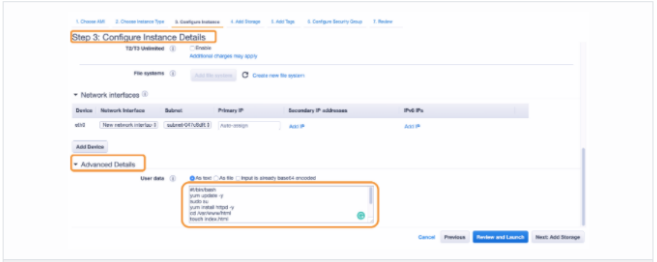
Creating Health Checks

Creating EC2 Instances for Health Check

Before we getting started with Health Checks, let's create 2 instances for both Health Check and the following lessons.

For the first instance (Webserver-1):

- Select **Amazon Linux 2 AMI (HVM)** for Step-1 (Choose AMI2), and **General purpose t2.micro** for Step-2 (Choose Instance Type),



Step-3 (Configure Instance)

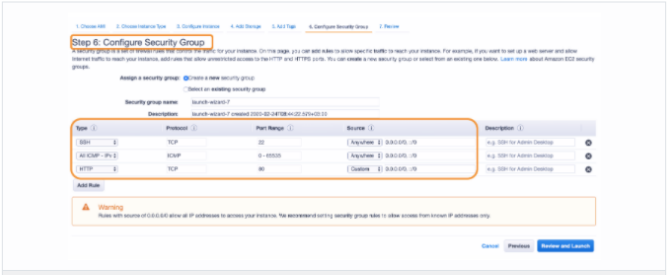
- For Step-3 (Configure Instance):

Enter the following command to the **Advanced Details > User Data** section for configuring the instance as a webserver.

```
#!/bin/bash

yum update -y
yum install -y httpd
yum install -y wget
chkconfig httpd on
cd /var/www/html
wget https://raw.githubusercontent.com/awsdevopsteam/route-53/master/index.html
wget https://raw.githubusercontent.com/awsdevopsteam/route-53/master/ken.jpg
service httpd start
```

- Leave as default Step-4 (Add Storage) and add a tag if you want (Add Tags)



Step-6 (Configure Security Group)

- For Step-6 (Configure Security Group):

Create a new Security Group and add rules including **SSH** and **HTTP** and **All ICMP IPv4** then set the **Source** as anywhere-0.0.0.0/0.

- Finally, Review and Launch the instance.

For the second instance (Webserver-2):

All the steps will be as same as the First Instance except Step-3 (Configure Instance). Here enter the following command to the **Advanced Details > User Data** to make it different from the first instance.

```
#!/bin/bash

yum update -y
yum install -y httpd
yum install -y wget
chkconfig httpd on
cd /var/www/html
wget https://raw.githubusercontent.com/awsdevopsteam/route-53-2/master/index.htm
wget https://raw.githubusercontent.com/awsdevopsteam/route-53-2/master/ryu.jpg
service httpd start
```

Creating Health Check

Configure Health Check

- First, select **Health Checks** section on the left-hand menu then
- Then click **Create Health Check** tab as you see in the picture above.
- **Name:** Here, we enter the name as **awsdevopsteam** or fill as you wish.
- **What to monitor:**

We'll select **End Point** option since we want the status of this health check to be **based on** the **health of the server**, In part 2, Concepts of Route 53 and Health Checking section you may find more information about the other options.

- **Specify Endpoint by:**

We have two options; **IP Address** or **Domain Name**. The best practice is using **IP Address**. But, If your IP addresses are not static you may choose **Domain Name** option then by doing this you could make sure that these health checkers always get the right IP address. Let's go on with **IP Address** option.

- **Protocol:**

Here we select the protocol that Route 53 will communicate with the endpoint. We choose HTTP protocol

- **IP address:**

Enter the IP address of your EC2 instance Public IP address. 52.90.1.227

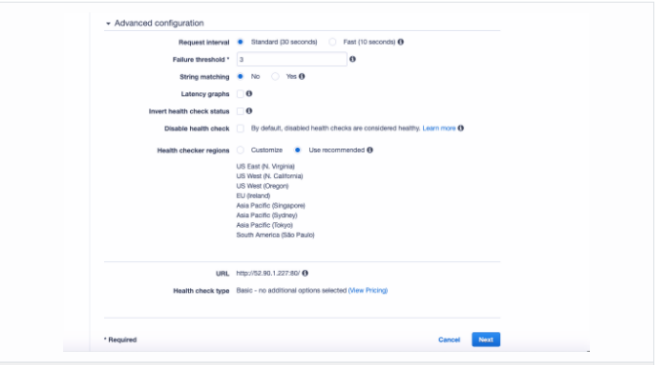
- **Hostname:**

It's optional but, we enter the hostname of our web site as **www.awsdevopsteam.com**. You can enter your individual hostname.

- **Port** and **Path**

Leave them as default **80** and **/**.

Creating Health Check (Advanced Configuration)



Advanced Configuration

Request Interval:

This is the number of a second between healthy checks response. The default frequency is that these checkers perform this check every 30 seconds. If you want more frequent check select **10 seconds** option. But it causes extra charge.

- **Failure Threshold:**

Failure Threshold is the number of consecutive health checks that an endpoint must pass or fail for Route 53 to change the status from healthy to unhealthy or vice versa

We leave it as default, 3.

⚠Avoid ! :

- Response Time to Failure = Time Interval * Threshold. If it's a standard 30 seconds check then three checks is actually equal to 90 seconds. So be careful of how these two different settings interact each other.

- **String Matching:**

You can do matching strings, which allows you to specify strings to be expected when completing this check. It helps you to do more sophisticated fault checks or any error condition in your query like 200 or 300 status check for HTTP. But it causes extra costs.

- **Latency Graphs:**

You can provide Route 53 to display Latency Graphs via this option. We leave it as default for now.

- **Invert Health Check Status:**

If you choose this option, Route 53 considers health checks to be unhealthy when the status is healthy and vice versa. Leave it as default.

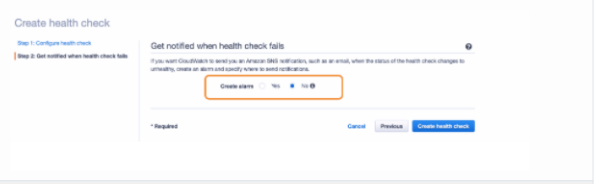
- **Disable Health Check:**

If you disable a health check, Route 53 considers the status of the health check to always be healthy. If you configured DNS failover, Route 53 continues to route traffic to the corresponding resources. If you want to stop routing traffic to a resource, change the value of Invert health check status.

- **Health Checker Regions:**

You can select customized regions and specify which you want the checks to be carried out. But generally, leave it as default.

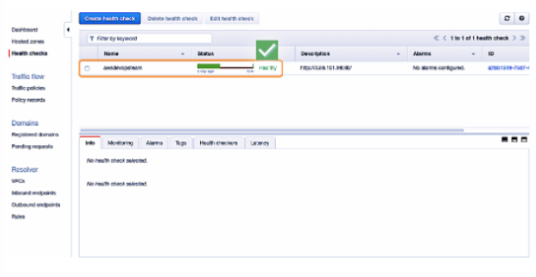
Finally, click **Create**.



Get Notifcation

As you see in the picture above, If you want to get a notification after health checks fail, you can select from there.

Checking the Health Check



Checking the Health Check

When you create health checks, first it appears in the status of **unhealthy**. As you remember from the previous lesson, Response Time to Failure = Time Interval (30 seconds) * Threshold (3). It means the check lasts at least 90 seconds.

So, after you wait a while, the status of Health check switch from **unhealthy** to **healthy** as you see in the picture above.