cannot be edited in the interface.`

The client's DNS Zone can be fully managed from the DNS Zone {name} of Client {client_name} page. Here you can find all the controls required to control the DNS Zone and its records, grouped into the following sections:

- New DNS Record
  - Click the Add DNS record icon to define a new record for the current Zone.
- Tools

  Using the icons available in this section you can manage the current DNS Zone:

  - Change the DNS Zone type by clicking:
    - Switch to slave if the Zone is master.

    - Switch to master if the Zone is slave.
  - Change the DNS Zone status by clicking:
    - Zone is enabled to disable the Zone.
    - Zone is disabled to enable the Zone.
  - Transfer IP addresses
  - Backup DNS zone

> Note
>
> A disabled Zone or without any records CANNOT be backed up. The icon is displayed instead.

  - DNS round robin

> Warning
>
> This feature is only available for forward Zones added from the 4PSA DNS Manager control panel.

> Note
>
> If the forward Zone is not allowed **Round Robin management**, then the icon will be displayed instead.

  - Zone SOA records

- Check name servers

> **Note**
>
> When the domain has no name servers defined, the icon is displayed instead.

- **DNS Zone Information**

  The following information about the current Zone are displayed:

  - DNS Zone type – The DNS Zone type: Master or Slave/ Forward, Reverse or E.164. The number of transfer IPs for master Zones and the number of master IPs for slave zones respectively are also displayed, between parenthesis.

    > **Note**
    >
    > A `slave` zone will acquire it's zone data only after receiving the notification from the respective `master` zone, or after it is manually reloaded on the server. 4PSA DNS Manager does not reload `slave` zones due to the extra overhead involved on busy environments, therefore is recommended to setup notifications on `master` zones.

  - Hosts in this zone - Displays the first and last available IP (these parameters depend on the reverse zone IP class).

    > **Note**
    >
    > This line is displayed for `reverse` DNS Zones only.

  - Last DNS Zone update – This field displays the date when the DNS Zone was last updated by the user or from the remote update location.
  - Last DNS Zone update source – The source of the last update. The DNS Zone can be updated from the interface or from a remote update location.

    If the zone was update from a remote location, the icon is displayed. Click this icon to access the configuration page of the respective remote update location.

- **DNS Records**

  This table displays all the records defined for the current DNS Zone. The following information is available:

- S – The DNS record's status:
  - ✓ Enabled
  - ✗ Disabled
  - ✗ Temporarily disabled

    This icon indicates that the record has been temporarily disabled by round robin who was not able to access it.

  Click this icon to change the record's status.

  > **Warning**
  >
  > The record's status can be modified only for Zones added from the 4PSA DNS Manager control panel.

- P - This icon shows whether there are any round robin polls monitoring the record or not.
  - This icon indicates that there are round robin polls set up for the corresponding record. On click, the record's Round Robin Polls for DNS {record_name} management page opens.
  - This icon indicates that there are no round robin polls set up for this record.

    > **Warning**
    >
    > This column is available only for `forward` Zones added from the 4PSA DNS Manager control panel.

- Host – The host name or the IP address of the DNS record.
- Record type - The DNS record type, defined based on the DNS Zone type .
- Value – Depending on the Record type, this field displays an IP address, an alias, a name server, a host name or a text.
- Priority - The target hos priority. The lower the value, the higher the priority level.
- Weight - A relative weight between records with the same Priority.

- Last update - The date and time the record was last modified either from the web based interface or by updateurl.
- M – Click the Modify icon if you want to edit the DNS record.

> ⚠ Warning
>
> The records can be modified only for Zones added from the 4PSA DNS Manager control panel.

Add a New DNS Records

> ⚠ Warning
>
> Records can be added only for Zones added from the 4PSA DNS Manager control panel.

Depending on the Zone type, the Add NEW Record to DNS Zone {zone_name} page displays the following sections:

- The DNS Zone Information section is available for reverse zones only:
  - Hosts in this zone - The first and last available IP addresses. These parameters depend on the reverse Zone IP class.
- The {record_type} Record section is displayed for all Zone types:
  - Record type - Use the drop-down list to select one of the record types available for the current Zone:
    - For Forward DNS Zones
      - IP Address (A) - This record type maps a hostname to a 32-bit IPv4 address.

        The type A rules have the following format:

        ```
        hostname. IN A XXX.XXX.XXX.XXX
        ```

        where:

        - XXX.XXX.XXX.XXX is the IP address for the hostname.
        - hostname. is the zone name or one of its subdomains.

        For example:

        ```
        domain.com. IN A 1.2.3.4
        subdomain.domain.com. IN A 1.2.3.4
        ```

For more information about this record type, see RFC 1035.

- **AAAA Record (AAAA)** - This record type maps a hostname to a 128-bit IPv6 address.

  The AAAA rules have the following format:

  ```
  hostname. IN AAAA:AAAA:AAAA:AAAA:AAAA:AAAA:AAAA:AAAA
  ```

  where:

  - `AAAA:AAAA:AAAA:AAAA:AAAA:AAAA:AAAA:AAAA` is the IPv6 address for the hostname.
  - `hostname.` is the zone name or one of its subdomains.

  For example:

  ```
  domain.com. IN AAAA abcd:1234:ffff:0:12:3:ab1:aa
  ```

  ```
  subdomain.domain.com. IN AAAA abcd:1234:ffff:0:12:3:ab1:aa
  ```

  For more information about this record type, see RFC 3596.

- **Alias for record (CNAME)** - The canonical name record is an alias (or nickname) of one name to another. The A record to which the alias points can be either local or remote - on a foreign name server. This is useful when running multiple services (like an FTP and a webserver) from a single IP address. Each service can then have its own entry in DNS (like `ftp.example.com.` and `www.example.com.`). It is also used when running multiple HTTP servers, with different names, on the same physical host.

  The CNAME rules have the following format:

  ```
  hostname. IN CNAME servername.
  ```

  where:

  - `hostname.` is the zone name or one of its subdomains.
  - `servername.` is a fully qualified domain name (FQDN) either inside or outside the zone.

  For example:

  ```
  ftp.domain.com. IN CNAME inside.domain.com.
  ```

  ```
  ftp1.domain.com IN CNAME outside.zone.com.
  ```

> **Note**
>
> RFC 1034 states:

> *If a CNAME record is present at a node, no other data should be present; this ensures that the data for a canonical name and its aliases cannot be different.*
>
> In order for these requirements to be met in 4PSA DNS Manager, the value specified in the **Zone alias name** field of the CNAME record cannot be set for the **DNS Zone name** filed in NS, A, AAAA, SRV, CNAME and TXT records or for the **Zone email** field in a MX record.

For more information about this record type, see [RFC 1035](RFC 1035).

- Nameserver (NS) - This record type maps a domain name to a list of DNS servers authoritative for that domain. The delegations depend on the NS records.

  The NS rules have the following format:

  `hostname. IN NS servername.`

  where:

  - `hostname.` is the zone name or one of its subdomains.
  - `servername.` is a domain name which specifies an authoritative host for the chosen hostname.

  For example:

  ```
  domain.com. IN NS ns1.example.com.
  ```

  ```
  domain.com. IN NS ns2.example.com.
  ```

> Note
>
> The NS records of $ORIGIN are displayed in bold characters.
>
> 4PSA DNS Manager allows to choose from the interface the primary nameserver on a zone (required for some local TLDs). In order to set up an NS record as primary, select the **Make primary** check box when you add/edit the desired NS record.

> Caution
>
> For BIND to take a DNS zone into consideration, at least one NS record must be defined for $ORIGIN in that zone.
>
> For best practice, it is recommended to have at least two NS records defined for each public domain.

For more information about this record type, go to RFC 1035.

- Mail exchanger (MX) - This record type maps a domain name to a list of mail exchange servers.

  The MX rules have the following format:

  `hostname. IN MX preference servername.`

  where:

  - `hostname.` is the zone name or one of its subdomains
  - `preference` indicates the hostname's priority. The lower the preference, the higher the priority. This parameter accepts values between 0 and 50.
  - `servername.` is a fully qualified domain name (FQDN) inside the zone.

  For example:

  ```
  mail.domain.com. IN MX 10 domain.com.
  ```

  ```
  webmail.domain.com. IN MX 5 domain.com.
  ```

  For more information about this record type, see RFC 1035.

- Text record (TXT) -This record type allows an administrator to insert arbitrary text into a DNS record. This has been used to implement new functions with DNS support without allocating new record types. For example, this record is used to implement the Sender Policy Framework and DomainKeys specifications.

  The TXT rules have the following format:

  `hostname. IN TXT "Text information"`

  where:

  - `hostname.` is the zone name or one of ts subdomains.
  - `"Text information"` can be any type of string including strings generated by SPF Rules.

  For example:

  ```
  domain.com. IN TXT "k=rsa; p=MEwwDQYerwqEWwE"
  ```

  ```
  subdomain.domain.com. IN TXT "this is a test"
  ```

  For more information about this record type, see RFC 1035.

- Service Record (SRV) - This record type specifies the servers' location for a specific protocol and domain.

The SRV rules have the following format:

```
_Service._Protocol.Hostname. IN SRV TTL Priority Weight Port Target
```

where:

- `Service` is the symbolic name of the desired service. You can find a list of the available services here.
- `Protocol` is the desired service's protocol. This is usually TCP or UDP, but 4PSA DNS Manager supports all the protocols listed here.
- `Hostname.` is the domain name for which the record is valid.
- `TTL` is the standard DNS time to live field. If there is no TTL specified for the record, the TTL value for the zone will be employed.
- `Priority` is the priority of the target host. The lower the value, the higher the priority level.
- `Weight` indicates a relative weight between records with the same priority.
- `Port` is the port on which the service is to be found.
- `Target` is the domain name of the target host.

> Note
>
> The `Target` parameter can not be an alias (CNAME).
>
> When `Target` is set to `. (point)`, the service is unavailable.
>
> The `Target` can be in another domain if you use for it a FQDN domain name.

For example:

```
_service._tcp.domain.com. IN SRV 0 1 9 subdomain.domain.com.
```

```
*._tcp.domain.com. IN SRV 0 0 0 . ; no other service is available on tcp protocol
```

```
_service._tcp.domain.com. IN SRV 0 1 9 anotherdomain.com.
```

For more information about this record type, see RFC 2782.

- For Reverse DNS Zones
  - Nameserver (NS) - Specifies a host which should be authoritative for the chosen class.

For class C reverse zones, 4PSA DNS Manager accepts NS records for $ORIGIN and supports classless delegation records, as described in RFC 2317, chapter 4.

> **Note**
>
> The NS records of $ORIGIN are displayed in bold characters.
>
> 4PSA DNS Manager allows to choose from the interface the primary nameserver on a zone (required for some local TLDs). In order to set up an NS record as primary, select the **Make primary** check box when you add/edit the desired NS record.

> **Caution**
>
> For BIND to take a DNS zone into consideration, at least one NS record must be defined for $ORIGIN in that zone.
>
> For best practice, it is recommended to have at least two NS records defined for each public domain.

Class A and B zones support NS records for $ORIGIN and inferior class zones, but do not support classless delegation records.

For class C reverse zones, 4PSA DNS Manager automatically generates CNAME records that correspond to the NS records created for classless delegation records. If the Automatically generate CNAME records for delegated subnets check box is selected, then the CNAME records will be automatically generated. This check box is available only for NS records with a subnet mask lower than 24 (having a numeric value higher than 24).

The NS rules have the following format:

```
ip_part.host_ip_addr.IN-ADDR.ARPA. IN NS servername.
```

where:

- host_ip_addr.IN-ADDR.ARPA. is the zone name.
- ip_part is the IP section that completes the IP address when prepended to host_ip_addr (for class A, B zones and for class C $ORIGIN NS).
- For classless delegation records, ip_part is the IP section that completes the IP address when prepended to host_ip_addr, including the subnet mask.

- servername. is a domain name that specifies an authoritative host for the specified zone.

For example:

```
1.2.3.IN-ADDR.ARPA. IN NS ns2.server.com.
```

```
1.2.3.IN-ADDR.ARPA. IN NS ns3.server.com.
```

```
0/29.1.2.3.IN-ADDR.ARPA. IN NS example.com.
```

For more information about this record type, see RFC 1035.

- Reverse record (PTR) - This record type maps an IPv4 address to the canonical name for that host. Setting up a PTR record for a hostname in the IN-ADDR.ARPA. domain that corresponds to an IP address implements reverse DNS lookup for that address.

  The PTR rules have the following format:

  ```
  IPaddress IN PTR hostname.
  ```

  where:

  - IPaddress is the IPv4 address in the IN-ADDR.ARPA. domain.
  - hostname. is the corresponding location in the domain name space.

  For example:

  ```
  5.1.2.3.IN-ADDR.ARPA. IN PTR test.com.
  ```

  For more information about this record type, see RFC 1035.

- Alias for record (CNAME) - A canonical name record is an alias of one name to another. According to RFC 2317, CNAME records are only supported in C class reverse zones.

  The CNAME rules have the following format:

  ```
  ip_part.network.host_ip_addr.IN-ADDR.ARPA.    IN    CNAME
  ip_part.host_ip_addr.IN-ADDR.ARPA.
  ```

  where:

  - ip_part is the IP section that completes the IP address when prepended to host_ip_addr.
  - network is the subnet mask.
  - host_ip_addr.IN-ADDR.ARPA. is the zone name.

  For example:

  ```
  0.1.2.3.IN-ADDR.ARPA. IN CNAME 0.0/29.1.2.3.IN-ADDR.ARPA.
  ```

  ```
  1.1.2.3.IN-ADDR.ARPA. IN CNAME 1.0/29.1.2.3.IN-ADDR.ARPA.
  ```

```
...
```

```
7.1.2.3.IN-ADDR.ARPA. IN CNAME 7.0/29.1.2.3.IN-ADDR.ARPA.
```

For more information about this record type, see RFC 1035.

- Text record (TXT) - This record type allows an administrator to insert arbitrary text into a DNS record. This has been used to implement new functions with DNS support without allocating new record types. For example, this record is used to implement the Sender Policy Framework and DomainKeys specifications.

  The TXT rules have the following format:

  ```
  ip_part.host_ip_addr.IN-ADDR.ARPA. IN TXT "Text information"
  ```

  where:

  - ip_part is the IP section that completes the IP address when prepended to host_ip_addr.
  - host_ip_addr.IN-ADDR.ARPA. is the zone name.
  - "Text information" can be any type of string.

  For example:

  ```
  4.1.2.3.IN-ADDR.ARPA. IN TXT "This is a test"
  ```

  For more information about this record type, see RFC 1035.

- For E.164 Zones

  - Nameserver (NS) - This record type maps a domain name to a list of DNS servers authoritative for that domain. The delegations depend on the NS records. The NS rules have the following format:

    ```
    hostname. IN NS servername.
    ```

    where:

    - hostname. is the zone name or one of its subdomains.
    - servername. is a domain name that specifies an authoritative host for the specified hostname.

    For example:

    ```
    1.2.E164.ARPA. IN NS ns1.example.com.

    1.2.E164.ARPA. IN NS ns2.example.com.

    5.1.2.E164.ARPA. IN NS ns1.example.com.
    ```

> Note
>
> The NS records of $ORIGIN are displayed in bold characters.
>
> 4PSA DNS Manager allows to choose from the interface the primary nameserver on a zone (required for some local TLDs). In order to set up an NS record as primary, select the **Make primary** check box when you add/edit the desired NS record.

> Caution
>
> For BIND to take a DNS zone into consideration, at least one NS record must be defined for $ORIGIN in that zone.
>
> For best practice, it is recommended to have at least two NS records defined for each public domain.

For more information about this record type, see RFC1035.

- NAPTR record (NAPTR) - Naming Authority Pointers. The NAPTR rules have the following format:

  ```
  order preference services flag regexp replacement
  ```

  where:

  - order indicates the order in which the records are to be processed when a query returns multiple NAPTR records.
  - preference indicates the processing order for multiple records with identical order.
  - services indicate the resolution protocol and resolution services employed when applying a rewrite according to the regexp or replacement field.
  - flag is a modifier that affects the next DNS lookup.
  - regexp is the primary field used for rewrite rules.
  - replacement is a secondary field used for rewrite rules.

  For example:

  ```
  1.2.E164.ARPA. IN NAPTR 100 10 "u" "sip+E2U" "!^.*$!
  sip:information@foo.se!i" .
  ```

  ```
  1.2.E164.ARPA. IN NAPTR 102 10 "u" "SMTP+E2U" "!^.*$!
  mailto:information@foo.se!i" .
  ```

  For more information about this record type, see RFC3403.

- Note

  Since IPv6 addresses are natively classless, there are no **CNAME** based naming conventions when setting up delegated reverse DNS for your netblock. Thus, there is only one method of IPv6 rDNS naming.

  For more information, see the Non-Terminal DNS Name Redirection (primarily IPv6) RFC 2672.

For Reverse IPV6 DNS Zones

- Reverse record (PTR) - This record type maps an IPv6 address to the canonical name for that host. Setting up a PTR record for a hostname in the IP6.ARPA. domain that corresponds to an IPv6 address implements reverse DNS lookup for that address. The PTR rules have the following format:

  `IPv6 address IN PTR hostname.`

  where:

  - `IPv6 address` is the IPv6 address in the IP6.ARPA. domain.

    Note

    Each time you define a new record for an IPv6 DNS Zone, 4PSA DNS Manager displays under the **IP address** text box the number of nibbles that have to be filled in to have a valid record.

  - `hostname.` is the corresponding location in the domain name space.

  For example:

  ```
  8.b.d.0.1.0.0.2.IP6.ARPA. IN PTR test.com.
  ```

  ```
  1.1.1.1.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.8.B.D.0.1.0.0.2.IP
  IN PTR test.com.
  ```

  For more information about this record type, see RFC4291.

- Nameserver (NS) - Specifies a host which should be authoritative for the chosen class.

  The NS records can be defined only for $ORIGIN.

  Note

  The NS records of $ORIGIN are displayed in bold characters.

  4PSA DNS Manager allows to choose from the interface the primary nameserver on a zone (required for some local TLDs). In order to set up an NS record as primary, select the **Make primary** check box when you add/edit the desired NS record.

Caution

For BIND to take a DNS zone into consideration, at least one NS record must be defined for $ORIGIN in that zone.

For best practice, it is recommended to have at least two NS records defined for each public domain.

The NS rules have the following format:

```
ipv6_part.host_ipv6_addr.IP6.ARPA. IN NS servername.
```

where:

- `ipv6_part` is the IP section that completes the IP address when prepended to `host_ip_addr`.
- `host_ipv6_addr.IN-ADDR.ARPA.` is the zone name.
- `servername.` is a domain name which specifies an authoritative host for the defined zone.

For example:

```
8.b.d.0.1.0.0.2.IP6.ARPA. IN NS example.com.
```

```
5.5.1.3.2.1.0.2.3.4.5.6.7.8.9.0.1.2.3.4.5.6.7.8.9.0.A.B.C.D.E.F.IP
IN NS example.com.
```

For more information about this record type, see RFC4291.

You can choose whether you would like the record to be enable after you create it by selecting the check box next to the drop-down list. By default, every record is enabled.

Note

The domain name can be automatically replaced by the name of the newly created domain if `[domain]` is specified in the domain name field. In order to have an IP address automatically replaced, the `[ip]` tag must be used.

Note

All the other parameters displayed in section depend on the **Record type** previously chosen.

You can add up to 10 multiple similar records in the same time using the ➖ ➕ icons.

Click Ok and the new record(s). Click Cancel to return to the previous page without adding anything.

Edit a DNS Record

The Edit DNS Record page allows you to change the record type and its specific parameters, depending on your requirements. To do so, you can use the controls grouped into the following fieldsets:

- The DNS Zone Information section is available for reverse zones only:
  - Hosts in this zone - The first and last available IP addresses. These parameters depend on the reverse Zone IP class.
- Record Type
  - Record type - To change the record's current type, use this drop-down list that contains all the supported record types.
  - Record is enabled - You can also enable or disable the record by selecting or deselecting this check box.
- {record_type} Record

> Note
>
> All the parameters displayed in section depend on the **Record type** previously chosen.

Transfer IP Addresses

The Transfer IPs are DNS server IPs that are allowed to transfer (copy) the Zone information from the server (master or slave for the Zone). These IPs will be recorded in the named.conf file in the acl (Access Control Lists) clauses.

> Warning
>
> The transfer IP addresses can be modified only for zones that have been added from the 4PSA DNS Manager control panel.

The controls available in the DNS Zone Transfer of {record_name} page are grouped into three sections:

- DNS Zone Information
  - DNS Zone type - The DNS Zone type can be:
    - Master
    - Slave
  - Last DNS Zone update – This field displays the date when the DNS Zone was last updated by the user or from the remote update location.

> Note
>
> Pay particular attention to the **Last DNS Zone update**. This is the time when the Zone was actually updated by the 4PSA DNS Manager low level program.

- New Transfer IP Address

  To add new IP addresses, you must simply specify the desired address or the IP/Mask address in the Slave DNS server IP or IP/Mask address text box (e.g: 192.168.14.11/24, 192.168.1.1/16) and click Ok.

  To add multiple IP or IP/Mask addresses in the same time, use the − + icons.

- Transfer IP Addresses

  4PSA DNS Manager displays the following information about the available transfer IPs:

  - IP Address - The IP or the IP/Mask address of the DNS server allowed to transfer Zone information from the server.

DNS Zone Backup

4PSA DNS Manager offers you the possibility to save a backup copy with all the DNS Zone's preferences and existing records. The .dnsm file that will be stored on your local drive has the following naming convention:

{zone_name}-{date}.dnsm

where:

- {zone_name} is the name of the current DNS Zone, for example 1.2.3.IN-ADDR.ARPA.d..

- {date} is the date when the file is saved, for example 20110216. The default format is yyyymmdd.

Manage the Round Robin Polls

The round robin is a load balancing technique in which balance power is placed in the DNS server instead of a strictly dedicated machine as other load techniques do. Round robin works on a rotating basis in that one server IP address is handed out, then moves to the back of the list; the next server IP address is handed out, and then it moves to the end of the list; and so on, depending on the number of servers being used. This works in a looping fashion.

The Round Robin Polls for DNS {zone_name} management page allows you to:

- Visualize the Current Polls.
- Define a New Round Robin Poll by clicking the Add new poll icon.
- Search for certain polls.
- Edit one of the existing round robin polls.
- Remove unused polls.

4PSA DNS Manager displays the following information about the available polls:

- S – The round robin poll's status:
  - ✓ Enabled
  - ✗ Disabled

  Click the icon to modify the poll's status.
- Name - The round robin poll's name. Click the link to edit the poll.
- Monitored records - The number of monitored records.
- Active records - The number of active records out of the total monitored records.
- Last update - The date and time the poll was last updated.

Add a New Round Robin Poll

Follow the next steps to add a new poll:

1. Use the controls available in the Add New Resource Poll fieldset to define the poll's behaviour:

   a. Fill in the poll's Name.

   b. Use the drop-down list to select the Tested protocol. The available options are:

      - HTTP
      - IMAP
      - MySQL
      - PING
      - POP3
      - SIP
      - SMTP

   c. Fill in the number of minutes between two subsequent tests in the Monitoring interval text box.

   d. Use the Tested resource text box to specify a resource corresponding to the protocol that is to be tested. You can type in a particular IP address or hostname or you can monitor the value set for the selected records. For the later, use the $RR variable.

      > Note
      >
      > $RR is replaced by one of the entries in the **Value** column listed for the selected records. You can use expressions such as `http://$RR` or `http://$RR/test.php`.

   e. Last, decide for how long the round robin will attempt to access the resource before failing in the Try resource for {x} seconds field.

2. Next, choose the DNS record(s) you wish to add to the poll from the DNS Records table by selecting the corresponding check box(es) available in the M column. If you want to select all the records in the list, then simply select the check box displayed in the top header.

   For more details on the information displayed about each DNS Zone, see this section.

3. Click the ✓ Apply changes link to associate the selected records with the new poll.

4. To finalize the process, click Ok and return to the previous page. Click Cancel if you do not want to create the round robin poll.

Edit a Round Robin Poll

The Poll {poll_name} for DNS {zone_name} page allows you to edit the round robin poll using the controls described in the previous section.

Removal Confirmation

To finalize the removal, you have to review the list, select the Confirm removal check box and click Ok. If you do not want to delete these records, click Cancel to return to the previous page.

Set the SOA Parameters

The SOA (Start of Authority) record defines global parameters for the DNS Zone. There is only one SOA record allowed in a DNS Zone file.

The default SOA parameters values for all the DNS Zones that belong to the client account can be modified:

- Serial - The DNS Zone serial number that must be a natural value between 1 and 4,294,967,295 (a 32 bit unsigned number). The value must increment when any resource record in the zone file is updated. A slave (secondary) DNS server will read the master's DNS SOA record periodically, either when refresh expires or when it receives a NOTIFY and will arithmetically compare the value of the serial number it currently stores with the one received from the master (primary) DNS. If the master's serial value is arithmetically higher than the one currently stored by the slave, then a zone transfer is initiated. If the value is the same or lower, then the zone transfer is not initiated and the slave DNS will not update.

> **Note**
>
> Serial example: 1271668821
>
> This value represents the current date and time (2010-04-19 12:20:21) using the UNIX time stamp.

Select the The serial is generated automatically check box if you want the serial number to be automatically generated by the system.

Depending on if you enabled this option or not, the serial can behave in three ways:

1. If the check box is selected, then the serial number will be automatically generated.

2. If the check box is selected and the serial number is manually modified, than 4PSA DNS Manager will use for the first time the modified serial and, after this, it will automatically generate new serial numbers.
3. If the check box is not selected, than the serial will not be automatically generated and the value entered in the Serial text box will be used. This method will force the serial to a certain value and the slave DNS server will never update the zone.

- Refresh time {x} seconds
- Retry time {x} seconds
- Expire time {x} seconds
- Minimum TTL {x} seconds
- Default TTL {x} seconds

Note

More details about these last fields can be found in this section.

Click OK to confirm the changes or Cancel to return to the previous page without modifying anything.

Checking the Nameservers

Clicking the Check name servers icon to verify the availability of the name servers for the current zone triggers the display of a new section, Check Name Servers, that lists all the name servers and shows their availability using the following parameters:

- Not available - The name server is unavailable.
- Timed out - The name server did not answer in due time.
- Available - The name server is available.
- Unknown - The name server could not be found.

Removal Confirmation

To finalize the removal, you have to review the list, select the Confirm removal check box and click Ok. If you do not want to delete these records, click Cancel to return to the previous page.

Chapter 10

Command Line Configuration

In order to customize 4PSA DNS Manager to meet your requirements, you can use the command line utilities included in the software distribution. In this way you can configure the low level engine and the 4PSA DNS Manager interface.

Low Level Engine Configuration

The file /etc/dnsmanager/dnsmanager.conf contains several directives which control the 4PSA DNS Manager low level behavior. These directives cannot be modified using the browser interface. You should modify them only if you fully understand their functionality.

The following directives are included in the list:

DNSMANAGER_ROOT_D - The directory where 4PSA DNS Manager interface files are. Default value is /usr/local/dnsmanager

DNSMANAGER_RC_D – The script used for start/stop dnsmanager daemon. On Red Hat RPM installation the script location is /etc/rc.d/init.d/dnsmanager.

MYSQL_BIN_D – The MySQL binary directory. The MySQL location on a Red Hat RPM installation is /usr/bin.

MYSQL_RC_D – The script used for start/stop MySQL daemon. The script location on a Red Hat RPM installation is /etc/rc.d/init.d/mysql.

MYSQL_VAR_D – The MySQL databases directory. The default location on a Red Hat RPM installation is /var/lib/mysql.

NAMED_RC_D – The script used for start/stop named daemon. The default location, on Red Hat RPM installation is /etc/rc.d/init.d/named.

RNDC_BIN_D - The path to rndc binary used for communicating with named. Default location /usr/sbin.

ZONEMNG_RC_D - Default location: /etc/rc.d/init.d/zonemngd

UPDATEURL_RC_D - Default location: /etc/rc.d/init.d/updateurld

NAMED_D - The root directory for the named daemon. On Red Hat RPM installation, the named root directory is /var/named/run-root.

NAMED_FILE – The named configuration file. Default /etc/named.conf.

NAMED_SBIN_D – The named binary directory. On a Red Hat standard RPM installation is /usr/sbin.

RNDC_FILE – The rndc configuration file. Default /etc/rndc.conf.

MASTER_D – The named master zone files location. Default: /var.

SECONDARY_D – The named slave zones files location. Default: /var/secondary.

TEMPLATES_D – Directory where monitoring email templates are stored. Default: /var/lib/dnsmanager/templates.

TEMP_D – The temporary working directory for 4PSA DNS Manager. Default: /usr/local/dnsmanager/tmp.

DOWNLOAD_D – The temporary directory used by 4PSA DNS Manager to download files with DNS Zone information from remote locations. Default: /usr/local/dnsmanager/tmp/download.

DAEMON_NAME – The name of the Bind daemon. This name is used by 4PSA DNS Manager for monitoring and other operations. Default: named.

SENDMAIL_BIN_FILE – The path to sendmail file. Default: /usr/sbin/sendmail -t.

DIG_BIN_D – Dig application path. Default: /usr/bin.

YUM_BIN_D – The yum updater binary directory. On Red Hat RPM installation, the yum binary directory is /usr/bin.

YUM_CACHE_D – The folder used as installer directory. Default: /var/cache/dnsmanager.

DUMPS_D – The daily dumps directory. Default: /var/lib/dnsmanager/dumps.

DNSMANAGER_LOG_D – The folder used as logging directory. Default: /var/log/dnsmanager.

NAMED_USERNAME – The username under which named service runs. Default: named.

NAMED_GROUP – The group name under which named service runs. Default: named.

ZONEMNG_PID_FILE - zonemng process ID file. Default:/var/run/dnsmanager/zonemng.pid

UPDATEURL_PID_FILE - updateurld process ID file. Default: /var/run/dnsmanager/updateurl.pid

UPDATEURL_USER - The user updateurld is running as. Default: dnsmanager

UPDATEURL_GROUP The group updateurld is running as. Default: dnsmanager

DOWNLOAD_URL_TIMEOUT – The time granted to download a file from a remote location (seconds). You may increase this value if you experience download problems. Default: 45.

DOWNLOAD_URL_CONNECT_TIMEOUT – Time granted to the remote update process to connect to a remote location (seconds). You may increase this value if you experience download problems. Default: 15.

UPDATEURL_CONCURRENCY_LIMIT - Maximum number of concurrent processes in updateurld. Default: 10

ZONEMNG_CONCURRENCY_LIMIT - Maximum number of concurrent processes in zonemngd. Default: 10.

MAX_DOWNLOAD_THREADS – Maximum number of concurrent download processes. Default: 20.

MAX_DAILY_RESTART – Maximum number of daily named restarts made by 4PSA DNS Manager. Default: 20.

MAX_FILE_SIZE – The maximum size of a file 4PSA DNS Manager will download from a remote location (kB). Default: 900.

MAX_ZONES_PERFILE The maximum number of DNS Zones which can exist in a remote update file. 4PSA DNS Manager will not process a larger number of DNS Zones. Default: 10000.

MAX_RECORDS – Maximum number of DNS records in a zone file. Default: 500.

ZONEMNG_RUN_INTERVAL - The interval in seconds when zonemng is getting changes from database Default value: 900.

UPDATEURL_RUN_INTERVAL - The interval in seconds when updateurl is trying to download URLs. Default value: 900.

ZONE_SERIAL RFC 4PSA DNS Manager can write the zone serial number in two formats (RFC1912 and timestamp). Valid options: RFC and timestamp. Default: RFC.

DB_HOST – The host name used by 4PSA DNS Manager low level scripts to connect to the database

DB_NAME – The database name used by 4PSA DNS Manager.

⚠ Warning

Do not change this value because 4PSA DNS Manager requires the dnsmanager database name.

DB_USER – The user 4PSA DNS Manager uses to connect to the database.

DB_PASSWD – The password 4PSA DNS Manager uses to connect to the database.

RRMONIT_MAX_THREADS - Maximum number of threads used by the rrmonitd daemon when monitoring records. Default: 4.

RRMONIT_TIMEOUT - Timeout interval for the rrmonitd daemon. Default: 60.

RRMONIT_POLLING_INTERVAL - Time interval used by rrmonitd between two consecutive polling list read. Default: 25.

RRMONIT_CONCURRENCY - Number of threads for monitoring daemon. Default: 4.

RRMONIT_DRIFT - Seconds to delay the concurrent polls that exceed RRMONIT_CONCURRENCY. Default: 7.

RRMONIT_PID_FILE - PID file for the rrmonitd daemon. Default: /var/run/dnsmanager/rrmonit.pid.

RRMONIT_D - Monitoring scripts path for the rrmonitd daemon. Default: /usr/local/dnsmanager/rrmonit/bin.

RRMONIT_RC_D - rrmonitd start/stop script. Default: /etc/init.d/rrmonitd.

Note

These values are modified during the product installation based on admin input. If you change these values, you might experience problems.

Monitoring Script Configuration File

The /etc/dnsmanager/monitoring.conf file contains the services that are monitored and describes the behaviour of the monitoring service.

The following directives are included in the file:

MONIT_EMAILS - Number of daily emails sent by monitoring daemon.

MONIT_RESTARTS - Number of daily monitoring daemon restarts.

NAMED_MONIT 1 - DNS server monitoring service. Values: 1 - enabled, or 0 - disabled.

MYSQL_MONIT 0 - MySQL server monitoring service. Values: 1 - enabled, or 0 - disabled.

DNSMHTTP_MONIT 0 - Interface monitoring service. Values: 1 - enabled, or 0 - disabled.

ZONEMNG_MONIT 1 - zonemng monitoring service. Values: 1 - enabled, or 0 - disabled.

UPDATEURL_MONIT 1 - updateurl monitoring service. Values: 1 - enabled, or 0 - disabled.

RRMONIT_MONIT 1 - rrmonit monitoring service. Values: 1 - enabled, or 0 - disabled.

ALERT_EMAIL - The email address where the notifications will be send.

Chapter 11

Remote Update Location Configuration

4PSA DNS Manager is able to get files containing DNS Zones and full DNS Records information from remote servers. In order to be able to retrieve this information, you have to set up a Cron job on the remote server. This job must prepare the list of the DNS Zones. Every time 4PSA DNS Manager updates its database with the information from this URL, the Records will be up to date.

Generating a list of DNS Zones on a server is a straightforward job.

Let us assume that you have a Plesk server and you want to provide centralized DNS and redundancy for this server. The algorithm can be applied to as many servers as you want, no matter what control panel they have installed.

1. 4PSA DNS Manager as a Secondary Server

The easiest option is to let 4PSA DNS Manager act as a slave DNS server for your multiple Plesk servers which have DNS Zones setup as primary.

In order to achieve this, the following requirements have to be met:

1. 4PSA DNS Manager is allowed to obtain DNS Zone information from the primary server.
2. 4PSA DNS Manager knows the names of the DNS Zones which must obtained from the primary server.

In order to satisfy these two basic requirements, you have to configure the DNS server on the Plesk server to allow transfer from the 4PSA DNS Manager IP. Since every DNS Zone created on a Plesk server includes an ACL called common-allow-transfer, all you have to do is to include the IP of the 4PSA DNS Manager in the Global Transfer IPs page, or to add the Allow transfer IPs in the Remote Update Locations page.

> Note
>
> Since Plesk uses its database to write the `named.conf` file, the best solution is to insert the IP address of the 4PSA DNS Manager server in the 4PSA database. This way you can be sure that the `named.conf` file will remain correct. To do this, execute the following commands in the 4PSA database:
>
> ```
> MySQL>INSERT INTO misc VALUES ('DNS_Allow_TransferXX','<Secondary Server IP>');
> ```
>
> Where: XX is a unique number (increment it to add more IP addresses), `<Secondary Server IP>` is the IP of the 4PSA DNS Manager server.

The second step is to let 4PSA DNS Manager obtain the list of the DNS Zones from the master server (Plesk server). In order to do this we will install on the Plesk server a program supplied in the 4PSA DNS Manager in the DNSMANAGER_ROOT_D/remote directory.

The `plesk_export.sh` is a shell script written by 4PSA for Plesk servers. It writes a file containing the name of all domains that exist on this server. The program accepts the final destination file as argument. All you have to do is to insert this file in cron and make sure that it will write the list of the domains to a directory which can be accessed over the web.

First you will have to configure the configure the script to export slaves zones and master records (edit the script to set the required variables as defined in the script).

For example:

```
sh plesk_export.sh /home/httpd/vhosts/mydomain.com/httpdocs/dnslist.txt
```

will dump the list of domains to a file that can be accessed over the web at:

`http://www.mydomain.com/dnslist.txt`

Note

Keep in mind that you must add the `plesk_export.sh` invocation in cron on the Plesk server. This way the `dnslist.txt` file will be updated at regular time intervals and 4PSA DNS Manager will retrieve the latest list of the domains available on the server.

Now you have to setup 4PSA DNS Manager to update the list of the DNS Zones from this location. This will be a remote update location in 4PSA DNS Manager. For more information on how to set up remote update locations, view the Managing DNS Zones Remote Update Locations section.

2. 4PSA DNS Manager as a Primary Server

4PSA DNS Manager can act as a primary DNS server while updating the DNS Zone information from a remote server. In this case, 4PSA DNS Manager will have to get full DNS Zone information from the remote server, not only the DNS Zone names like in the previous case. Once again we will have as an example a Plesk server.

In order to generate the full DNS Zones information on a Plesk server, we will use a script from the 4PSA DNS Manager in the DNSMANAGER_ROOT_D/remote directory.

The plesk_export.sh is a shell script written by 4PSA for Plesk servers. It writes a file containing the name of all domains which exist on this server and their full DNS Records. The program accepts the name of the final destination file as argument. All you have to do is to insert this file in cron and make sure that it will write the list of the domains to a directory which can be accessed over the web.

First, you will have to configure the script to export master zones and optionally allow_transfer records (edit the script to set the required variables as defined in the script).

For example:

```
sh plesk_export.sh /home/httpd/vhosts/mydomain.com/httpdocs/zone.txt
```

will dump the list of the domains to a file that can be accessed over the web at:

```
http://www.mydomain.com/zone.txt
```

Note

Keep in mind that you must add the plesk_export.sh invocation in cron on the Plesk server. In this way, the dnslist.txt file will be updated on regular intervals and 4PSA DNS Manager will retrieve the latest list of the domains available on the server.

Now you have to setup 4PSA DNS Manager to update the list of the DNS Zones from this location. This will be a remote update location in 4PSA DNS Manager.

Scripts to perform the same tasks can be written for any control panel. The list of scripts that must be used on remote servers will be updated by 4PSA and the scripts will be placed in the DNSMANAGER_ROOT_D/remote directory.

With current version of 4PSA DNS Manager are shipped update scripts for Plesk, Ensim, InterWorx Control Panel, Helm, Cobalt and older DNS Manager versions.

For other control panels, which use bind/named (like Cpanel or Direct Admin), you can use the bind_export.sh script. The bind_export.sh script is located in the DNSMANAGER_ROOT_D/remote/bind. This script generates a dump file for all the zones defined in the named.conf file by acquiring the data from the zone files defined on named.conf.

Chapter 12
Contact and Support

For online help and support please visit:

- Support Zone: https://help.4psa.com
- Knowledge Base: http://kb.4psa.com
- Documentation: http://help.4psa.com/docs/

For mailing addresses and phone numbers from our offices:

http://www.4psa.com/contactus

If you have any question, do not hesitate to contact us.

Appendix A. Supported Dump File Examples

Starting 4PSA DNS Manager 3.7.0, the file dump format has changed. The major improvements are:

- The zone type is preserved in the dump. Basically it's possible to have both slave and master zones in the same file, so it is no longer needed to have two types of update locations in 4PSA DNS Manager.
- The SOA parameters can be included in the dump. When these are not included, the client or server global parameters are used.
- It is possible to include allow_transfer and masters parameters, according to the zone type.

Examples of zone dump:

```
domain.ltd.|master {

    |REFRESH| |108002| || ||

    |RETRY| |36002| || ||

    |EXPIRE| |604802| || ||

    |MIN_TTL| |86402| || ||

    |DEFAULT_TTL| |86402| || ||

    |SERIAL| |1271668821| || ||

    |ALLOW_TRANSFER| |4.3.2.1| || ||

    |NS| |domain.ltd.| |ns1.domain.ltd.| ||

    |NS| |aa.domain.ltd.| |ns.domain.ltd.| ||

    |CNAME| |cname.domain.ltd.| |canonical.name.| ||

    |CNAME| |somedir.domain.ltd.| |domain.ltd.| ||

    |CNAME| |ftp| |domain.ltd.| ||

    |A| |mail.domain.ltd.| |192.168.10.32| ||

    |AAAA| |sub.domain.ltd.| |2001:db8:85a3:88:8a2e:370:7334:89| ||
    |MX| |zone.domain.ltd.| |email.exchanger| |10|
    |TXT| |txt.domain.ltd.| |v=spf1 exists:%{ir}.%{v}.arpa -all | ||
    |TXT| |some-text.domain.ltd.| |any text| ||
    |TXT| |domain.ltd.| |sometext| ||
    |TXT| |private._domainkey.domain.ltd.| |k=rsa; p=MEwwDQYerwqEWwE| ||
    |SRV| |_sip._tcp.domain.ltd.| |.| |5| |25| |12345| ||
    |SRV| |_sip._tcp.domain.ltd.| |anotherdomain.com.| |10| |20| |5560| ||
    |SRV| |_h323._udp.domain.ltd.| |sub.domain.ltd.| |15| |25| |8550| ||
}
testdomain.com.|master {
    |$ORIGIN| |com.| || ||
    |TXT| |testdomain| |v=spf1 a mx ptr mx:mail.testdomain.com ~all| ||
    |NS| || |ns1.test-web| ||
    |NS| || |ns2.test-web| ||
    |A| || |64.85.2.56| ||
}
```

If the zone type is missing, it is assumed to be a master zone definition.

```
domain.ltd.{
    |REFRESH| |108002| || ||
    |RETRY| |36002| || ||
    |EXPIRE| |604802| || ||
    |MIN_TTL| |86402| || ||
    |DEFAULT_TTL| |86402| || ||
    |SERIAL| |1271668821| || ||
    |ALLOW_TRANSFER| |4.3.2.1| || ||
    |NS| |domain.ltd.| |ns1.domain.ltd.| ||
    |NS| |aa.domain.ltd.| |ns.domain.ltd.| ||
    |CNAME| |cname.domain.ltd.| |canonical.name.| ||
    |CNAME| |somedir.domain.ltd.| |domain.ltd.| ||
    |CNAME| |ftp| |domain.ltd.| ||
    |A| |mail.domain.ltd.| |192.168.10.32| ||
    |AAAA| |sub.domain.ltd.| |2001:db8:85a3:88:8a2e:370:7334:89| ||
    |MX| |zone.domain.ltd.| |email.exchanger| |10|
    |TXT| |txt.domain.ltd.| |v=spf1 exists:%{ir}.%{v}.arpa -all | ||
    |TXT| |some-text.domain.ltd.| |any text| ||
    |TXT| |domain.ltd.| |sometext| ||
    |TXT| |private._domainkey.domain.ltd.| |k=rsa; p=MEwwDQYerwqEWwE| ||
    |SRV| |_sip._tcp.domain.ltd.| |.| |5| |25| |12345| ||
    |SRV| |_sip._tcp.domain.ltd.| |anotherdomain.com.| |10| |20| |5560| ||
    |SRV| |_h323._udp.domain.ltd.| |sub.domain.ltd.| |15| |25| |8550| ||
}
```

Slave zones are defined as follows:

```
3.2.1.IN-ADDR.ARPA.|slave {
    |MASTER| |6.7.8.9| || ||
}
aa.com.|slave {
    |MASTER| |6.7.8.9| || ||
}
```

The rules mentioned above also apply to the reverse DNS zones. Below are explained full DNS zones with /24 /28 and /32 subnet mask.

```
4.3.2.IN-ADDR.ARPA.|master {
    |REFRESH| |10800| || ||
    |RETRY| |36000| || ||
    |EXPIRE| |604800| || ||
    |MIN_TTL| |86400| || ||
    |DEFAULT_TTL| |86400| || ||
    |SERIAL| |1271668821| || ||
    |NS| |4.3.2.IN-ADDR.ARPA.| |ns1.name.com.| ||
    |NS| |0/25.4.3.2.IN-ADDR.ARPA.| |ns.domain.com.| ||
    |PTR| |5.4.3.2.IN-ADDR.ARPA.| |zone.name.| ||
    |PTR| |5.4.3.2.IN-ADDR.ARPA.| |dom1.com.| ||
    |PTR| |5.4.3.2.IN-ADDR.ARPA.| |dom2.com.| ||
    |PTR| |5.4.3.2.IN-ADDR.ARPA.| |dom3.com.| ||
    |CNAME| |10.4.3.2.IN-ADDR.ARPA.| |10.0/25.4.3.2.IN-ADDR.ARPA.| ||
    |TXT| |host.4.3.2.IN-ADDR.ARPA.| |value| ||
    |TXT| |4.3.2.IN-ADDR.ARPA.| |sometext| ||
}
4/28.3.2.1.IN-ADDR.ARPA.|master {
    |REFRESH| |10800| || ||
    |RETRY| |3600| || ||
    |EXPIRE| |60480| || ||
    |MIN_TTL| |86400| || ||
    |SERIAL| |1271668821| || ||
    |DEFAULT_TTL| |86400| || ||
    |ALLOW_TRANSFER| |7.8.9.10| || ||
    |NS| |4/28.3.2.1.IN-ADDR.ARPA.| |aa.com.| ||
    |PTR| |6.4/28.3.2.1.IN-ADDR.ARPA.| |zone.com.| ||
    |PTR| |6.4/28.3.2.1.IN-ADDR.ARPA.| |dom1.com.| ||
    |PTR| |6.4/28.3.2.1.IN-ADDR.ARPA.| |dom2.com.| ||
    |TXT| |a.4/28.3.2.1.IN-ADDR.ARPA.| |text value| ||
    |TXT| |4/28.3.2.1.IN-ADDR.ARPA.| |sometext| ||
}
4.3.2.1.IN-ADDR.ARPA.|master {
    |REFRESH| |10800| || ||
    |RETRY| |3600| || ||
    |EXPIRE| |60480| || ||
    |MIN_TTL| |86400| || ||
    |SERIAL| |1271668821| || ||
    |DEFAULT_TTL| |86400| || ||
    |ALLOW_TRANSFER| |7.8.9.10| || ||
    |NS| |4.3.2.1.IN-ADDR.ARPA.| |aa.com.| ||
    |PTR| |4.3.2.1.IN-ADDR.ARPA.| |zone.com.| ||
    |TXT| |abc.4.3.2.1.IN-ADDR.ARPA.| |sometext| ||
}
```

The "@" character is accepted when defining zones.

```
testdomain.com.|master {
    |NS| |@| |ns.isdomain.com.| ||
    |NS| || |new| ||
    |MX| |@| |mail.testdomain.com.| |10|
    |MX| |test| |mail1.testdomain.com.| |15|
    |TXT| |@| |this is not a test| ||
    |CNAME| |*.new| |newtest.com.| ||
}
```

The "-" character is also accepted when defining reverse zones.

```
4-28.3.2.1.IN-ADDR.ARPA.|master {
    |REFRESH| |10800| || ||
    |RETRY| |3600| || ||
    |EXPIRE| |60480| || ||
    |MIN_TTL| |86400| || ||
    |SERIAL| |1271668821| || ||
    |DEFAULT_TTL| |86400| || ||
    |ALLOW_TRANSFER| |7.8.9.10| || ||
    |NS| |4-28.3.2.1.IN-ADDR.ARPA.| |aa.com.| ||
    |PTR| |6.4-28.3.2.1.IN-ADDR.ARPA.| |zone.com.| ||
    |PTR| |6.4-28.3.2.1.IN-ADDR.ARPA.| |dom1.com.| ||
    |PTR| |6.4-28.3.2.1.IN-ADDR.ARPA.| |dom2.com.| ||
    |TXT| |a.4-28.3.2.1.IN-ADDR.ARPA.| |text value| ||
    |TXT| |4-28.3.2.1.IN-ADDR.ARPA.| |sometext| ||
}
```

The "/" character is also accepted when defining reverse zones.

```
4/28.3.2.1.IN-ADDR.ARPA.|master {
    |REFRESH| |10800| || ||
    |RETRY| |3600| || ||
    |EXPIRE| |60480| || ||
    |MIN_TTL| |86400| || ||

    |SERIAL| |1271668821| || ||

    |DEFAULT_TTL| |86400| || ||

    |ALLOW_TRANSFER| |7.8.9.10| || ||

    |NS| |4/28.3.2.1.IN-ADDR.ARPA.| |aa.com.| ||

    |PTR| |6.4/28.3.2.1.IN-ADDR.ARPA.| |zone.com.| ||

    |PTR| |6.4/28.3.2.1.IN-ADDR.ARPA.| |dom1.com.| ||

    |PTR| |6.4/28.3.2.1.IN-ADDR.ARPA.| |dom2.com.| ||

    |TXT| |a.4/28.3.2.1.IN-ADDR.ARPA.| |text value| ||

    |TXT| |4/28.3.2.1.IN-ADDR.ARPA.| |sometext| ||

}
```

If the SOA records are not found in the zone definition, they are inherited from the client, if the client has SOA records defined. If the client has no SOA records defined, then the system wide SOA settings defined by the administrator are used.

```
domain.ltd.|master {

    |ALLOW_TRANSFER| |4.3.2.1| || ||

    |NS| |domain.ltd.| |ns1.domain.ltd.| ||

    |NS| |aa.domain.ltd.| |ns.domain.ltd.| ||

    |CNAME| |cname.domain.ltd.| |canonical.name.| ||

    |CNAME| |somedir.domain.ltd.| |domain.ltd.| ||

    |CNAME| |ftp| |domain.ltd.| ||

    |A| |mail.domain.ltd.| |192.168.10.32| ||

    |MX| |zone.domain.ltd.| |email.exchanger| |10|

    |TXT| |txt.domain.ltd.| |v=spf1 exists:%{ir}.%{v}.arpa -all | ||

    |TXT| |some-text.domain.ltd.| |any text| ||
    |TXT| |private._domainkey.domain.ltd.| |k=rsa; p=MEwwDQYerwqEWwE| ||

    |TXT| |domain.ltd.| |text value| ||

}

4/28.3.2.1.IN-ADDR.ARPA.|master {

    |NS| |4/28.3.2.1.IN-ADDR.ARPA.| |aa.com.| ||

    |PTR| |6.4/28.3.2.1.IN-ADDR.ARPA.| |zone.com.| ||

    |PTR| |6.4/28.3.2.1.IN-ADDR.ARPA.| |dom1.com.| ||

    |PTR| |6.4/28.3.2.1.IN-ADDR.ARPA.| |dom2.com.| ||

    |TXT| |a.4/28.3.2.1.IN-ADDR.ARPA.| |text value| ||

    |TXT| |4/28.3.2.1.IN-ADDR.ARPA.| |sometext| ||

}
```

To mark a primary nameserver, 1 is written on last position of the NS record from the dump file, as `ns2.server.ltd` in the example below:

```
domain.ltd.|master{

    |NS| |domain.ltd.| |ns1.server.ltd.| ||

    |NS| |domain.ltd.| |ns2.server.ltd.| |1|

    |CNAME| |cname.domain.ltd.| |canonical.name.| ||

    |CNAME| |somedir.domain.ltd.| |domain.ltd.| ||

    |CNAME| |ftp| |domain.ltd.| ||

    |A| |mail.domain.ltd.| |192.168.10.32| ||

    |MX| |zone.domain.ltd.| |email.exchanger| |10|

    |TXT| |txt.domain.ltd.| |v=spf1 exists:%{ir}.%{v}.arpa -all | ||

    |TXT| |some-text.domain.ltd.| |any text| ||

    |TXT| |domain.ltd.| |text value| ||

}
```

Also, the closing bracket may be placed on the same line with a record, as shown below:

```
domain.ltd.|master{

    |NS| |@| |ns1.server.ltd.| ||

    |NS| |@| |ns2.server.ltd.| |1|

    |A| |mail.domain.ltd.| |192.168.10.32| ||

    |TXT| |domain.ltd.| |text value| ||}
```

Example for an E.164 reverse zone that contains all three supported record types, NS, PTR and TXT:

```
6-28.3.2.1.IN-ADDR.ARPA.|master {

    |REFRESH| |10800| || ||

    |RETRY| |3600| || ||

    |EXPIRE| |604800| || ||

    |MIN_TTL| |86400| || ||

    |DEFAULT_TTL| |86400| || ||

    |NS| |6-28.3.2.1.IN-ADDR.ARPA.| |test.com.| ||

    |PTR| |14.6-28.3.2.1.IN-ADDR.ARPA.| |example.net.| ||

    |TXT| |17.6-28.3.2.1.IN-ADDR.ARPA.| |Some text| ||

}
```

Example for an IP6.ARPA reverse zone that contains both supported record types, NS and PTR:

```
1.2.3.IP6.ARPA.|master {

    |REFRESH| |10800| || ||

    |RETRY| |3600| || ||

    |EXPIRE| |604800| || ||

    |MIN_TTL| |86400| || ||
    |DEFAULT_TTL| |86400| || ||

    |NS| |1.2.3.IP6.ARPA.| |example.net.| ||

    |PTR| |1.2.3.4.5.6.7.8.9.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.2.3.

}
```

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