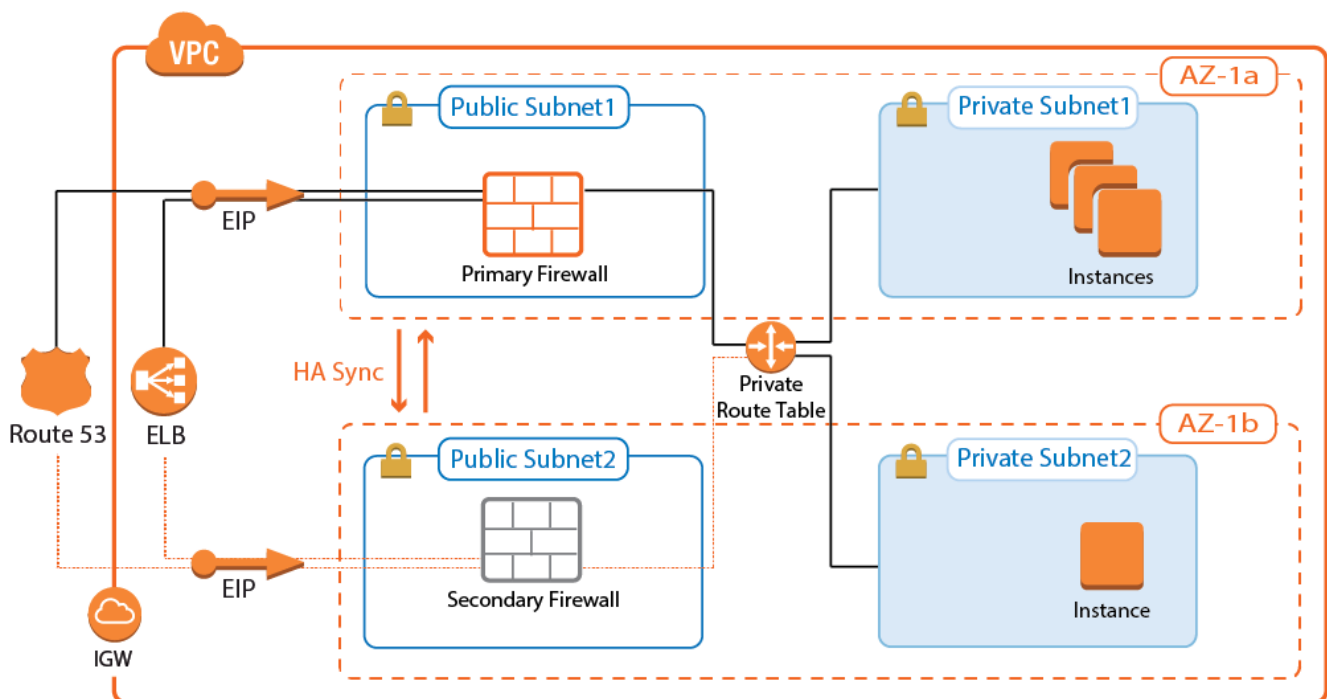


How to Configure a Multi-AZ High Availability Cluster in AWS Using the AWS Console

<https://campus.barracuda.com/doc/73719420/>

To ensure that at least one firewall is always active, deploy two firewalls into an active-passive high availability cluster. Each firewall is deployed into a different Availability Zone. The active firewall is used as the default gateway in the route table associated with the private networks. When the virtual server fails over from the primary to the secondary firewall, the AWS route table is rewritten to use the now-active secondary firewall as the default gateway.

Depending on the network protocol of the incoming connections, use an Elastic Load Balancer or AWS Route 53. The Elastic Load Balancer only supports TCP-based traffic, whereas Route 53 can be used with both TCP and UDP traffic.

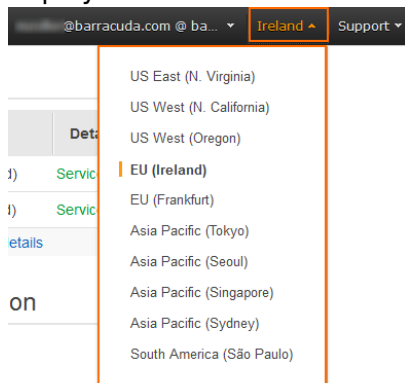


Before You Begin

- (BYOL only) Licenses matching the desired instance size are required when using BYOL images.
- Prepare an IAM role for the firewall instance. For more information, see [How to Create an IAM Role for a CloudGen Firewall in AWS](#).

Step 1. Select the AWS Datacenter

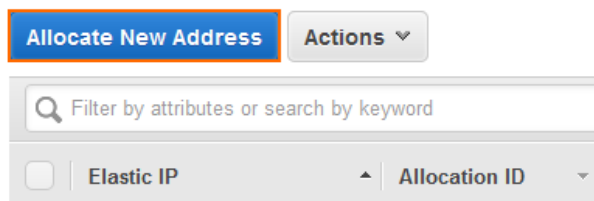
1. Log into the AWS console.
2. In the upper right, click on the datacenter location, and select the datacenter you want to deploy to from the list.



The selected datacenter location is now displayed in the AWS console.

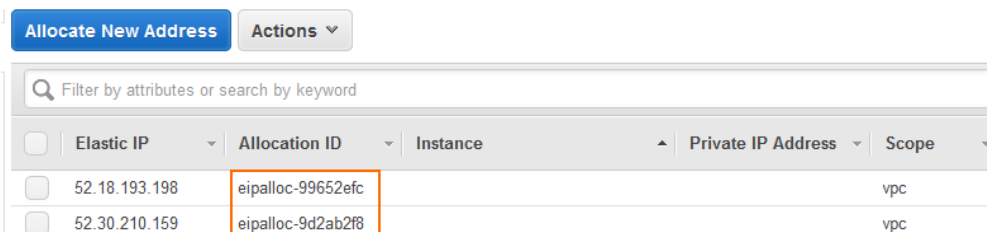
Step 2. Create an Elastic IP for Each Firewall

1. Log into the AWS console.
2. Click **Services** and select **EC2**.
3. In the **Network & Security** section of the left menu, click on **Elastic IPs**.
4. For the primary and secondary firewall:
 1. Click **Allocate New Address**.



2. Click **Yes, Allocate**.

Two unassigned elastic IPs are now added to the list. Copy the **Allocation ID** for future use.

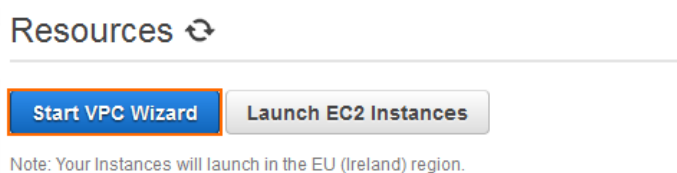


<input type="checkbox"/>	Elastic IP	Allocation ID	Instance	Private IP Address	Scope
<input type="checkbox"/>	52.18.193.198	eipalloc-99652efc			vpc
<input type="checkbox"/>	52.30.210.159	eipalloc-9d2ab2f8			vpc

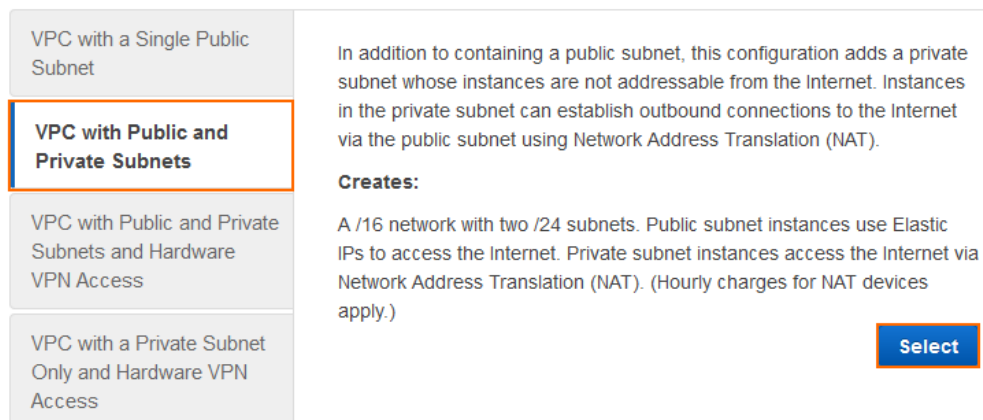
Step 3. Create a VPC with the VPC Wizard

Use the VPC wizard to create a VPC with two subnets. Each subnet must be created in a different availability zone. Additional subnets for the backend instances are added after the wizard.

1. Log into the AWS console.
2. Click **Services** and select **VPC**.
3. Click **Start VPC Wizard**. The VPC wizard opens.



4. Select **VPC with Public and Private Subnets** and click **Select**.



5. Configure the following settings:
 - **IP CIDR block** - Enter a /16 CIDR block that does not overlap with any of your other networks.
 - **VPC Name** - Enter the name.
 - **Public subnet** - Enter the /24 subnet used for the primary firewall.
 - **Public subnet name** - Enter a name for the primary firewall subnet.
 - **Availability Zone** - Select an availability zone.
 - **Private subnet** - Enter the /24 subnet used for the secondary firewall.
 - **Private subnet name** - Enter a name for the secondary firewall subnet.
 - **Availability Zone** - Select a different subnet for the second subnet because the primary and secondary firewalls must be in different Availability Zones. E.g, Select **eu-west-1b** if the you selected **eu-west-1a** as the public subnet Availability Zone.
 - **Elastic IP Allocation ID** - Enter the Allocation ID for the elastic IP address created in step 1.

IP CIDR block:* (65531 IP addresses available)

VPC name:

Public subnet:* (251 IP addresses available)

Availability Zone:*

Public subnet name:

Private subnet:* (251 IP addresses available)

Availability Zone:*

Private subnet name:

You can add more subnets after AWS creates the VPC.

Specify the details of your NAT gateway (NAT gateway rates apply).

Elastic IP Allocation ID:*

- **Enable DNS hostnames** (optional) - Set to **NO** to use only IP addresses to access your VPC.

6. Click **Create VPC**.

Enable DNS hostnames:* Yes No

Hardware tenancy:*

The VPC is now listed in the **Your VPCs** list.

Name	VPC ID	State	VPC CIDR	DHCP options set	Route table	Network ACL	Tenancy	Default VPC
DOC-VPC	vpc-e77afc83	available	10.100.0.0/16	dopt-d2a7edb9	rtb-f0ecaa94	acl-95f482f1	Default	No

Step 4. Add a Subnet to the VPC

Add a private subnet for instances that use the firewall.

1. Log into the AWS console.
2. Click **Services** and select **VPC**.
3. Click **Subnets** in the left menu.
4. Click **Create Subnet**.
5. Create a subnet:

- **Name tag** – Enter a name for the subnet.
- **VPC** – Select the VPC created in step 3.
- **Availability Zone** – Select an availability zone from the list.
- **CIDR block** – Enter a free subnet in the scope of the network defined for the VPC.

Create Subnet ✕

Use the CIDR format to specify your subnet's IP address block (e.g., 10.0.0.0/24). Note that block sizes must be between a /16 netmask and /28 netmask. Also, note that a subnet can be the same size as your VPC.

Name tag

VPC

Availability Zone

CIDR block

6. Click **Yes, Create**.

You now have three subnets in the VPC:

Create Subnet Subnet Actions ↻ ⚙️ ⓘ

Q vpc-e77afc83 1 to 3 of 3 Subnets

<input type="checkbox"/>	Name	Subnet ID	State	VPC	CIDR	Available IPs	Availability Zone	Route Table	Network ACL	Default Subnet
<input checked="" type="checkbox"/>	Private Subnet #1	subnet-5746d921	available	vpc-e77afc83 (10.100.0.0/16) DO...	10.100.2.0/24	251	eu-west-1a	rtb-f0ecaa94	acl-95f482f1	No
<input type="checkbox"/>	Firewall Subnet #2	subnet-552d8f0d	available	vpc-e77afc83 (10.100.0.0/16) DO...	10.100.1.0/24	251	eu-west-1b	rtb-f0ecaa94	acl-95f482f1	No
<input type="checkbox"/>	Firewall Subnet #1	subnet-684ad71e	available	vpc-e77afc83 (10.100.0.0/16) DO...	10.100.0.0/24	251	eu-west-1a	rtb-f1ecaa95	acl-95f482f1	No

Step 5. Delete the NAT Gateway Instance

The VPC wizard automatically creates a NAT gateway instance. But since the firewall already includes this functionality, the NAT gateway instance must be deleted.

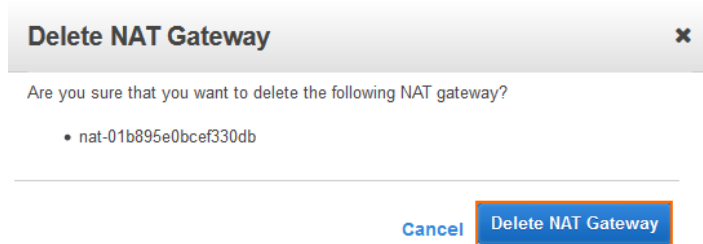
1. Log into the AWS console.
2. Click **Services** and select **VPC**.
3. In the **Virtual Private Cloud** section of the left menu, click on **NAT Gateways**.
4. (optional) Enter the VPC ID in the search bar.
5. Select the NAT gateway created for your VPC and click **Delete NAT Gateway**. The **Delete NAT Gateway** window opens.

Create NAT Gateway Delete NAT Gateway ↻ ⚙️ ⓘ

search : vpc-0a84896f 1 to 1 of 1

<input checked="" type="checkbox"/>	NAT Gateway	Status	Elastic IP Address	Private IP Address	Network Interface ID	VPC	Subnet	Created
<input checked="" type="checkbox"/>	nat-0fdffb7c1...	Available	52.30.210.159	10.100.0.206	eni-26bb755f	vpc-0a84896f	subnet-6e06f10a	March 7, 2016 at 8

6. Click **Delete NAT Gateway**.



The elastic IP address associated with the NAT gateway is released automatically and is now free to use for one of the firewall instances.

Step 6. Deploy the Primary Firewall

The primary firewall is deployed into the first firewall subnet of the VPC. Two image types are available in the AWS Marketplace: BYOL and hourly.

1. Log into the AWS console.
2. Click **Services** and select **EC2**.
3. Click **Launch Instance** in the **Create Instance** section. The **VPC wizard** starts.

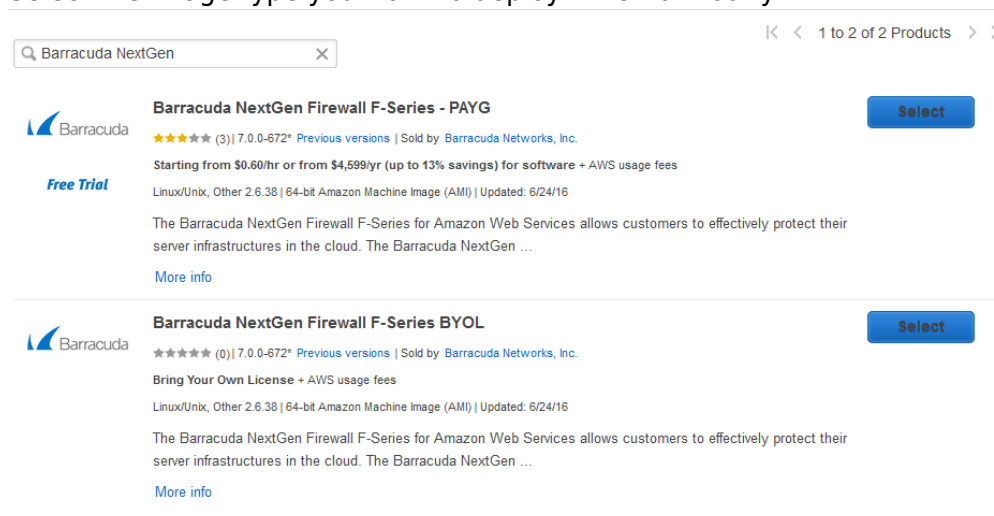
Create Instance

To start using Amazon EC2 you will want to launch a virtual server, known as an Amazon EC2 instance.

[Launch Instance](#)

Note: Your instances will launch in the EU West (Ireland) region

4. In the left menu, click **AWS Marketplace**.
5. Enter Barracuda NextGen in the search box.
6. Select the image type you want to deploy: BYOL or hourly.



7. Select the **Instance Type**. If you are deploying a BYOL image, verify that the number of CPU cores of the instance matches your license.

Step 2: Choose an Instance Type

<input type="checkbox"/>	General purpose	m3.2xlarge	8	30	2 x 80 (SSD)	Yes	High
<input checked="" type="checkbox"/>	Compute optimized	c4.large	2	3.75	EBS only	Yes	Moderate
<input type="checkbox"/>	Compute optimized	c4.xlarge	4	7.5	EBS only	Yes	High
<input type="checkbox"/>	Compute optimized	c4.2xlarge	8	15	EBS only	Yes	High

8. Click **Next: Configure Instance Details.**

9. Configure the **Instance Details:**

- o **Number of instances** - Enter 1
- o **Network** - Select the VPC created in step 3.
- o **Subnet** - Select the subnet for the primary firewall.
- o **IAM role** - Select the IAM role created for the firewall instance. Verify that all required IAM policies for the route-shifting High Availability cluster are attached.

Number of instances [Launch into Auto Scaling Group](#)

Purchasing option Request Spot instances

Network [Create new VPC](#)

Subnet [Create new subnet](#)
250 IP Addresses available

Auto-assign Public IP

IAM role [Create new IAM role](#)

10. In **Network Interfaces**, enter the **Primary IP** address. The IP address must be in the subnet selected above.

Network interfaces

Device	Network Interface	Subnet	Primary IP	Secondary IP addresses
eth0	<input type="text" value="New network interface"/>	<input type="text" value="subnet-684ad71e"/>	<input type="text" value="10.100.0.10"/> Add IP	

11. Click **Next: Add Storage.**

12. Click **Next: Tag Instance.**

13. Click **Next: Configure Security Group.**

14. (optional) Enter a **Security group name.**

15. (optional) Remove the preconfigured rules in the security group.

16. Click **Add Rule** and open up the security group for all traffic.

- o **Type** - Select **All Traffic.**
- o **Source** - Select **Anywhere.**

Assign a security group: Create a new security group
 Select an existing security group

Security group name:

Description:

Type	Protocol	Port Range	Source
<input type="text" value="All traffic"/>	<input type="text" value="All"/>	<input type="text" value="0 - 65535"/>	<input type="text" value="Anywhere"/> 0.0.0.0/0

[Add Rule](#)

17. Click **Review and Launch.**

18. Click **Launch**. The **Select and existing key pair or create a new key pair** pop-over window opens.
19. From the drop-down list, select your desired option. The certificate is valid only for root SSH logins. For Barracuda Firewall Admin, the Instance ID is the default password.
20. Click the checkbox to verify that you have access to the selected key, or, to download a new key pair, click **Download Key Pair**.
21. Click **Launch Instances**. The **Launch Status** page opens.

Select an existing key pair or create a new key pair ✕

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

Create a new key pair ▼

Key pair name

You have to download the private key file (*.pem file) before you can continue. **Store it in a secure and accessible location.** You will not be able to download the file again after it's created.

Locate and copy the **Instance IDs**. This is the default password used to log into the primary firewall via Barracuda Firewall Admin.

✔

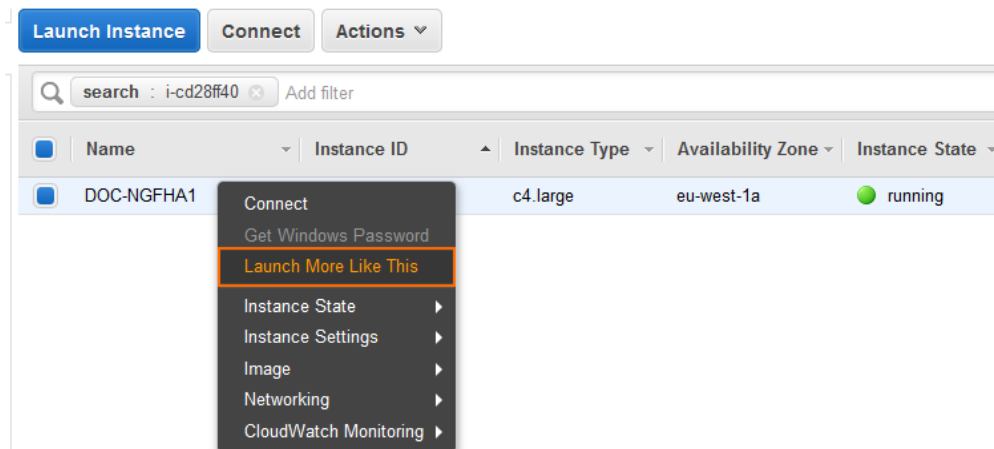
Your instances are now launching

The following instance launches have been initiated: i-cd28ff40 [View launch log](#)

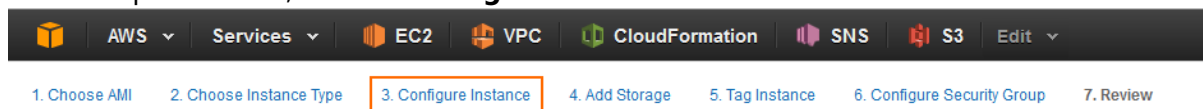
Step 7. Deploy the Secondary Firewall

The secondary firewall instance is deployed into the secondary firewall subnet of the VPC. The configuration of the primary firewall is used as a starting point.

1. Log into the AWS console.
2. Click **Services** and select **EC2**.
3. Right-click on the primary firewall instance created in step 6 and click **Launch More Like This**.



4. On the top menu bar, click **3. Configure Instance**.



5. Change the subnet in the **Instance Details** section:

- **Subnet** – Select the subnet for the secondary firewall.

Number of instances [Launch into Auto Scaling Group](#)

Purchasing option Request Spot instances

Network [Create new VPC](#)

Subnet [Create new subnet](#)
 251 IP Addresses available

Auto-assign Public IP

Placement group

6. Enter the **Primary IP** address in the **Network Interfaces** section. The IP address must be in the subnet selected above.

▼ Network interfaces

Device	Network Interface	Subnet	Primary IP	Secondary IP addresses
eth0	<input type="text" value="New network interface"/>	<input type="text" value="subnet-552d8f0d"/>	<input type="text" value="10.100.1.10"/>	Add IP

7. Click **Review and Launch**.

8. Click **Launch**. The **Select an existing key pair or create a new key pair** window opens.

9. Select **Choose an existing key pair** from the drop-down list.

10. Select the key pair used for the first firewall.

11. Click **Launch Instances**. The **Launch Status** page opens.

Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

Choose an existing key pair ▼

Select a key pair

NGF_keys ▼

I acknowledge that I have access to the selected private key file (NGF_keys.pem), and that without this file, I won't be able to log into my instance.

Cancel
Launch Instances

Locate and copy the **Instance IDs**. This is the default password used to log into the secondary firewall via Barracuda Firewall Admin.

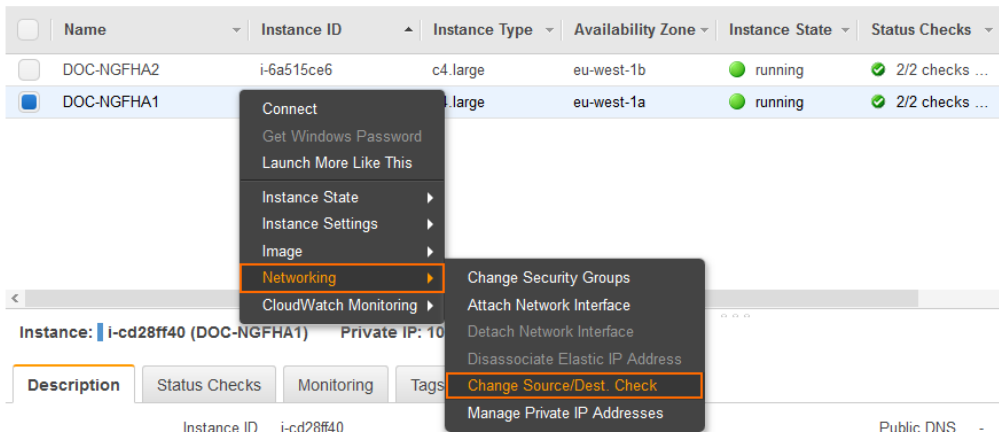
✔ **Your instances are now launching**

The following instance launches have been initiated: i-6a515ce6 [View launch log](#)

Step 8. Disable the Source/Destination Check for Both Firewalls

To allow the firewall to perform NAT operations, you must disable the source/destination check for the firewall network interfaces.

1. Log into the AWS console.
2. Click **Services** and select **EC2**.
3. Right-click on the primary firewall created in step 6, click **Networking**, and select **Change Source/Dest. Check**.



4. Click **Yes, Disable**.

Enable Source/Destination Check ✕

Are you sure that you would like to disable Source/Destination Check for the instance with the following details:

Instance:	i-cd28ff40 (DOC-NGFHA1)
Network Interface:	eni-75428839
Status	Enabled

Cancel
Yes, Disable

5. Right-click on the secondary firewall created in step 7, click **Networking**, and select **Change Source/Dest. Check**.
6. Click **Yes, Disable**.

Step 9. Configure an AWS Route Table for Private Subnets

Configure the default route of the main routing table to use the primary firewall instance as the default gateway. Since this is the main route table, it is automatically applied to any subnets not specifically assigned to another route table.

1. Log into the AWS console.
2. Click **Services** and select **VPC**.
3. In the left menu, click **Route Tables**.
4. Click on the main route table for your VPC.

	Name	Route Table ID	Explicitly Associat-	Main	VPC
<input checked="" type="checkbox"/>	rtb-f0ecaa94		0 Subnets	Yes	vpc-e77afc83 (10.100.0.0/16) DOC-VPC
<input type="checkbox"/>	rtb-f1ecaa95		1 Subnet	No	vpc-e77afc83 (10.100.0.0/16) DOC-VPC

5. On the bottom, click on the **Routes** tab.
6. Click **Edit**.

rtb-f0ecaa94

Summary Routes Subnet Associations

Edit

Destination	Target	Status	Propagated
-------------	--------	--------	------------

7. In the **Target** column of the default route (0.0.0.0/0), enter the instance ID of the primary firewall.
8. Click **Save**.

Cancel
Save

Destination	Target	Status	Propagated	Remove
10.100.0.0/16	local	Active	No	
<input style="width: 80%;" type="text" value="0.0.0.0/0"/>	<input style="width: 80%;" type="text" value="i-cd28ff40"/>	Black Hole	No	✕

The default route now shows an **Active** state in the **Status** column:

rtb-f0ecaa94

Summary **Routes** Subnet Associations Route Propagation Tags

Edit ✔ Save Successful

Destination	Target	Status	Propagated
10.100.0.0/16	local	Active	No
0.0.0.0/0	eni-75428839 / i-cd28ff40	Active	No

Step 10. Configure an AWS Route Table for the Firewall Subnets

The route table for the firewall subnet routes incoming and outgoing connections through the Internet gateway created by the VPC wizard in step 3.

1. Log into the AWS console.
2. Click **Services** and select **VPC**.
3. In the left menu, click **Route Tables**.
4. Click on the second route table, which is currently associated with the subnet for the primary firewall.

Create Route Table Delete Route Table Set As Main Table

Q vpc-e77afc83 X

<input type="checkbox"/>	Name	Route Table ID	Explicitly Associat	Main	VPC
<input type="checkbox"/>		rtb-f0ecaa94	0 Subnets	Yes	vpc-e77afc83 (10.100.0.0/16) DOC-VPC
<input checked="" type="checkbox"/>		rtb-f1ecaa95	1 Subnet	No	vpc-e77afc83 (10.100.0.0/16) DOC-VPC

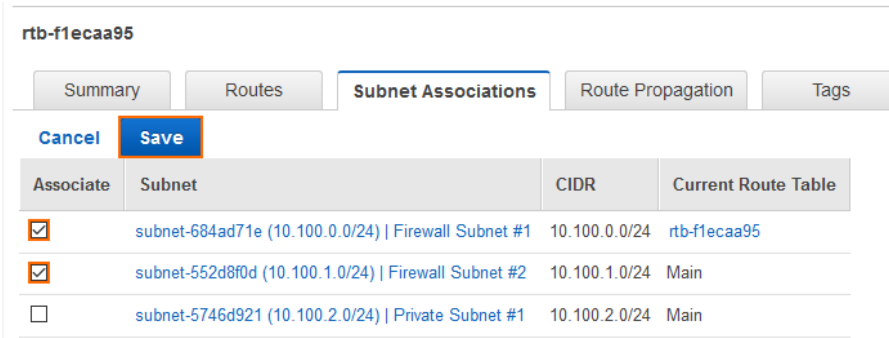
5. On the bottom, click on the **Subnet Associations** tab.
6. Click **Edit**.

rtb-f1ecaa95

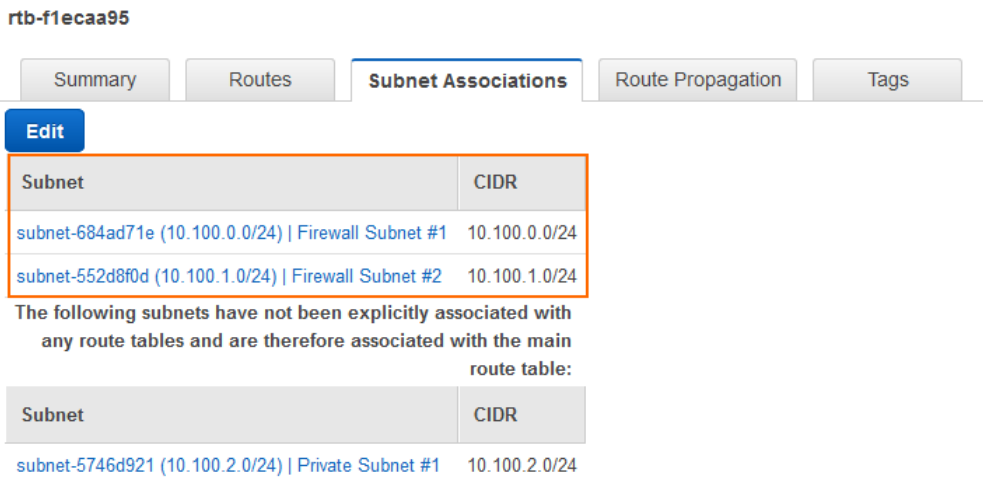
Summary Routes **Subnet Associations**

Edit

7. Select both firewall subnets.
8. Click **Save**.



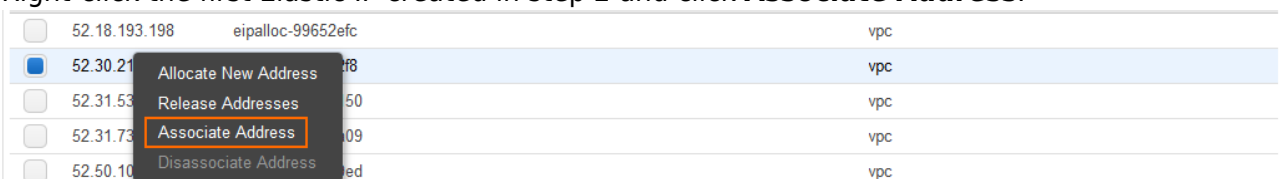
The firewall subnets are now associated with the AWS route table routing connections over the Internet gateway.



Step 11. Associate the Elastic IPs

Associate the elastic IPs created in step 2 with the firewall network interfaces.

1. Log into the AWS console.
2. Click **Services** and select **EC2**.
3. In the **Network & Security** section of the left menu, click on **Elastic IPs**.
4. Right-click the first Elastic IP created in step 2 and click **Associate Address**.



5. Enter the **Instance ID** of the primary firewall and click **Associate**.

Associate Address ✕

Select the instance OR network interface to which you wish to associate this IP address (52.30.210.159)

Instance

Or

Network Interface

Private IP Address ⓘ

Reassociation ⓘ

Warning

If you associate an Elastic IP address with your instance, your current public IP address is released. [Learn more about public IP addresses.](#)

Cancel
Associate

6. Right-click the second Elastic IP created in step 2 and click **Associate Address**.
7. Enter the **Instance ID** of the secondary firewall and click **Associate**.

Traffic to the two Elastic IPs is now automatically forwarded to the network interface of the primary and secondary firewalls.

Elastic IP	Allocation ID	Instance	Private IP Address	Scope	Public DNS
52.18.193.198	eipalloc-99652efc	i-6a515ce6 (DOC-NGFHA2)	10.100.1.10	vpc-e77afc83	ec2-52-18-193-198.eu-west-1...
52.30.210.159	eipalloc-9d2ab2f8	i-cd28ff40 (DOC-NGFHA1)	10.100.0.10	vpc-e77afc83	ec2-52-30-210-159.eu-west-1...

Step 12. Security Groups

Create a security group for the private networks that allow all traffic from the security group assigned to the firewall.

1. Log into the AWS console.
2. Click **Services** and select **VPC**
3. In the **Security** section of the left menu, click on **Security Groups**.
4. Use the VPC ID to filter the security groups, and copy the **Group ID** of the security group assigned to the firewall instances.

Name	Group ID	Group Name	VPC ID
	sg-4aa1982d	NGFW_Open_All_SG	vpc-e77afc83

5. Click **Create Security Group**.
 - **Group name** - Enter a name for the security group.

- **Description** – Enter a description for the security group.
 - **VPC** – Select the VPC you created in Step 3.
6. In the lower half of the page, click on the **Inbound** tab.
 7. Create a rule to allow traffic from the firewall security group:
 - **Type** – Select **All Traffic**.
 - **Protocol** – Select **ALL**.
 - **Source** – Enter the group ID of the security group assigned to your firewalls.
 8. Click **Add Rule**.

Create Security Group
✕

Security group name ⓘ

Description ⓘ

VPC ⓘ ▾

* denotes default VPC

Security group rules:

Inbound

Outbound

Type ⓘ	Protocol ⓘ	Port Range ⓘ	Source ⓘ
<input style="width: 80px;" type="text" value="All traffic"/> ▾	<input style="width: 80px;" type="text" value="All"/>	<input style="width: 100px;" type="text" value="0 - 65535"/>	<input style="width: 150px;" type="text" value="Custom"/> ▾ <input style="width: 150px;" type="text" value="sg-4aa1982d"/> ✕

9. Click **Create**.

Assign this security group to all instances in one of the private networks that are routed through the firewall.

Step 13. (optional) Create Network ACLs

The Network ACLs created by the VPC wizard are configured by default to allow traffic through. If required, go **Network ACLs** to edit the network ACL assigned to your VPC.

Step 14. Change the Primary Firewall Network Configuration from Dynamic to Static

On the primary firewall instance, change the network configuration from the dhcp to a static network interface. Use the static private IP address you assigned during deployment. Always use the first IP address of the subnet as the default gateway.

1. Log into the primary firewall via Barracuda Firewall Admin:

- **IP Address /Name** – Enter the Elastic IP of the primary firewall.
- **Username** – Enter root.
- **Password** – Enter the instance ID of the primary firewall.



Firewall
 Control Center
 SSH

IP Address / Name

Username

Password

- Go to **CONFIGURATION > Configuration Tree > Box > Network**.
- In the left menu, click on **xDSL/DHCP/ISDN**.
- Click **Lock**.
- Delete the **DHCP01** entry in the **DHCP Links** list.
- Set **DHCP Enabled** to **No**.
- In the left menu, click on **IP Configuration**.
- In the **Management IP and Network** section, reconfigure the management IP:
 - **Interface Name** – Select **Other** and enter eth0.
 - **Management IP** – Enter the private IP address of the primary firewall. Go to **CONTROL > Network**. The private IP address is assigned to the dhcp interface.
 - **(optional) Netmask** – Change the netmask to match the subnet of the primary firewall subnet.

Management IP and Network

Interface Name	<input type="text" value="eth0"/>	<input checked="" type="checkbox"/> Other	
Management IP (MIP)	<input type="text" value="10.100.0.10"/>		
Associated Netmask	24-Bit		
Responds to Ping	yes		
Use for NTPd	yes		

- In the left menu, click on **Routing**.
- Click **+** in the **Routes** table and configure the following settings:
 - **Target Network Address** – Enter 0.0.0.0/0
 - **Route Type** – Select **gateway**.
 - **Gateway** – Enter the first IP address of the primary firewall subnet. E.g., 10.100.0.1 if the IP address of the firewall is 10.100.0.10.
 - **Trust Level** – Select **Unclassified**.
- Click **OK**.
- Click **Send Changes** and **Activate**.
- Activate the changes to the network configuration:
 - Go to **CONTROL > Box**.
 - In the **Network** section of the left menu, click on **Activate new network**

configuration.

3. Click **Activate Now**.

Open the **CONTROL > Network** page. Your interface and IP address are now static.

Step 15. (PAYG only) Import the PAYG License from the Secondary Firewall

Step 15.1 Export the PAYG License from the Secondary Firewall

1. Log into the secondary firewall.
2. Go to **CONFIGURATION > Configuration Tree > Box > Licenses**.
3. Click **Lock**.
4. Select the license file, click the export icon, and select **Export to File**.
5. Click **Unlock**.

Step 15.2 Import the PAYG License on the Primary Firewall

1. Log into the primary firewall.
2. Go to **CONFIGURATION > Configuration Tree > Box > Licenses**.
3. Click **Lock**.
4. Click **+** and select **Import from File**.
5. Select the license file exported from the secondary firewall.

The primary firewall now has both PAYG licenses listed in the **Licenses** list.

Step 16. Create a Stand-Alone HA Cluster

Create a stand-alone high availability cluster between the primary and secondary firewall. The management IP address of the secondary firewall (HA network) must be configured as a static IP address using the private IP address of the secondary firewall. Also, the gateway IP address for the default route of the secondary firewall must be changed to match the subnet the second firewall is running in.

For more information, see [How to Set Up a High Availability Cluster](#).

Step 17. Configure Services to Listen on the Loopback Interface

Because AWS does not support floating IP addresses, you must configure all services on the virtual server to listen on a loopback address (127.0.0.X). Use **Application Redirect** access rules to redirect

incoming traffic from the eth0 interface to the services. Use the private IP addresses of both firewalls as the destination of the rule to ensure that it matches without regard to which firewall VM the virtual server is currently running on.

Step 18. (BYOL only) Activate and License the HA Cluster

Activate the secondary firewall first, then the primary firewall. This ensures that the primary firewall can download the licenses of the secondary firewall.

For more information, see [How to Activate and License a Standalone High Availability Cluster](#).

Step 19. (optional) Configure the Amazon Load Balancer or Amazon Route 53

Depending on the type of traffic, you can use either the AWS Elastic Load Balancer for TCP traffic, or Route 53 for UDP traffic.

Amazon Classic Elastic Load Balancer

The Elastic Load Balancer receives public TCP traffic and forwards it to the active firewall. Protocols other than TCP are not supported. For each TCP port you want to load balance, you must add a Load Balancer rule that maps the external port and protocol to the internal protocol and port. Configure the health checks to check a service on the virtual server, such as TCP 691 for the VPN service. In this way, only the firewall running the virtual server is regarded as healthy by the Load Balancer, and traffic is forwarded only to the active firewall.

For more information, see [How to Configure an AWS Elastic Load Balancer for CloudGen Firewalls in AWS](#)

DNS Load Balancing Using Route 53

For services not using TCP connections, Amazon Route 53 can be used to configure a DNS-based Load Balancer. Route 53 is also the preferred load balancing service for geographically distributed cloud resources.

For more information, see [How to Configure Route 53 for CloudGen Firewalls in AWS](#).

Figures

1. multi_AZ_routeshifting_ha_0.png
2. aws_deploy_00.png
3. aws_deploy_01.png
4. awsha_eip_01.png
5. aws_deploy_03.png
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