

# Setting up Nameservers in a cPanel & WHM Environment

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# Abstract

DNS can be a complicated system and setting up your own nameservers can seem intimidating. This guide will skip past the technical details of how DNS works and provide you with the essential information you need to set up your nameservers in a single-server cPanel & WHM environment. It focuses on setting up nameservers on your cPanel & WHM server, the default way to configure nameservers.

This document was written for those administering a server running cPanel & WHM version 11.30. Be mindful that earlier versions of cPanel & WHM had significantly different interfaces for managing nameservers.

## Setting up nameservers

### What is a nameserver?

Nameservers are pieces of software that receive inquiries to translate a domain or subdomain hosted on your server into an IP address. The software (or daemon) handling these inquiries is called a nameserver. Without a nameserver, this translation of domains to IP addresses cannot happen, making websites largely inaccessible from the internet.

### So, what's the initial status of your server?

Servers can be issued in any state from bare metal to a fully functional cPanel & WHM installation. This guide assumes that cPanel & WHM is already installed and waiting for you to log in for the first time. If that's not the case, please review our installation guide at <http://go.cPanel.net/installwhm>.

### Choosing nameserver software

While completing the Initial Setup Wizard, you will eventually encounter a screen that allows you to configure your nameservers.

First, you will need to select nameserver software. You have 3 options: *BIND*, *NSD* and *Disabled*. You will probably want to avoid the *Disabled* option. This option is intended for advanced system administrators who are configuring an atypical setup.

**WHM VPS Optimized**

**Initial Setup**  
Step 4 out of 6

**Step 1:**  
Agreement

**Step 2:**  
Setup Networking

**Step 3:**  
Setup IP Addresses

**Step 4:**  
Nameservers

**Step 5:**  
Services

**Step 6:**  
Set Up Quotas

### Nameservers

Required fields are marked by the red asterisk \*.

#### Nameserver Configuration

A nameserver is a program that maintains a list of your domain names and their corresponding IP addresses, allowing visitors to find the domains hosted on your server. It is a vital component of the networking setups of most servers. However, servers using a remote nameserver do not need to configure their own.

Here you can select the nameserver you wish to use, if any.

Note: You are not required to switch to NSD. Both BIND and NSD are supported.

| Name Server                           | Advantages   | Disadvantages  | Notes   |
|---------------------------------------|--|--|---|
| <input checked="" type="radio"/> BIND | <ul style="list-style-type: none"> <li>Configuration file can be manually edited.</li> <li>Extremely configurable.</li> <li>Provides a caching nameserver.</li> <li>Very tolerant of syntax errors in zone files.</li> </ul> | <ul style="list-style-type: none"> <li>Much Larger Memory Footprint</li> </ul>   | <ul style="list-style-type: none"> <li>This is the default choice and is recommended for most systems.</li> </ul>   |
| <input type="radio"/> NSD             | <ul style="list-style-type: none"> <li>Very low memory footprint.</li> <li>Extremely lightweight.</li> <li>No additional configuration needed.</li> </ul>  | <ul style="list-style-type: none"> <li>Configuration is generated automatically.</li> <li>Does not provide a caching nameserver. Will only serve zones. (requires external nameservers in resolv.conf)</li> <li>Must restart each time zones are altered.</li> <li>Limited to 512 IP addresses.</li> </ul> | <ul style="list-style-type: none"> <li>This is ideal for a small vps when your datacenter provides caching nameservers.</li> <li>Not recommended for system that will host many DNS zones or IP addresses.</li> </ul> |
| <input type="radio"/> Disabled        |  |  | <ul style="list-style-type: none"> <li>This option will disable the nameserver. If you are serving dns as part of a cluster you may not need to run one locally.</li> </ul>   |

This screen lists the advantages and disadvantages of BIND and NSD. If you are not satisfied with the option you choose, you can change nameservers later. Most people choose to use BIND as it suits most needs and is often the best option. cPanel & WHM has used BIND for well over a decade.

Recently, we began supporting NSD. We chose to include NSD because we understand that servers running on small VPSs need to conserve as much memory as possible. The NSD nameserver software often uses less memory than BIND. NSD may not be preferable for servers that host a large number of sites because it needs to be restarted every time any DNS change is made.

### Name your nameservers

The lower section of the interface allows you to name your nameservers. You can ignore the numbered points for now, as this guide is intended to cover each of those in detail.

### Choose which nameservers domains on this server will use

Setting up nameservers is very important, because it allows visitors to find your server on the Internet. Once you have set up your nameservers, your users will be able to use them for their domains. Please follow these steps to ensure you have properly registered nameservers:

1. **Obtain 2 IP addresses.** You will need an IP address for each nameserver. You may obtain these from your datacenter.
2. **Register your nameservers.** You will need to register your nameservers with the same accredited domain name registrar you used to register your domain name. Nameservers are usually registered as ns1.example.com and ns2.example.com, where example.com stands for your main domain name. [Click for detailed instructions on registering nameservers.](#)
3. **Have reverse DNS pointers set up.** This will need to be done by your datacenter, and is important for proper mail delivery. You will need to supply your datacenter with your registered nameservers' IP addresses and names.
4. **Enter your nameservers in WHM.** Enter your nameservers below, then add the IPs you have acquired into the A Entry section to ensure proper records are created for your nameservers.

|                |  |                                     |
|----------------|--|-------------------------------------|
| Nameserver 1 * | <input type="text" value="ns1.example.com"/> | <input checked="" type="checkbox"/> |
| Nameserver 2 * | <input type="text" value="ns2.example.com"/> | <input checked="" type="checkbox"/> |
| Nameserver 3   | <input type="text"/>                         |                                     |
| Nameserver 4   | <input type="text"/>                         |                                     |

For *Nameserver 1*, you want to have something like ns1.\$example.com replacing \$example.com with your domain. You cannot set this value to your domain. You will need to prefix your domain name with something like ns1 for your nameservers to work properly. Do not forget to place the dot (.) between ns1 and your domain name.

If you own multiple domains, remember that all of your hosting customers will need to enter this nameserver manually at some point. This means that you should use a domain that reflects your company's main homepage URL.

While there is not a technical reason for using the ns1 convention, it is a fairly common practice and allows other administrators to easily recognize your nameservers.

For *Nameserver 2*, simply repeat the process using the ns2 prefix. Remember, you cannot give your nameservers the same name.

### Adding IP addresses for your nameservers

Your 2 nameservers will each require an IP address. While technical standards strongly advise against it this, our software can run everything (including both nameservers) from a single IP address. However, not all domain registrars will allow you to do so. We will discuss how domain registrars are involved with your nameservers later. For now, we will simply focus on configuring the nameserver software.

Scrolling down, you will see:

### Add A Entries for Nameservers & Hostname

Add "A Entries" for all Nameservers

Please enter an IP address for each of your nameservers.

ns1.example.com

ns2.example.com

Add "A Entries" for Hostname

IP for Entry:

Adding A entries is a good idea, so make sure to check those boxes. While it is not required, if you want to assign a specific IP address to a specific nameserver, you should do so now. cPanel & WHM can automatically assign free IP addresses associated hosted on your server to your nameservers.

At this point, your nameserver software should be functional. Now, we need to get the rest of the internet to use that nameserver.

## Getting the Internet to talk to your nameservers

Now that your nameservers are configured locally, you will need to return to your registrar to register your nameservers. Registering your nameservers announces their existence to the rest of the internet.

Providing guides for every domain registrar worldwide is impractical, so we have included guides for some of the most popular domain registrars below. Each guide assumes that you have registered your domain using that company and still have an account with that registrar as a result. Each guide also assumes that you have successfully logged into your account and are looking at the first screen you see after logging in.

You should remember to allow 48 hours for any changes you make to spread across the Internet.

### Detailed instructions for registering nameservers

#### 123-reg.co.uk

1. Scroll down and select the domain name associated with your nameserver. (e.g., example.com if you are registering ns1.example.com)
2. Click *Modify domain*.
3. Click *Change Nameservers*.

4. Scroll down and enter the names for your primary and secondary nameservers in the Nameserver 1 and Nameserver 2 fields (e.g., ns1.example.com).
5. Click *Change Nameservers*.
6. Enter the IP addresses for your nameservers.
7. Click *Change Nameservers*.

## **DirectNIC**

1. Click on *Domain Manager*.
2. Click the *Change Nameserver Information* icon next to your domain.
3. Click the *Create Nameserver* link at the top of the page.
4. Enter your nameserver's hostname (e.g., ns1.example.com).
5. Enter the corresponding IP address.
6. Repeat steps 3 through 5 for your second nameserver.

## **Dotster**

1. Click on *My Domains* at the top of the *Account Management* screen.
2. Click the domain for which you would like to register your nameservers.
3. Click *Register Nameserver*.
4. Enter the hostname (e.g., ns1.example.com) for your first nameserver.
5. Enter the IP address for this nameserver in the 4 text fields provided. You will need to enter each octet of your IP address in its respective field.
6. Click *Update*.
7. Repeat steps 3 through 6 for your second nameserver.

## **DynaDot**

1. Click *Domain Names* on the right side of the screen.
2. Click *Nameservers* near the top of the screen.
3. Click the *Register a domain name server* link.
4. Enter the full name of your first nameserver (e.g., ns1.example.com) in the Host Name field.
5. Enter the IP Address for that nameserver.
6. Click *Submit*.
7. Repeat steps 2 through 6 for your second nameserver.

## **Enom**

1. Click *Select Domain Names*.
2. Click *Register DNS*.
3. Use the *Register a Nameserver Name* tool in the first section of the page to create your nameservers.

## GoDaddy

1. Under the *Domains* heading, click *My Domains*.
2. Click on the domain for which you would like to set up your nameservers.
3. Click *Add* under *Host Summary* at the bottom left of the screen.
4. Type the first nameserver's name (e.g. ns1) in the *Host Name* field.
5. Input your first nameserver's IP address into the *Host IP 1* field.
6. Click *OK*.
7. Repeat this process for your secondary nameserver.

## NameCheap

1. View the domains in your account.
2. Click on the domain.
3. Click on *Nameserver Registration*.
4. Enter the IP addresses for all of your nameservers.
5. Click *Add Nameservers >>*.

## Network Solutions

1. Click *Manage Host Servers* at the bottom left of the screen.
  - If this link fails to appear, use the following URL: [https://www.networksolutions.com/en\\_US/manage-it/manage-nameservers.jhtml](https://www.networksolutions.com/en_US/manage-it/manage-nameservers.jhtml).
2. Enter your first nameserver's hostname (e.g., ns1.example.com) into the first dialog box.
3. Click *Continue*.
4. Enter the IP address.
5. Click *Continue*.
6. Confirm the changes to the host server.
7. Click *Apply Change*.
8. Click *Back to Account Manager Home*.
9. Click *OK*.
10. Repeat this process for your second nameserver.

## OpenSRS

1. Click *Name Servers* at the top.
2. Scroll down, click *Create or modify a name server which is based on...*
3. Scroll down.
4. Enter the nameserver name (e.g., ns1) for your first nameserver.
5. Enter the nameserver's IP address.
6. Click *Create Name Server*.
7. Repeat steps 3 through 6 to add your second nameserver.

## Register.com

1. Click on your domain name.
2. Click the *Advanced Technical Settings* link.
3. Click *Manage Registered Name Servers*.
4. Scroll down to *REGISTER NAME SERVER*.
5. Enter the desired prefix for the first nameserver (DNS server). (e.g., ns1)
6. Enter the IP Address (A Record) in the next field.
7. Click *Continue*.
8. Repeat this process for your second nameserver.

### **My Domain Registrar Isn't Listed Above!**

You will need to:

1. Login to your account at your domain registrar.
2. Find a way to manage the nameservers for your domain. On rare occasions, these are sometimes called “glue records.” Sometimes you can edit these records under a heading like *run my own nameservers*. You need to find the interface that not only lets you specify the names of your nameservers (e.g., ns1.example.com), but also their IP addresses.
3. Provide this information and ensure it is saved. You may need to do this one nameserver at a time.

### **I want to use different nameserver software.**

If you want to change the nameserver software your server is using, you can use the *Nameserver Configuration* feature in WHM.

If you want to change the actual names of your nameservers, you can use the *Basic cPanel & WHM Setup* feature in WHM.

## Nameservers

Your account's default nameservers used when you create an account.

|               |                      |  |   |
|---------------|----------------------|--|---|
| Nameserver 1: | <input type="text"/> | <input type="button" value="Assign IP address"/> | <input type="button" value="Add an A entry for this nameserver"/> |
| Nameserver 2: | <input type="text"/> | <input type="button" value="Assign IP address"/> | <input type="button" value="Add an A entry for this nameserver"/> |
| Nameserver 3: | <input type="text"/> | <input type="button" value="Assign IP address"/> | <input type="button" value="Add an A entry for this nameserver"/> |
| Nameserver 4: | <input type="text"/> | <input type="button" value="Assign IP address"/> | <input type="button" value="Add an A entry for this nameserver"/> |

The root account's default nameservers used when root creates an account.

|               |  |  |   |
|---------------|--|--|---|
| Nameserver 1: | <input type="text" value="ns1.example.com"/> | <input type="button" value="Assign IP address"/> | <input type="button" value="Add an A entry for this nameserver"/> |
| Nameserver 2: | <input type="text" value="ns2.example.com"/> | <input type="button" value="Assign IP address"/> | <input type="button" value="Add an A entry for this nameserver"/> |
| Nameserver 3: | <input type="text"/>                         | <input type="button" value="Assign IP address"/> | <input type="button" value="Add an A entry for this nameserver"/> |
| Nameserver 4: | <input type="text"/>                         | <input type="button" value="Assign IP address"/> | <input type="button" value="Add an A entry for this nameserver"/> |

You can edit the text where it lists your existing nameservers to change your nameservers' names. Don't forget to click the *Assign IP address* button and the *Add an A entry for this nameserver* button. After editing your nameserver names, you must also change the information at your domain registrar. Don't forget to remove the old nameservers from the registrar for that domain.

## Additional nameservers

One of the many strengths of cPanel & WHM is that it is designed to accommodate a white-label reseller experience. Not only can you use our branding mechanisms to hide any mention of cPanel, but hosting resellers can have their own nameservers.

Resellers are the only accounts that can have their own nameservers. Individual cPanel accounts cannot have their own nameservers.

At the bottom of the *Edit reseller privileges & nameservers* screen, you will see the following interface:

## Nameservers

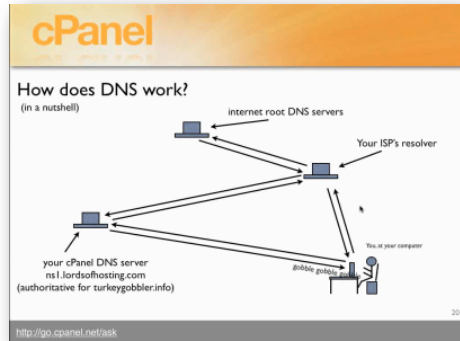
*Here you can set the default nameservers used when this reseller creates an account.*

|               |  |                                   |  |
|---------------|--|-----------------------------------|--|
| Nameserver 1: | <input type="text" value="ns1.example.com"/> | <a href="#">Assign Ip Address</a> | <a href="#">Add an A entry for this nameserver</a> |
| Nameserver 2: | <input type="text" value="ns2.example.com"/> | <a href="#">Assign Ip Address</a> | <a href="#">Add an A entry for this nameserver</a> |
| Nameserver 3: | <input type="text"/>                         | <a href="#">Assign Ip Address</a> | <a href="#">Add an A entry for this nameserver</a> |
| Nameserver 4: | <input type="text"/>                         | <a href="#">Assign Ip Address</a> | <a href="#">Add an A entry for this nameserver</a> |

You can use this interface to edit nameserver names and assign nameserver IP addresses for individual reseller nameservers. The steps are exactly the same as the steps listed above.

## Additional Resources

Understand the basics and want to learn more? We have many related resources you may want to explore:



### cPanel & WHM Admin Essentials

<http://go.cpanel.net/adminessentials>

Learn about the technical details about how DNS works, how to troubleshoot DNS issues, and address other issues one is likely to encounter in a shared hosting environment such as one running cPanel & WHM.

### DNS Clustering Guide

<http://go.cpanel.net/dnsonly>

Gain the added convenience and redundancy of running remote nameservers by setting up DNS Clustering. This will remove the need for your hosting customers to change their nameservers when you move them to another cPanel & WHM server within the DNS cluster, saving you many customer support headaches.

