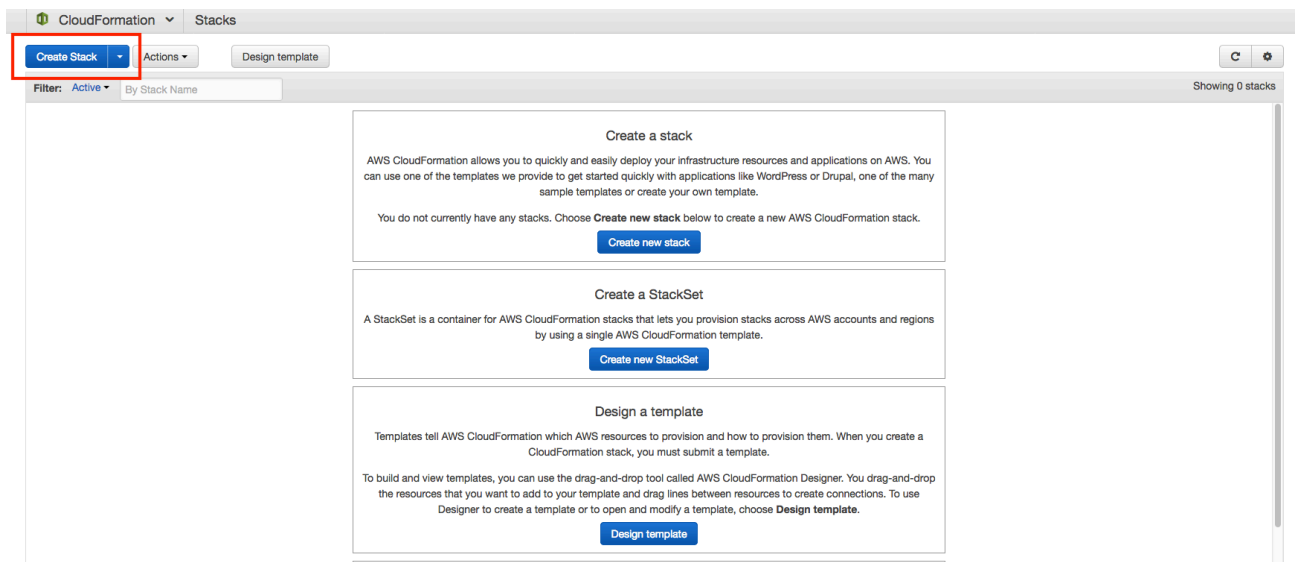


Direct Connect Virtual Interface Monitoring

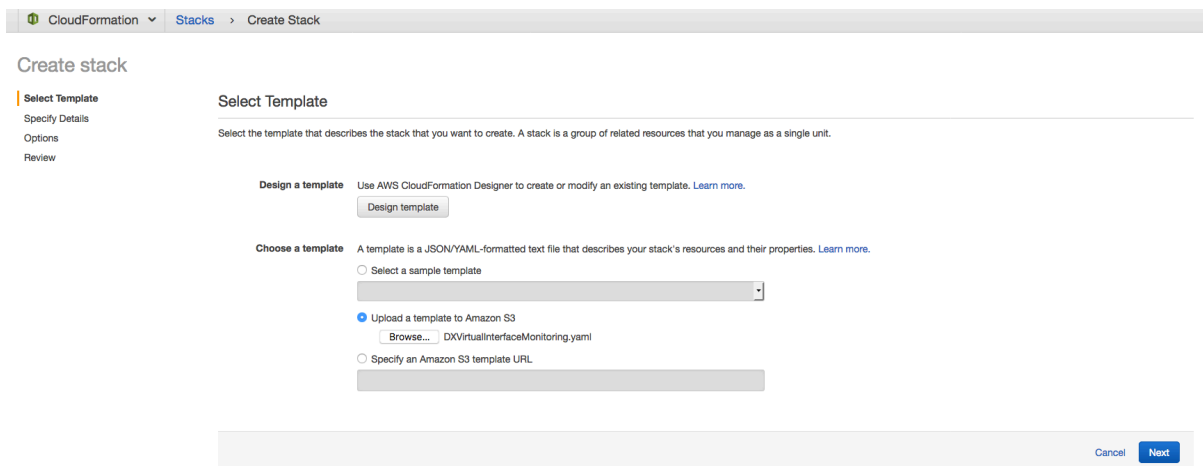
The CloudFormation template is configured to launch the following resources in your account for each region where you run it:

- a) A lambda function which runs describe virtual-interfaces api call and picks up the BGP status of each of the VIF. Based on status value puts 0/1 on a custom metric in the namespace DirectConnectVif with the VIF name as dimension.
- b) IAM Role for Lambda function which gives it the permissions to run the API calls mentioned in step-1
- c) CloudWatch event rule which triggers the lambda function every 1 minute to update the metric.

In order to set this up, please go to services > CloudFormation and click on Create Stack button



Click on the option to upload template to S3 and browse the DirectConnectVirtualInterfaceMonitoring.yaml file. Click **Next**.



Give a logical stack name and click next

The screenshot shows the 'Specify Details' step of the AWS CloudFormation 'Create Stack' wizard. The breadcrumb navigation at the top reads 'CloudFormation > Stacks > Create Stack'. On the left, a sidebar lists the steps: 'Select Template', 'Specify Details' (which is highlighted), 'Options', and 'Review'. The main content area is titled 'Specify Details' and contains the instruction: 'Specify a stack name and parameter values. You can use or change the default parameter values, which are defined in the AWS CloudFormation template. [Learn more.](#)'. Below this, there is a 'Stack name' label and a text input field containing 'DXVirtualInterfaceMonitoring'. At the bottom right, there are three buttons: 'Cancel', 'Previous', and 'Next'.

On the next page keep the settings as default and click next

The screenshot shows the 'Options' step of the AWS CloudFormation 'Create Stack' wizard. The breadcrumb navigation at the top reads 'CloudFormation > Stacks > Create Stack'. The sidebar on the left highlights 'Options'. The main content area is titled 'Options' and includes several sections: 'Tags' (with a description and a table for adding key-value pairs), 'Permissions' (with an 'IAM Role' dropdown and an 'Enter role arn' field), 'Rollback Triggers' (with a 'Monitoring Time' dropdown set to '0-180 Minutes' and a table for adding triggers), and 'Advanced' (with a description). At the bottom right, there are three buttons: 'Cancel', 'Previous', and 'Next'.

On the Review page, tick the checkbox for **“I acknowledge that AWS CloudFormation might create IAM resources”** .This is for the IAM role which the CloudFormation template is going to create in your account.

Create Complete Status below

CloudFormation Stacks

Create Stack Actions Design template

Filter: Active By Stack Name Showing 1 stack

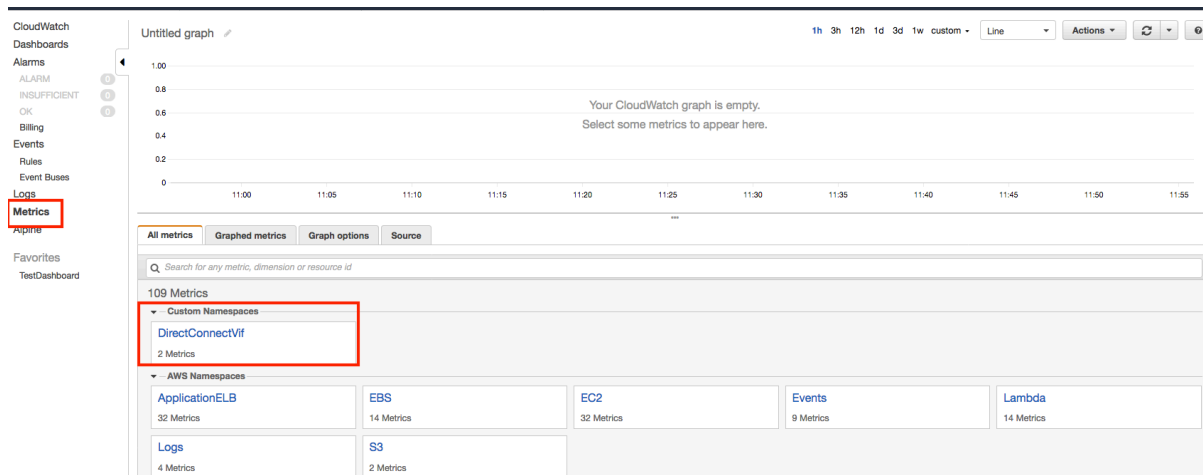
| Stack Name | Created Time | Status | Description |
|------------------------------|------------------------------|-----------------|--|
| DXVirtualInterfaceMonitoring | 2018-08-15 12:08:42 UTC+1000 | CREATE_COMPLETE | This template creates a lambda function along with an IAM role for the Lambda to monitor the VIF BGP status by creating custom CW metrics. |

Overview Outputs Resources Events Template Parameters Tags Stack Policy Change Sets Rollback Triggers

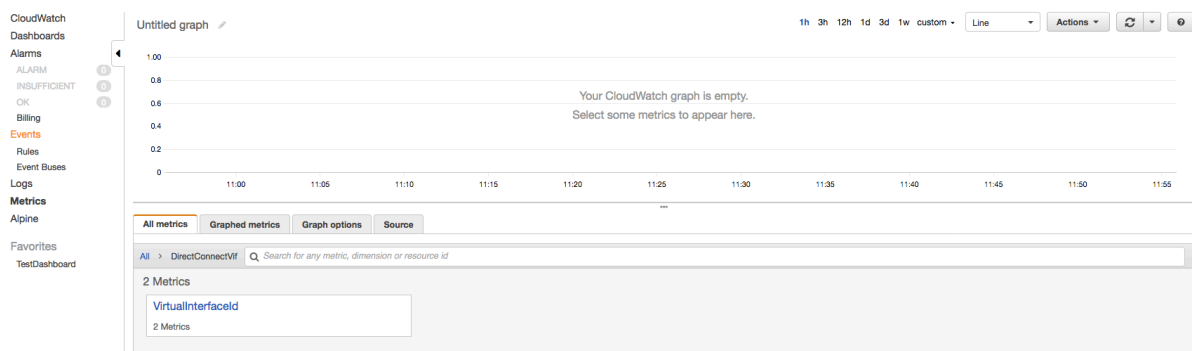
Filter by: Status Search events

| 2018-08-15 | Status | Type | Logical ID | Status Reason |
|-------------------|--------------------|----------------------------|------------------------------|-----------------------------|
| 12:10:28 UTC+1000 | CREATE_COMPLETE | AWS::CloudFormation::Stack | DXVirtualInterfaceMonitoring | |
| 12:10:27 UTC+1000 | CREATE_COMPLETE | AWS::Lambda::Permission | PermissionsToCWEForLambda | |
| 12:10:17 UTC+1000 | CREATE_IN_PROGRESS | AWS::Lambda::Permission | PermissionsToCWEForLambda | Resource creation initiated |
| 12:10:16 UTC+1000 | CREATE_IN_PROGRESS | AWS::IAM::Role | PermissionsToCWEForLambda | |

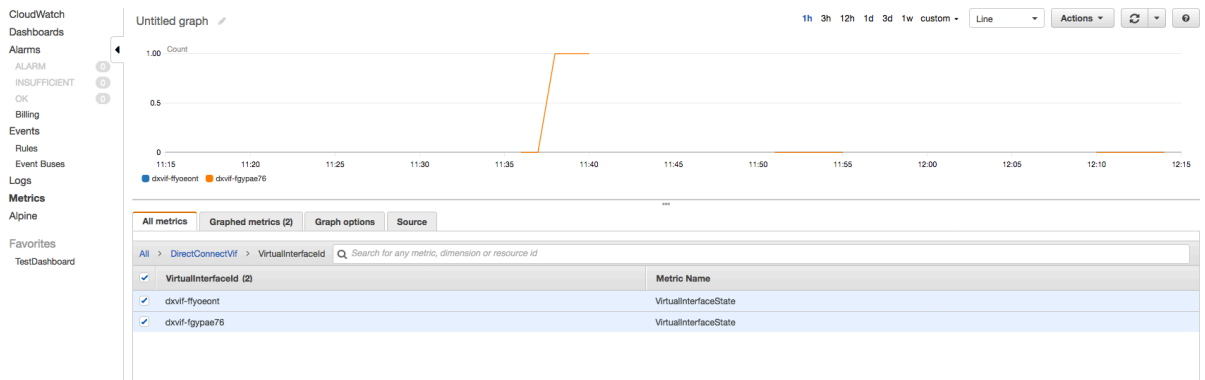
Once done, go to CloudWatch dashboard after a minute or so (Lambda is triggered every 1 minute). You will see a new custom Namespace under the metrics section (All metrics)



If you click on the name space you will see the metrics with the dimension “VirtualInterfaceId”



Click on the dimension and you will see the metrics for each of the virtual interfaces. Please give it a minute or two to start seeing those metrics here after the creation of CloudFormation template.



By clicking on graphed metrics tab, you can adjust the granularity of the metrics to 1 minute instead of default 5 minutes from the Period column. You can also create alarms for this metrics to send you a notification every time the metric value is less than 1 by clicking on the Bell icon next to the metric.

Create Alarm

1. Select Metric

2. Define Alarm

Alarm Threshold

Provide the details and threshold for your alarm. Use the graph on the right to help set the appropriate threshold.

Name:

Description:

Whenever: VirtualInterfaceState

is:

for: 1 out of 1 datapoints

Alarm Preview

This alarm will trigger when the blue line goes below the red line for 1 datapoints within 1 minute

Namespace: DirectConnectVif

VirtualInterface-Id:

Metric Name:

Period:

Statistic: ☒ Standard ☐ Custom

Additional settings

Provide additional configuration for your alarm.

Treat missing data as:

Actions

Define what actions are taken when your alarm changes state.

Notification

Delete

Whenever this alarm:

Send notification to: [Select list](#)

+ Notification

+ AutoScaling Action

+ EC2 Action

Cancel

Previous

Next

Create Alarm

