

# Working with DNS Servers

## DNS Servers

ProVision's DNSv3 combines server management, group organization, and zone management under the **DNS** tab.

The screenshot shows the ProVision DNSv3 interface. At the top is a navigation bar with a logo and tabs for Dashboard, Resources, DNS, DHCP, IPAM, Peering, and Reporting. A search bar is on the right. Below the navigation bar is a sub-navigation bar with tabs for DNSv3, DNS Groups, DNS Servers (selected), DNS Zones, and DNS Records. The main content area is titled 'DNS Server List' with an 'Add Server' button. Below this is a table with the following data:

Server Name	Server Backend	Server Type	Server Status	Actions
<a href="#">ANewServer</a>	ISCBIND	master		<a href="#">Delete</a> <a href="#">Push</a> <a href="#">Perms</a>
<a href="#">ATestServer2</a>	ISCBIND	master		<a href="#">Delete</a> <a href="#">Push</a> <a href="#">Perms</a>

The **DNS Servers** tab is only accessible to Admin users, and contains functions for adding, updating, and managing DNS servers as well as scheduling server tasks.

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## DNS Server List Interface

This is a duplicate of the screenshot above, showing the ProVision DNSv3 interface with the 'DNS Servers' tab selected. It displays the 'DNS Server List' table with two servers: ANewServer and ATestServer2, both using the ISCBIND backend and master type.

**1) Add Server Button:** Opens a dialog for creating a DNS server.

**2) Server List:**

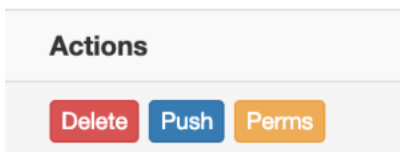
**3) Server Name:** Name of the DNS server. Click to open server details.

**4) Server Backend:** The DNS Service backend type for the server.

**5) Server Type:** Whether the server is a master or slave type.

**6) Server Status:** Currently a placeholder column for future display of server error and connection status messages.

7) **Actions:** The actions that may be performed on each server:



8) **Delete:** Deletes the server from ProVision.

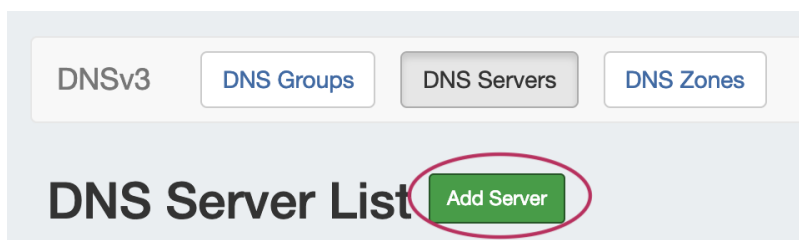
9) **Push:** Pushes all zones associated with the selected server.

10) **Perms:** Opens a shortcut to edit permissions for the selected server.

## Working with DNS Servers

### Add a Server

To create a new server, start from the [DNS](#) Tab, select the **DNS Servers** sub menu. Then, click the "Add Server" button next to "DNS Server List".



This will open the "Server Settings" page.

### Server Settings

#### 1) Set Server Common Settings

In the "Common Settings" section of Server Settings, enter the new server's Display Name (the name that will appear on the ProVision interface), the FQDN / IP, server type, service type, and desired parent Resource (may be left at the default Top Level Resource).

A screenshot of the "Common Settings" form for a DNS server. The form has a title bar "Common Settings". Below it are five sections, each with a label and a text input field or dropdown menu. Red arrows point to each input field. 1. "Display Name:" with a text input field containing "Enter Display Name". Below it is a note: "This is the server name that will appear in the DNS interface." 2. "FQDN or IP:" with a text input field containing "ex: ns1.dns.6connect.net or 216.239.32.10". Below it is a note: "DNS server real FQDN or IP Address." 3. "Server Type:" with a dropdown menu showing "Master". 4. "DNS Service:" with a dropdown menu showing "ISC BIND". 5. "Parent Resource:" with a dropdown menu showing "TLR". Below it is a note: "The new server resource will be a child of the Parent Resource."

**Display Name:** Name you want the server to display.

**FQDN or IP:** The FQDN or ip address of the DNS server.

**Default:** Specify if the server should be added to new zones by default or not.

**Server Type:** Specify if the server is a master or slave. Different configuration files are created master vs. slave on the Bind, PowerDNS /Bind, and Secure64 platforms.

**DNS Service:** Select the DNS service type (ISC Bind, Secure64, KnotDNS, etc).

**Parent Resource:** Select the ProVision resource to be the "parent" of the server - typically TLR (Top Level Resource), but may be a lower level resource such as a Customer or Location. The parent resource selection is the basis of access permissions for the server.

## 2) Set Server Specific Settings

The next section is entering server service-type specific settings. The options visible in this section will depend on the "DNS Service" type chosen under "Common Settings".

Here, we see the fields for ISC BIND server settings. Enter the server Username, Password, Port, Remote Director, Named Conf. Path, and Pre /Post Command (if desired). Your fields may vary for other server types.

For SSH Public Key Authentication, DNSSEC, and Dynamic Option updates, click on the ON / OFF toggle to select "ON" or "OFF" for each as needed.

The screenshot shows the 'ISC BIND Settings' form. At the top, there is a 'Test Server' button. Below it, the 'SSH Public Key Authentication' toggle is set to 'OFF'. A note says 'Please choose your SSH authentication type.' The form contains several input fields: 'Username' (with a red arrow pointing to the 'Enter Username' placeholder), 'Password' (with a red arrow pointing to the 'Enter Password' placeholder), 'Port' (containing '22' with a red arrow), 'Remote Directory' (containing '/etc/bind/6c-zones' with a red arrow), 'Named Conf Path' (containing '/etc/bind/6connect\_named.conf' with a red arrow), 'Pre Command' (empty with a red arrow), and 'Post Command' (containing 'ex: service bind9 reload' with a red arrow). At the bottom, there are two toggle switches: 'Enable DNSSEC' (set to 'ON' with a red arrow) and 'Enable Dynamic Updates' (set to 'ON' with a red arrow).

**SSH Public Key Authentication:** If applicable, toggle "On" or "Off"

**Username:** Login/username for the target DNS server. The specified account needs to be valid, and have write permission to the remote directory and execute permission for any pre/post commands.

**Password:** Password for the target account. All passwords are stored encrypted in the database.

**Port:** Port to contact the target server on. This is port used for SSH on Bind and Secure64 server types.

**Remote Directory:** The target directory to transfer zone files to on the DNS system.

**Named Conf Path:** The path to other zones on the Bind systems.

**Pre Command:** Any valid system command on the target DNS system. This command will be run before any files are transferred.

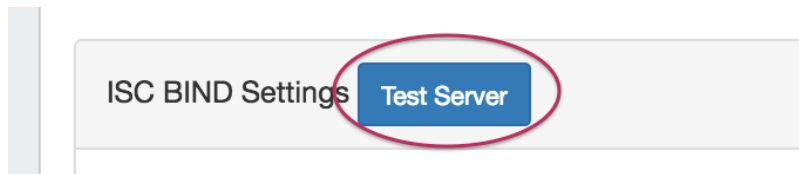
**Post Command:** Any valid system command on the target DNS system. This command will be run after any files are transferred. For example, on a Bind system you would need to run "rndc reload" to reload the zones.

**Enable DNSSEC:** If available for the server type, toggle to "On" or "Off". See Configuring DNSSEC for additional information.

**Enable Dynamic Updates:** Toggle to "On" or "Off", if the server allows dynamic updates.

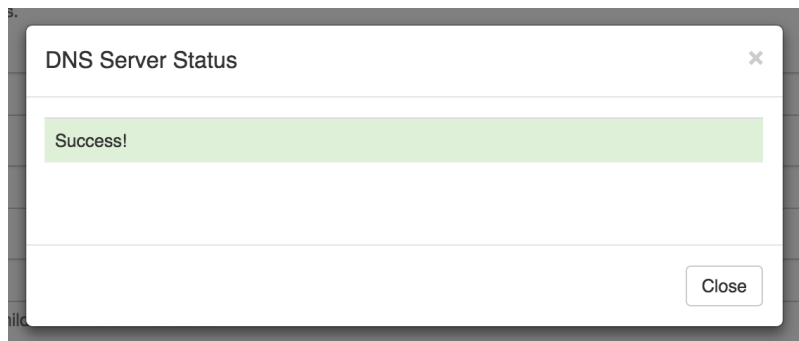
After entering the server-specific settings in this section, you can click the "Test Server" button at the top of the section to test the server connection and authentication.

The "Test Server" button will attempt to login to the target system and write to the target directory.



A window will pop up showing a success or failure response.

If any failures are encountered, an error will be written with some detail. If the test is successful, the word "Success!" will show verifying that files can be transferred. This does not test if the user can execute pre/post commands. This needs to be checked manually.



### 3) Set DNS Group Settings for Server

In the last section, select whether to enable Multiple Groups Support for exporting Groups as View (click to toggle ON / OFF), and select a default Group, if desired, to be associated with the server. Zones assigned to the selected Group will automatically be attached to the server.

DNS Group Settings

**Multiple Groups Support:**

☐ OFF

Check this option if you want to enable the support of different DNS Groups to be exported as Views. **Danger !** In case the server doesn't support Views you must take care to not have duplicated zone names in the groups !

**Attach to Group:**

No Default Group

If you select a default DNS group to your server, the zones assigned to this group will be automatically attached to the server.

Save changes

### 4) Save Changes

Save your changes when done! Just click the "Save Changes" button at the bottom right of the page.

DNS Group Settings

**Multiple Groups Support:**
☐ OFF

Check this option if you want to enable the support of different DNS Groups to be exported as Views. **Danger !** In case the server doesn't support Views you must take care to not have duplicated zone names in the groups !

**Attach to Group:**

No Default Group

If you select a default DNS group to your server, the zones assigned to this group will be automatically attached to the server.

Save changes

The new server will now be added to the DNS Servers list. These settings may be changed at any time by selecting the server from the server list and editing the information.

## Edit Servers

Edit an existing server by clicking once on the server name in the DNS Servers list.

Example server	ISC BIND	master	Delete Push
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The "Server Settings" page will open.

Server Settings : Example server Push Zones Schedule Push

Common Settings

**Display Name:**

Example server

This is the server name that will appear in the DNS interface.

**FQDN or IP:**

ns1.dns.example.com.

DNS server real FQDN or IP Address.

**Server Type:**

Master

**DNS Service:**

ISC BIND

**Parent Resource:**

The new server resource will be a child of the Parent Resource.

Click inside the field that you want to change, type your changes, and then click "Save Changes" at the bottom of the page.

DNS Group Settings

**Export Groups as Views:**
☐ OFF

Check this option if you want to enable the support of different DNS Groups to be exported as Views.

**Attach to Group:**

DNS Group 1

If you select a default DNS group to your server, the zones assigned to this group will be automatically attached to the server.

Save changes

## Review Zones Connected to a Server

There are two ways that zones may be connected to a DNS server:

1) Directly connected, by attaching the zone to a server from the View Zone page.

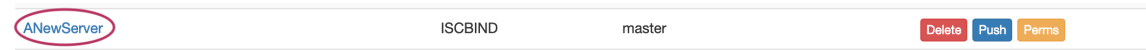
or,

2) Connected by a Group that has been set as the default DNS Group for the server, selected under "DNS Group Settings".

Both are able to be viewed on the DNS Server Settings page.

To view either, open the Server Settings page for the server by clicking on the server name in the DNS Servers list.

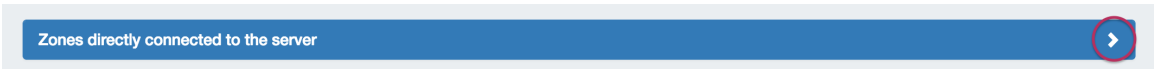
Edit an existing server by clicking once on the server name in the DNS Servers list.



The "Server Settings" page will open.

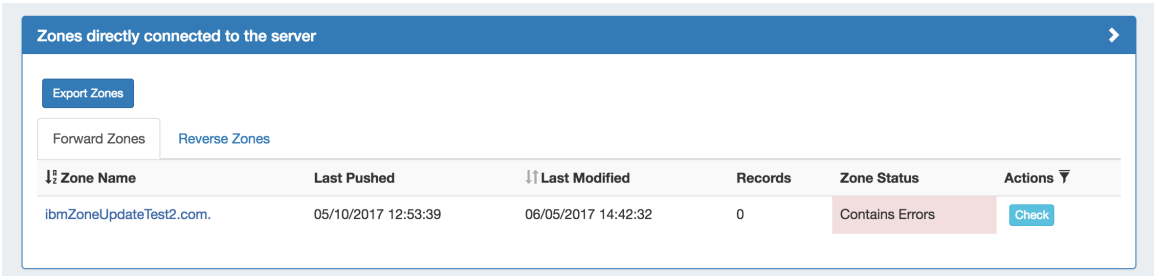
## Zones Directly Connected to the Server

Scroll to the bottom of the page, and open the module titled "Zones directly connected to the server" by clicking on the expansion arrow.



A zone list will show the zone(s) that have been directly connected to this server.

Here, you may browse through forward and reverse zones by selecting the "Forward Zones" or "Reverse Zones" tabs, sort the list by Zone Name or Last Modified, open the zone's page by clicking on the name, or check the zone's status by clicking the "Check" button.

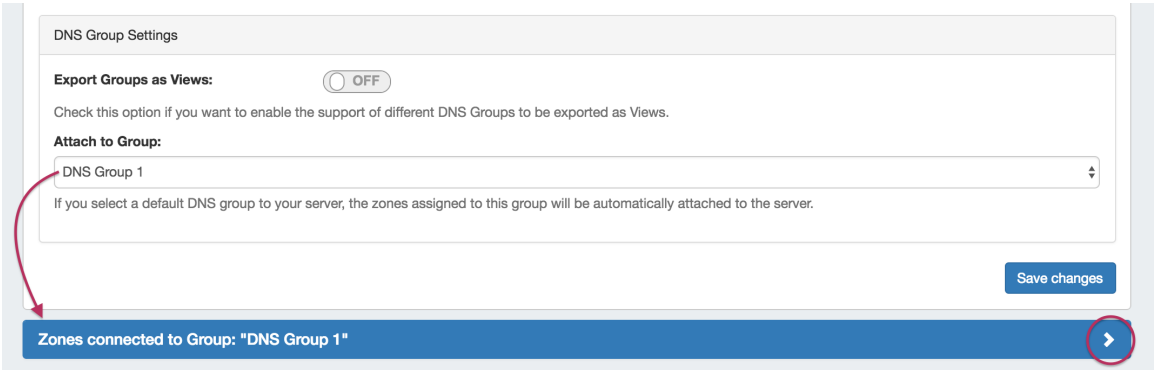


Zones may be exported by clicking the "Export Zones" button.

## Zones Connected via a Group

If a default Group has been selected under "DNS Group Settings" for the server, Zones under that Group will be connected to the server and able to be viewed on the Server Settings page.

Scroll to the bottom of the page, and open the module titled "Zones connected to Group '(Group Name)' " by clicking on the expansion arrow.



A zone list will show the zone(s) that connected to this server via a selected Group.

Here, you may browse through forward and reverse zones in that Group by selecting the "Forward Zones" or "Reverse Zones" tabs, sort the list by Zone Name or Last Modified, open the zone's page by clicking on the name, or check the zone's status by clicking the "Check" button.

Zones connected to Group: "DNS Group 1"

Forward ZonesReverse Zones

Zone Name	Last Pushed	Last Modified	Records	Zone Status	Actions
msn.com.		02/24/2017 14:02:27	6		Check
msn2.com.		03/27/2017 14:21:58	4		Check

## Pushing a Server

### Manual Push

Manually pushing all zones on a server may be done directly from the DNS Server list. Under the "Actions" section of the Server List, click the "Push" button for the desired server.

A New Server	ISC BIND	master	DeletePushPerms
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Pushing may also be done while in the Server Settings page. While in the Server Settings page, click the "Push Zones" button at the top right of the page.

DNSv3DNS GroupsDNS Servers

Server Settings : Example server

Push ZonesSchedule Push

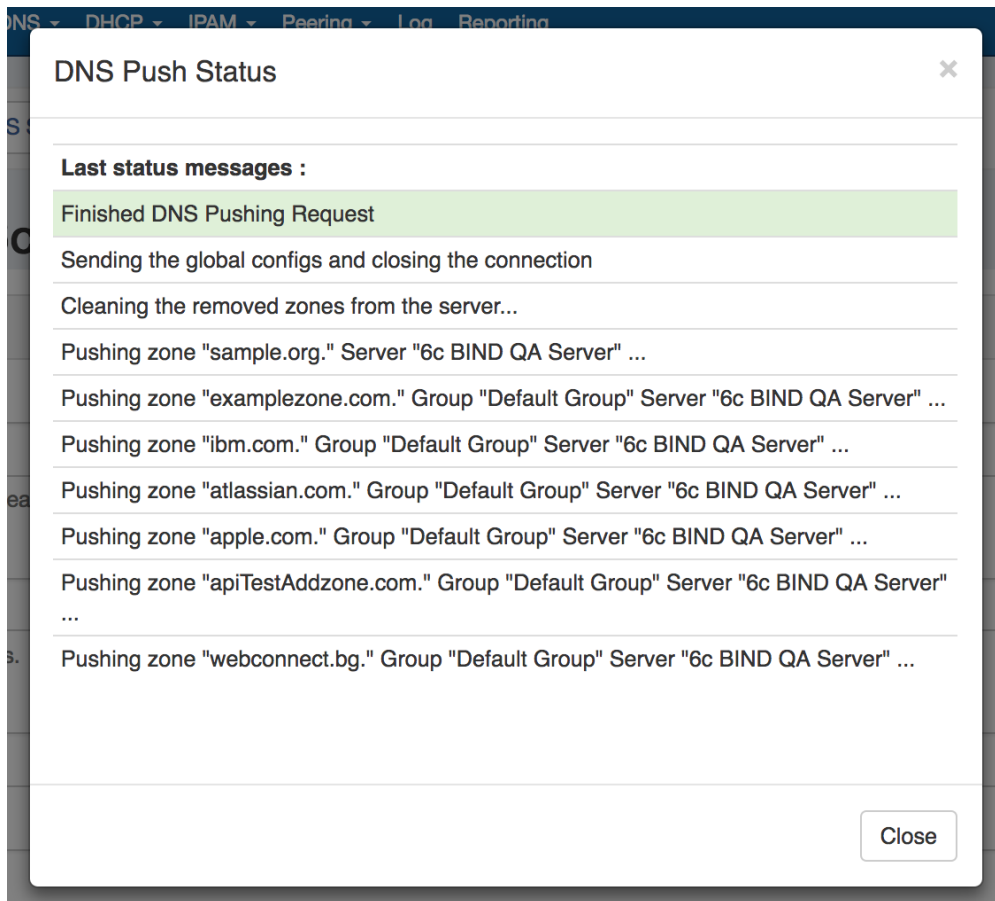
Common Settings

Display Name:

Example server

This is the server name that will appear in the DNS interface.

A "DNS Push Status" box will appear, showing the status of each zone as it is pushed. Once all zones have been pushed successfully, a green status message of "Finished DNS Pushing Request" will appear. At this point, the push is complete and the window may be closed.

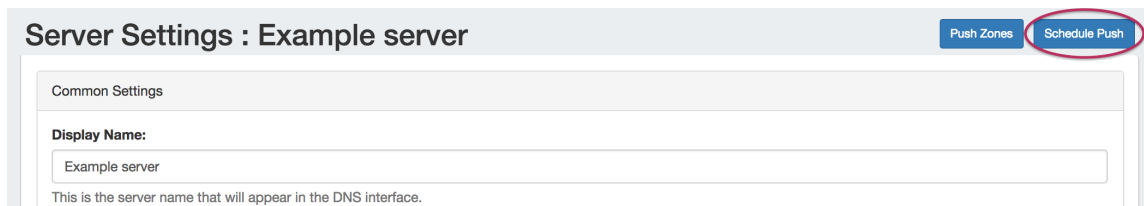


## Scheduled Push

DNS server pushes may be scheduled from either the Admin Area [Scheduler](#) Tab, or from within the DNSv3 Server Settings page. Scheduled pushes require Admin access.

For information on scheduling a push from the [Scheduler](#) Tab, see [Scheduler Tab](#) documentation.

To schedule a push from a server's Settings page, open the Server Settings page for the desired server, and click on the "Schedule Push" button.



The Push Scheduler dialog will open. Click on the calendar on the left to select a date for the push, set the desired push time on the right, enter a notification email address, and then click "Save Changes".



Push Scheduler

Pick date and time (America/Los\_Angeles):

<

March 2017

>

Su	Mo	Tu	We	Th	Fr	Sa
26	27	28	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	1
2	3	4	5	6	7	8

07

:

30

PM

Notification Email:

user@example.com

Close

Save changes

Once a schedule push has been created, a "Scheduled Tasks" module will appear at the top of the Server Settings page.

Click on the expansion arrow for the module to open and view the tasks.

Server Settings : Example server

Push Zones

Schedule Push

Scheduled Tasks

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Scheduled pushes for the server will be listed in the "Scheduled Tasks" module, and may be viewed or deleted (by clicking the "Delete" button under "Actions").

Server Settings : Example server

Push Zones

Schedule Push

Scheduled Tasks

Task Name	Last Run	Repeat Time	Actions
Scheduled Push: Example server		One time on 2017-03-27 at 19:30 PDT	Delete

If necessary, the Scheduled Push may be edited from the [Scheduler](#) Tab in the Admin area of ProVision. See the [Scheduler Tab](#) for information on editing scheduled tasks.

## Delete a Server

Delete a server by clicking the "Delete" button under the "Actions" section of the Server List for the desired server.

ANewServer	ISCBIND	master	Delete	Push	Perms
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## Additional Information

For additional information on working in DNS, see the following sections:

- [Configuring ISC BIND Support](#)
- [Configuring PowerDNS Support](#)
- [Configuring Secure64 Support](#)
- [Configuring Split Horizon/Views](#)
- [Configuring DNSSEC](#)
- [Import DNS Zones](#)
- [DNS Tab](#)