

## How to Configure a Zone

<https://campus.barracuda.com/doc/96026353/>

The CloudGen Firewall offers the option to configure primary, secondary, reverse, and forwarding zones. When configuring a primary or reverse zone, it is important to correctly handle the serial / serial number offset value.

Timestamps are used in the DNS system to synchronize zone transfers. You must be careful when using the CloudGen Firewall as a DNS primary in conjunction with a DNS secondary server running a non-Barracuda Networks product!

The effective serial number is derived from the firewall's Unix time-stamp. In a mixed setup of a CloudGen based DNS primary server and a non-Barracuda DNS secondary server, Unix time-stamps are numerically lower than date-based time-stamps (e.g. 2019043000). Therefore, a serial number offset must be added to the Unix-based time-stamp. The result of this addition must be greater than the date-based time-stamp at the moment of activating the zone's data. Only then will a secondary DNS server accept a zone transfer from the primary.

For converting the current time into a Unix-based time-stamp, you can use a calculator on the Internet, e.g., [www.unixtimestamp.com](http://www.unixtimestamp.com) .

### Before You Begin

- Verify that all necessary IP addresses for answering DNS queries are already configured as service IP addresses on the respective incoming interfaces. For more information, see [How to Assign Services](#).
- Ensure that the serial number offset is high enough.

### Option 1: Configure a Primary Zone

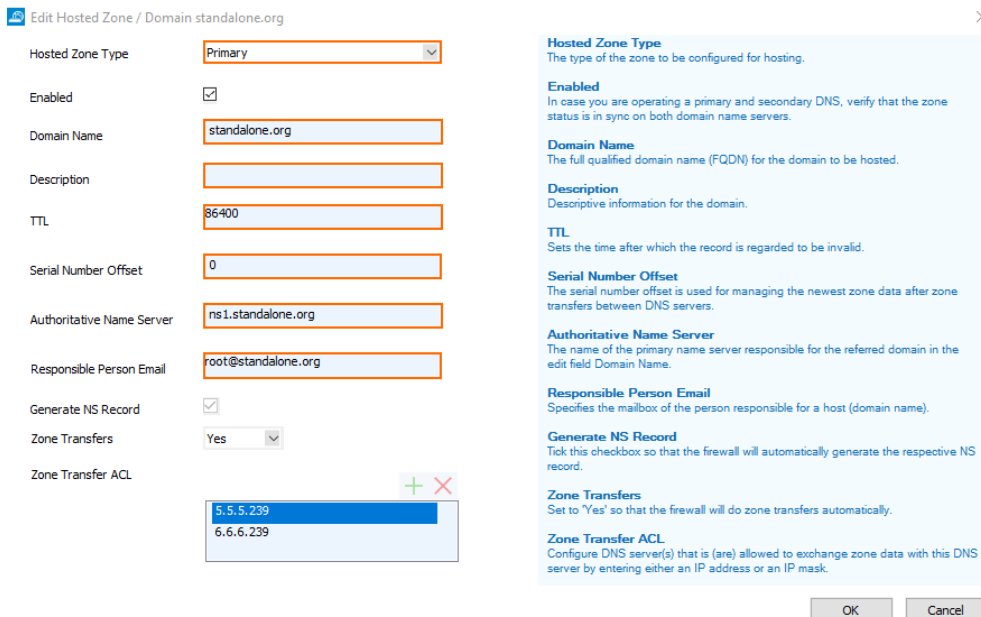
1. Go to **CONFIGURATION > Configuration Tree > Box > Assigned Services > DNS > DNS-Service**.
2. In the left menu, click **Hosted Zones**.
3. Right-click in the window.
4. From the list, select **Add new DNS Zone**.
5. The **Add Hosted Zone / Domain window** is displayed.
6. For **Hosted Zone Type**, select **Primary**.
7. For **Enabled**, select the check box if you want the record to be active.
8. For **Domain Name**, enter the name of the domain, e.g., example.com .

Because the underscore character ('\_') is not processed correctly by the underlying BIND

system, do not use this character when you enter domain names!

While entering the domain name, the edit field for Authoritative Name Server will be auto-filled and the standard name ns1 will be prepended to your domain name for the name server.

9. For **Description**, enter any text that best describes your domain.
10. **TTL** (time to live [sec]) is already preset. Change the value if necessary.
11. For **Serial Number Offset**, enter the offset only if the serial of your new zone record must be higher than the serial on the secondary DNS server.
12. For the auto-filled edit field **Authoritative Name Server** you can omit any changes unless necessarily required.
13. For **Responsible Person Email**, enter the email address of the person that is responsible for the configured domain. The edit field accepts the underscore character: '\_'.
14. Select **Generate NS Record** if you want to have the name server record created automatically for you.
15. For **Zone Transfer**, select **Yes** if you want to allow automatic zone transfers.
16. For **Zone Transfer ACL**, enter all IP addresses of secondary DNS servers that are allowed to exchange zone data with the primary.
17. Click **OK**.
18. Click **Send Changes**.
19. Click **Activate**.



**Hosted Zone Type**  
The type of the zone to be configured for hosting.

**Enabled**  
In case you are operating a primary and secondary DNS, verify that the zone status is in sync on both domain name servers.

**Domain Name**  
The full qualified domain name (FQDN) for the domain to be hosted.

**Description**  
Descriptive information for the domain.

**TTL**  
Sets the time after which the record is regarded to be invalid.

**Serial Number Offset**  
The serial number offset is used for managing the newest zone data after zone transfers between DNS servers.

**Authoritative Name Server**  
The name of the primary name server responsible for the referred domain in the edit field Domain Name.

**Responsible Person Email**  
Specifies the mailbox of the person responsible for a host (domain name).

**Generate NS Record**  
Tick this checkbox so that the firewall will automatically generate the respective NS record.

**Zone Transfers**  
Set to 'Yes' so that the firewall will do zone transfers automatically.

**Zone Transfer ACL**  
Configure DNS server(s) that is (are) allowed to exchange zone data with this DNS server by entering either an IP address or an IP mask.

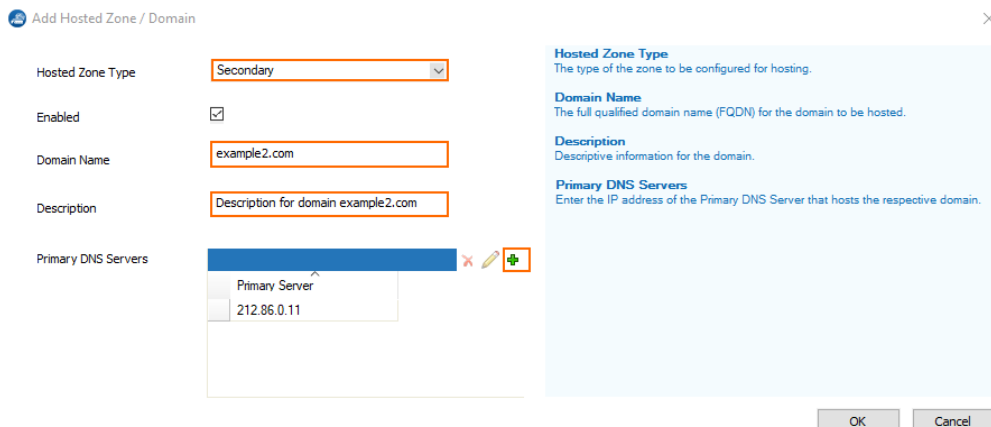
You have now configured a primary zone.

Domain	Zone Status	Type	Owner	TTL	Email	Record Data	Description
standalone.org (Primary)	Enabled			86400	root@standalone.org		
		NS	@	3600		ns1.standalone.org	Automatically generated
		A	ns1	3600		3.3.3.238, 4.4.4.238	Automatically generated
		A	ns2	3600		5.5.5.239, 6.6.6.239	

## Option 2: Configure a Secondary Zone

If your firewall must operate as a secondary DNS server for a certain zone hosted on another authoritative primary DNS server, create a secondary zone to host it on your firewall.

1. Go to **CONFIGURATION > Configuration Tree > Box > Assigned Services > DNS > DNS-Service**.
2. In the left menu, click **Hosted Zones**.
3. Right-click in the window.
4. From the list, select **Add new DNS Zone**.
5. The **Add Hosted Zone / Domain window** is displayed.
6. For **Hosted Zone Type**, select **Secondary**.
7. For **Enabled**, select the check box if you want the record to be active.
8. For **Domain Name**, enter the domain for which you want to create a secondary zone, e.g., `example2.com`.
9. For **Description**, enter any text that best describes your domain.
10. Click **+** to add the primary DNS server that hosts the primary zone.
11. The **Add New Key** window is displayed.
12. Enter the IP address for the primary DNS server, e.g., `212.86.0.11`, where to make the zone transfer from.
13. Click **OK**.
14. Click **Send Changes**.
15. Click **Activate**.



In the **Hosted Zones** window, you can now see the record for the primary zone

example2.com (Slave)		1d		No	Description for domain example2.com
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Because a secondary zone is managed by its owning primary server, no records will be shown on the secondary DNS server.

### Option 3: Configure a Reverse Zone

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Configuring a reverse zone requires a primary zone that is already configured. If there is no primary zone configured yet, start over with **Option 1** above.

1. Go to **CONFIGURATION > Configuration Tree > Box > Assigned Services > DNS > DNS-Service**.
2. In the left menu, click **Hosted Zones**.
3. Right-click in the window.
4. From the list, select **Add new DNS Zone**.
5. The **Add Hosted Zone / Domain window** is displayed.
6. For **Hosted Zone Type**, select **Reverse**.
7. For **Enabled**, select the check box if you want the record to be active.
8. In the edit field **Network** at the bottom of the window, enter the network address that you are configuring the reverse zone for, e.g., `62.99.0.0/24`.
9. The edit field for **Domain Name** will be auto-filled based on the network address.
10. For **Description**, enter any text that best describes your domain.
11. **TTL** (time to live [sec]) is already preset. Change the value if necessary.
12. For **Serial Number Offset**, enter the offset only if the serial of your new zone record must be higher than the serial on the secondary DNS server.
13. For **Authoritative Name Server**, enter the same name server as for the related primary zone, e.g., `ns1.example.com`.
14. For **Responsible Person Email**, enter the email address of the person that is responsible for the configured domain.
15. For **Zone Transfer**, select **Yes** if you want to allow automatic zone transfers.
16. For **Zone Transfer ACL**, enter all IP addresses of secondary DNS servers that are allowed to exchange zone data with the primary.
17. Click **OK**.
18. Click **Send Changes**.
19. Click **Activate**.

Edit Hosted Zone / Domain 30.0.99.62.in-addr.arpa

Hosted Zone Type:

Enabled:

Domain Name:

Description:

TTL:

Serial Number Offset:

Primary Master Name Server:

Responsible Person Email:

Generate NS Record:

Zone Transfers:

Zone Transfer ACL:

Network:

**Hosted Zone Type**  
The type of the zone to be configured for hosting.

**Domain Name**  
The full qualified domain name (FQDN) for the domain to be hosted.

**Description**  
Descriptive information for the domain.

**TTL**  
Sets the time after which the record is regarded to be invalid.

**Serial Number Offset**  
The Serial number offset is used for managing the newest zone data after zone transfers between DNS servers.

**Primary Master Name Server**  
The name of the master name server responsible for the referred domain in the edit field Domain Name, also known as the authoritative nameserver.

**Responsible Person Email**  
Specifies the mailbox of the person responsible for a host (domain name).

**Generate NS Record**  
Tick this checkbox so that the firewall will automatically generate the respective NS record.

**Zone Transfers**  
Set to 'Yes' so that the firewall will do zone transfers automatically.

**Zone Transfer ACL**  
Configure DNS server(s) that is (are) allowed to exchange zone data with this DNS server by entering either an IP address or an IP mask.

**Network**  
Enter the network address for which the reverse entry shall be automatically generated, e.g., 172.16.0.0/24.

OK Cancel

In the **Hosted Zones** window, you can now see the record for the reverse zone.

0.99.62.in-addr.arpa (Reverse)	86400	root@example.com	No	Reverse Zone for example.com
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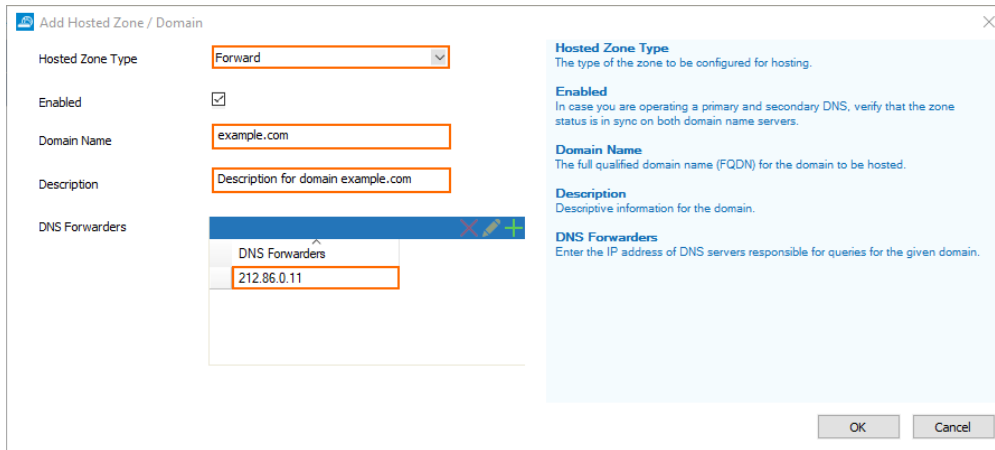
## Option 4: Configure a Forward Zone

If your firewall must operate as a secondary DNS server for a certain zone hosted on another authoritative primary DNS server, create a secondary zone to host it on your firewall.

1. Go to **CONFIGURATION > Configuration Tree > Box > Assigned Services > DNS > DNS-Service**.
2. In the left menu, click **Hosted Zones**.
3. Right-click in the window.
4. From the list, select **Add new DNS Zone**.
5. The **Add Hosted Zone / Domain window** is displayed.
6. For **Hosted Zone Type**, select **Forward**.
7. For **Enabled**, select the check box if you want the record to be active.
8. For **Domain Name**, enter the domain for which you want to create a forwarder, e.g., `example.com`.
9. For **Description**, enter any text that best describes your domain.
10. Click **+** to add a DNS forwarder.
11. The **Add New Key** window is displayed.
12. Enter the IP address for the DNS forwarder, e.g., `212.86.0.11`.
13. Click **OK**.

14. Click **Send Changes**.

15. Click **Activate**.



The screenshot shows a configuration dialog box titled "Add Hosted Zone / Domain". The dialog is divided into two main sections. The left section contains configuration fields: "Hosted Zone Type" is a dropdown menu set to "Forward"; "Enabled" is a checked checkbox; "Domain Name" is a text field containing "example.com"; "Description" is a text field containing "Description for domain example.com"; and "DNS Forwarders" is a list box containing the IP address "212.86.0.11". The right section provides explanatory text for each field: "Hosted Zone Type" explains the zone type; "Enabled" explains the importance of having primary and secondary DNS; "Domain Name" explains the requirement for a fully qualified domain name (FQDN); "Description" explains that it is for descriptive information; and "DNS Forwarders" explains that it is for the IP address of DNS servers. At the bottom right of the dialog are "OK" and "Cancel" buttons.

## Figures

1. add\_master\_zone\_window.png
2. master\_zone\_record.png
3. add\_slave\_zone\_window.png
4. slave\_zone\_record2.png
5. reverse.PNG
6. reverse\_zone\_record2.png
7. add\_forward\_zone.png

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