Module 20
Trigger Lambda from CloudWatch Alarm

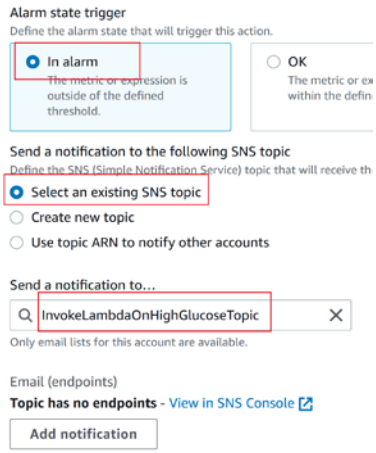
In Module 19 you created a custom metric (BloodGlucose) and a CloudWatch alarm. When you configured the alarm you selected an SNS topic that sends you an email. Although there are many use cases where sending emails or SMS messages is desired, many more use case scenarios require that we do some programmatic action when an alarm goes off (e.g., invoking a Lambda function that does something).

In this module you will do this: instead of sending yourself an email, you want to invoke a Lambda function.

We know that a ClouWatch alarm can trigger an SNS topic (you did that when you configured your alarm in CloudWatch). We also know that we can hook up a Lambda with an SNS topic. For example:

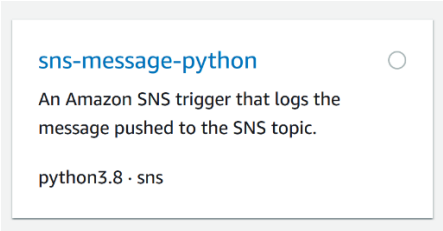
1. Go to the SNS service.
2. Click the **Create topic** button.
3. Choose the **Standard** option.
4. Give it a name: InvokeLambdaOnHighGlucoseTopic
5. Click the **Create topic** button.

6. Go to the CloudWatch service
7. Click Alarm → All alarms. Then click the BloodGlucoseAtCriticalLevel alarm.
8. Click Actions → Edit
9. Click **Next**. Then click **Remove** to remove the existing notification.
10. Click **Add notification**. Fill in the details as shown below:

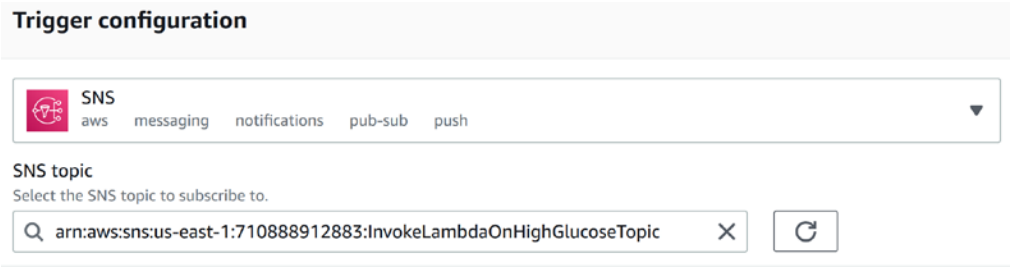


11. Click the Update alarm button.

12. Create a function and name it **RespondToGlucoseAlarmFunction**.
13. Choose **Use a blueprint**.
14. Search for a select blueprint **sns-message-python**.



15. Choose **Use an existing role** and select the **LabRole**.
16. For SNS trigger choose the SNS trigger



17. Click the Create function button.

18. Now trigger a high glucose alarm (same way you did in Module 19) and see if your new Lambda (RespondToGlucoseAlarmFunction) is going to be triggered. That is:

    a. Go to the metric-data-function in the Lambda service.
    b. Click the Test button.
    c. Go back to the **RespondToGlucoseAlarmFunction** lambda function**,** and inspect its log.

In summary:

- You can create a **metric** (some value important to your service).
- You can create **alarms** for this metric.
- You can make an alarm trigger execution of some code (e.g., a Lambda).
- Your code can respond to the alarm by doing an appropriate action relevant to your cloud application. Example: an alarm requires immediate attention of an engineer on-call. The lambda can send a notification to a mobile app that all engineers have on their cell phones. The on-call engineer is notified in real-time that he/she needs to look at the alarm or investigate a problem. You can also come up with many other scenarios suitable to a project you are working

on.

What to Submit

Nothing to submit for this module.