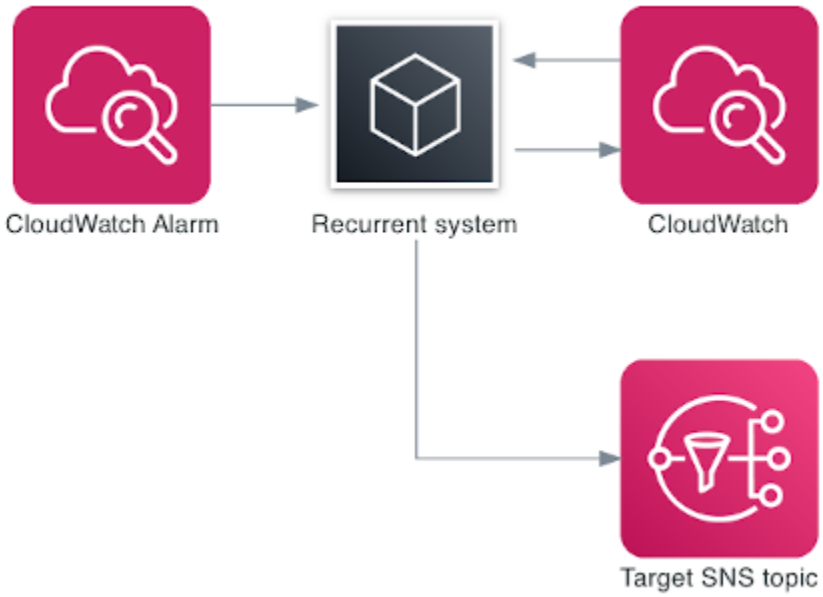
# #2 Task: Setup a CloudWatch Budgeting Alarms with SNS Alerts to make sure you stay notified if the expenses go beyond your threshold limit.




## What are AWS Billing Alerts?

AWS billing alerts are enabled through Amazon CloudWatch, the AWS service dedicated to monitoring all activities across your AWS account.

In addition to billing alerts, CloudWatch provides infrastructure for monitoring applications, collecting metrics, logs, and other metadata, and detecting aberrant activity in your AWS usage.

AWS billing alerts are a subset of a more general product known as the AWS CloudWatch Alarms. AWS CloudWatch Alarms is a general system which allows you to set up notifications based on predefined events or activity within your AWS services and account(s). Cloudwatch provides a variety of metrics based on which you can schedule your alarms.

For example, you could create an alarm to notify you when the CPU Utilization of a running instance surpasses 85%. You can also create compound expressions to threshold metrics. For example, you could create an alarm that notifies you when your instance's CPU usage surpasses 85% AND your total monthly EC2 bill goes over $100.

## Are AWS Billing Alerts Free? How Much Do They Cost?

As with everything AWS, billing alerts come at a marginal cost. AWS has a free tier that provides 10 alarms and 1,000 email notifications per month. This may be sufficient for smaller businesses.

For larger businesses, additional resources may be needed. In this case, you'll be looking at $0.10 per standard resolution alarm metric and $0.30 per high resolution alarm metric.

For the SNS portion of the service, you will incur a charge of $0.06 for every 100,000 HTTP notifications and $2.00 for every 100,000 email notifications.

## How To Set Up AWS Billing Alerts

We'll now walk you through creating a billing alert so that you can familiarize yourself with the process.

***Step 1: Go to the CloudWatch console***
Navigate to https://console.aws.amazon.com/cloudwatch/

***Step 2: Change the region***
In the upper right hand corner, make sure your AWS region is set to US East (N. Virginia). This is the region where all billing data is stored.

***Step 3: Create an alarm***
Click on "Alarms" in the left side panel and in the dashboard that pops up click on the orange button that says "Create Alarm".

***Step 4: Select a metric***
In the panel that pops up, click the button that says "select metric". This will pop up a window that allows you to choose which type of service you'd like to use. Select "Billing".

***Step 5: Select the service***

In the next window, you can choose to either base the alarm off a given service's charges or the Total Estimated Charge on your account. We will set an alarm for our EC2 charges, so click "By Service".

On the next step, mark the checkbox next to the specific service(s) you'd like to monitor. We'll choose Amazon EC2.

***Step 6: Select the time period***

Next you'll want to set the time period that the alarm will be active for. You can choose anything from 10 seconds to an entire day. The interface will also show a graph which plots your current usage in blue against the alarm threshold in red. If the blue line crosses the red at any point during the selected time period, the alarm will activate.

***Step 7: Set the threshold***

Next, set the threshold over or under which the alarm will ring. We'll set our alarm to activate if our EC2 charges exceed $10 within the next 6 hours. You can also use the anomaly detection panel to specify a band around your usage outside of which you'd like the alarm to activate.

***Step 8: Create a notification***

Next you'll want to create a notification using Amazon SNS. You just click "create new topic", give it a name, and enter the email you'd like to be notified at into the box.

**Step 9: Add a description**

Now you can create a name and description that will help you to remember what trigger is set for your alarm.

***Step 10: Preview and create***

A final page will now open which summarizes and displays your alarm's settings as you've created them. If everything looks good, you can click "Create Alarm" to have your alarm set.