

## Configuring Global Server Load Balancing

<https://campus.barracuda.com/doc/19333832/>

Perform these tasks to configure your Global Server Load Balancing (GSLB) network and to one or more GSLB Controllers.

### Step 1. Define the GSLB network layout

- Decide which Barracuda Load Balancer ADC you want to act as your active and which you want to act as your passive GSLB Controllers. GSLB Controllers must be externally accessible. They may also act as the Load Balancer ADC for a server farm.
- Decide whether the Response Policy is based on region, geographical proximity, or by pre-configured priority. Response Policies are described in the [Site Selection Criteria](#) section of the [Global Server Load Balancing Overview](#) page.
  - If your Response Policy is **Region Only**, decide which site or sites are associated with each region where requests originate.
- Determine what will happen in the case of a site failure. Gather the IP addresses (IP addresses of Real Servers or VIP addresses of Services) of the sites.

### Step 2. Location Definitions for Location-based Response Policy

*If you intend to use a priority-based Response Policy, and not a geographically-based Response Policy, skip this step and proceed to Step 3.*

For either **Geo IP** or **Region Only**, make sure the **Location Definitions** are set to automatically update on every GSLB Controller.

1. Open the **ADVANCED > Energize Updates** page.
2. Scroll down to **Location Definition Updates**.
3. Set **Automatic Updates** to **On**.

### Step 3. Set the DNS Service IP Address

For each active GSLB Controller, select the IP address to be used as the DNS Service IP address. DNS requests will be sent to this IP address. It must be reachable from the WAN, LAN or VLAN of the GSLB Controller.

- If the GSLB Controller is in HA mode and a system failover occurs, the passive system will assume this address and handle the requests directed to it.
- If the GSLB Controller is *not* in HA mode, this address could be the externally reachable IP address of the GSLB Controller.

*On each active GSLB Controller, go to the **TRAFFIC > GSLB Settings** page and enter the **DNS Service IP Address**. If this is a clustered system, the passive system will be updated automatically.*

#### Step 4. Delegate a Sub-Domain to the GSLB Controller

*This step must be done at your domain registrar or wherever your domains are hosted.*

To delegate a sub-domain to be resolved by the GSLB Controller, add records to the zone file of the domain so that DNS requests for the sub-domain will be forwarded to the GSLB Controller for resolution.

For example, if the domain is **example.com**, and you want to host **www.example.com** behind the GSLB Controller, you will need to add a DNS NS (nameserver) record to associate **www.example.com** with each GSLB Controller. If there are two GSLB Controllers (one active, one passive) there is one record for the clustered pair:

**www.example.com. IN NS ns1.www.example.com.**

Add an A (host) record for the GSLB Controller with its IP address and the domain **www**:

**ns1.www.example.com. IN A <DNS Service IP address of first cluster>**

where **<DNS Service IP address...>** is the DNS Service IP address assigned to the clustered pair. Do not enter the brackets (< >). Do add the dot (.) at the end of the nameserver.

The remainder of the steps are performed on the Barracuda Load Balancer ADC(s) that may act as the GSLB Controller. If you have a clustered GSLB Controller, you only need to do these steps on the active system because the configuration between two clustered Barracuda Load Balancer ADCs are synchronized automatically.

#### Step 5. Create the Host DNS Record on each GSLB Controller

This step must be done on each GSLB Controller that is not a passive system in the cluster. Using the web interface of the Barracuda Load Balancer ADC, create the records that describe the domain or domains that are available to the GSLB Controller.

The following example generates the A (host) record for **www.example.com** on the GSLB Controller. The domain name is **example.com** and the host is **www**. This A record is initially associated with one site IP address but more site IP addresses can be added later.

For descriptions of other record types, see Record Type Descriptions at the bottom of this article.


To create the DNS records on the GSLB Controller,

1. Navigate to the **TRAFFIC > GSLB Services** page.
2. In the **Add New GSLB Service** section, supply the following information, then click **Save**.
  - **Zone Name** - The zone maintained by your existing DNS server, e.g., **example.com**
  - **Record Type** - A
  - **Host** - The host name (or sub-domain) to be resolved, e.g., **www**
  - **Site IP** - The IP address that you want to receive the traffic. This may be the VIP address of Service on a Barracuda Load Balancer ADC, or the IP address of a server
  - **Policy** - Region Only
  - **Region**- This associates a region with the **Site IP Address**.
    - If you want the GSLB Controller to select the site based on region, select the region from the list. Otherwise, select **All Countries** from the list.
    - If the region you want is not already defined, add a custom region.
      1. Go to the **TRAFFIC > GSLB Settings** page.
      2. Scroll to **GSLB Regions** and click **Add Custom Region**.
      3. Return to the **TRAFFIC > GSLB Services** page and select the custom region from the list.

A DNS record is created for **www.example.com**. Some of the fields in the record will contain default values for settings, which you can customize by editing the entry in the table.

#### Step 6. Set the Failover IP Address

If you have a site that can handle the traffic in the case of failure of all sites that match the Response Policy, enter its IP address as the **Failover IP Address**.

1. Go to the **TRAFFIC > GSLB Services** page.
2. In the table at the bottom of the page, click the Edit icon  to edit the Host site.
3. In the **Edit Host** window, type the IP address in the **Failover IP Address** field. Then click **Save**.

#### Step 7. Identify the rest of the sites that serve this host

Configure all of the sites that can process the traffic for this host (e.g., [www.example.com](http://www.example.com)).

1. Go to the **TRAFFIC > GSLB Services** page.
2. Within the table at the bottom of the page, click the blue **Site** link in the **Add** column for the appropriate Host name.

You may want to associate a new site with a region or assign a priority to it. Remember that regions are only relevant if the **Response Policy** is **Region Only**. Similarly, **Priority** is only considered when the **Response Policy** is **Priority**.

## Record Type Descriptions

The following table describes the various Record Types available for GSLB services.

<b>A</b>	New host.
<b>CNAME</b>	CNAME specifies an alias or nickname for the official or canonical name. An alias should be the only record associated with the alias; all other resource records should be associated with the canonical name and not with the alias. Any resource records that include a zone name as their value (for example, NS or MX) must list the canonical name, not the alias. This resource record is especially useful when changing machine names.
<b>MX</b>	MX records specify a list of hosts that are configured to receive mail sent to this domain name. Every host that receives mail should have an MX record, since if one is not found at the time the mail is delivered, an MX value will be imputed with a cost of 0 and a destination of the host itself.
<b>NS</b>	NS lists a name server responsible for a given zone. The first "name" field lists the zone that is serviced by the listed name server. There should be one NS record for each name server of the zone, and every zone should have at least two name servers, preferably on separate networks.
<b>TXT</b>	A TXT record contains free-form textual data. The syntax of the text depends on the domain in which it appears; several systems use TXT records to encode user databases and other administrative data.

## Figures

1. editIcon.jpg

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