Creating a Network Load Balancer (NLB) on AWS

This guide provides a step-by-step walkthrough for setting up a Network Load Balancer (NLB) using the AWS Management Console, based on the official AWS documentation. :contentReference[oaicite:0]{index=0}

Prerequisites

Before you begin, ensure you have the following:

- **VPC Configuration**: A Virtual Private Cloud (VPC) with at least one public subnet in each Availability Zone where your targets (e.g., EC2 instances) are located. These public subnets will be used to configure the load balancer. :contentReference[oaicite:1]{index=1}
- **EC2 Instances**: At least one EC2 instance launched in each of the selected Availability Zones. Ensure that the security groups for these instances allow TCP access from clients on the listener port and health check requests from your VPC. :contentReference[oaicite:2]{index=2}

Step 1: Create a Target Group for Your NLB

A target group routes requests to one or more registered targets (e.g., EC2 instances).

1. **Access Target Groups**:
    - Open the Amazon EC2 console.
    - In the navigation pane, under **Load Balancing**, choose **Target Groups**.
2. **Create Target Group**:
    - Click **Create target group**.
    - For **Choose a target type**, select **Instances**.
    - Enter a **Target group name** (e.g., `my-nlb-targets`).
    - For **Protocol**, select **TCP**.
    - For **Port**, enter `80`.
    - For **VPC**, select the VPC that contains your instances.
    - Keep the default settings for **Health checks**.

3. **Register Targets** (Optional at this stage):
    - On the **Register targets** page, select one or more instances.
    - Keep the default port `80`, and click **Include as pending below**.
    - Click **Create target group**.

Note: You can register your targets now or later. However, to test your load balancer, you must register your targets. :contentReference[oaicite:3]{index=3}

Step 2: Create a Network Load Balancer

1. **Access Load Balancers**:
    - In the Amazon EC2 console, under **Load Balancing**, choose **Load Balancers**.
2. **Create Load Balancer**:
    - Click **Create load balancer**.
    - For **Network Load Balancer**, click **Create**.
3. **Configure Basic Settings**:
    - Enter a **Load balancer name** (e.g., `my-nlb`).
    - For **Scheme**, choose **Internet-facing** or **Internal**, depending on your use case.
    - For **IP address type**, choose **IPv4**.
4. **Configure Network Mapping**:
    - For **VPC**, select the VPC that contains your instances.
    - For each Availability Zone where your instances are located:
        - Select the **Availability Zone**.
        - Select a **Subnet** (public subnet).
        - (Optional) Assign an **Elastic IP address** for each subnet to provide static IP addresses for your load balancer nodes.
5. **Configure Listeners and Routing**:
    - Under **Listeners and routing**, a default listener is created with:
        - **Protocol**: TCP
        - **Port**: 80
        - **Default action**: Forward to your target group (e.g., `my-nlb-targets`).
6. **Configure Security Groups**:

- For **Security groups**, the default security group for your VPC is preselected. You can select other security groups as needed. If you don't have a suitable security group, choose **Create a new security group** and create one that meets your security needs.

7. **Review and Create**:
    - Review your settings.
    - Click **Create load balancer**.

Note: For more detailed instructions, refer to the official AWS documentation. :contentReference[oaicite:4]{index=4}

Step 3: Test Your Network Load Balancer

1. **Retrieve DNS Name**:
    - In the Amazon EC2 console, under **Load Balancing**, choose **Load Balancers**.
    - Select your NLB (e.g., `my-nlb`) and note the **DNS name**.

2. **Test Connectivity**:
    - Open a terminal or command prompt.
    - Use `curl` or a similar tool to send a request to the NLB's DNS name:

      ```
      curl http://<NLB-DNS-Name>
      ```

    - You should receive a response from one of your registered targets.

Note: Ensure that your security groups and network ACLs allow inbound traffic on the listener port (e.g., TCP port 80) from your test client's IP address. :contentReference[oaicite:5]{index=5}

Step 4: (Optional) Delete Your Network Load Balancer

If you no longer need the Network Load Balancer, you can delete it to avoid incurring charges.

1. **Delete Load Balancer**:
    - In the Amazon EC2 console, under **Load Balancing**, choose **Load Balancers**.
    - Select your NLB (e.g., `my-nlb`).
    - Click **Actions**, then **Delete**.
    - Confirm the deletion when prompted.

2. **Delete Target Group**:

- In the Amazon EC2 console, under **Load Balancing**, choose **Target Groups**.
- Select your target group (e.g., `my-nlb-targets`).
- Click **Actions**, then **Delete**.
- Confirm the deletion when prompted.

Note: Deleting the load balancer does not terminate the EC2 instances registered as targets. You must terminate them separately if they are no longer needed. :contentReference[oaicite:6]{index=6}

For more detailed information, refer to the official AWS documentation on Getting Started with Network Load Balancers.