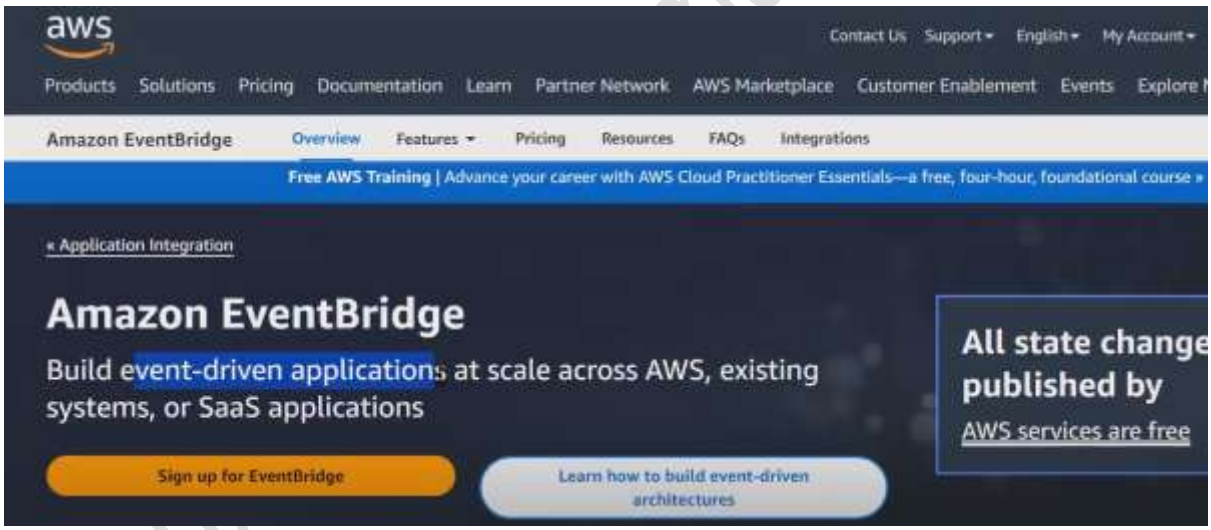
AWS Session 7

Summary [20-03-2024]

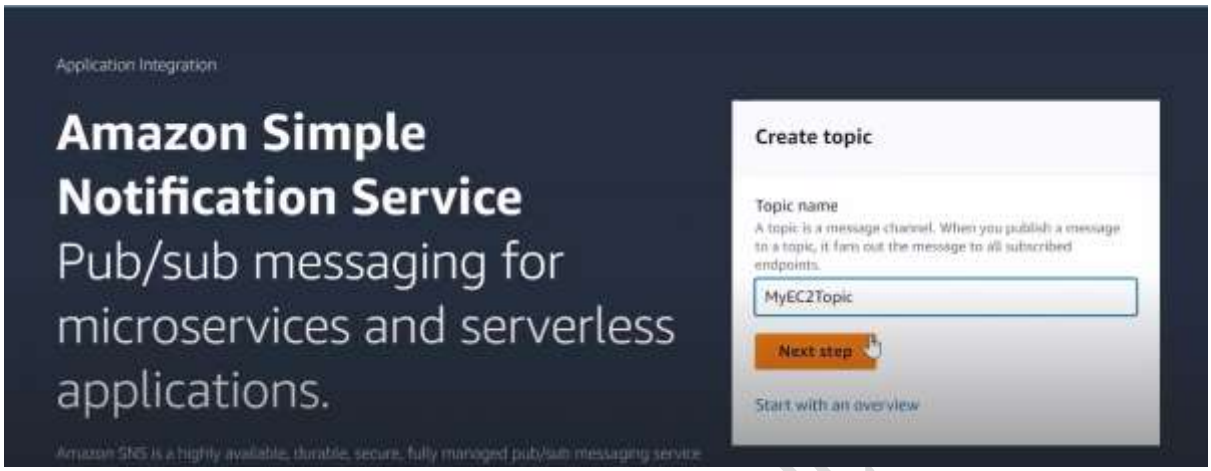
- **Event** – whenever we do anything in any AWS service, AWS keeps track of everything this is a known event. E.g., ec2 instanced launched, stopped, or terminated, lambda function run/stop.
- **Trigger** – When some event occurs e.g., ec2 instance current state is changed (running to stop) instantly notify the subscribed user via some email or SMS. This concept is called a **trigger**.
- **Event-Driven Architecture** – Managing such events and triggers is known as EDA.
- AWS service for EDA is **Amazon EventBridge**



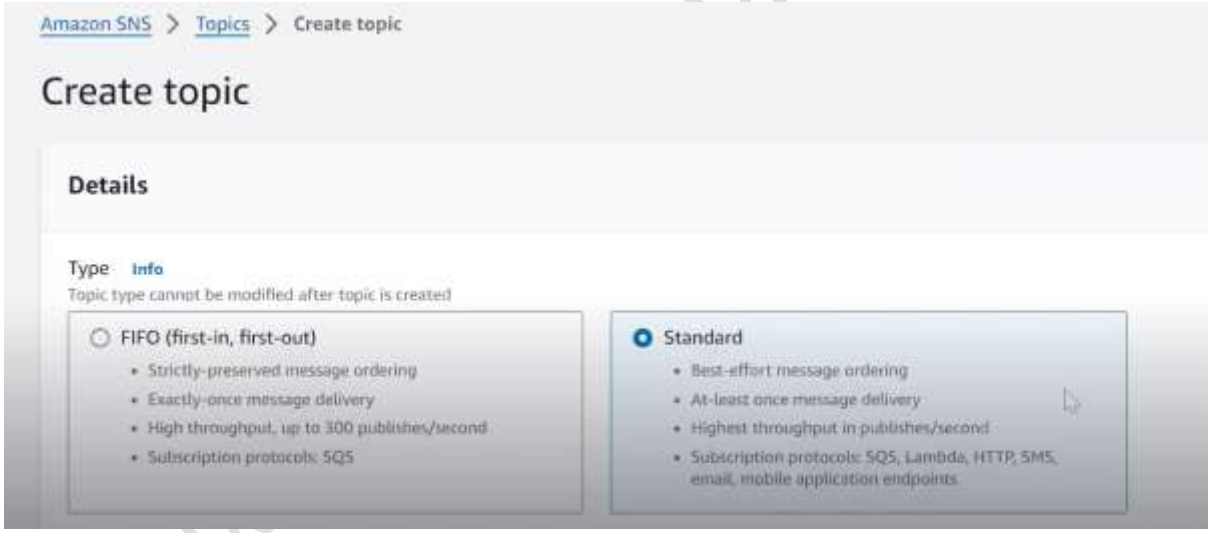
- Most service-based and product-based organizations use the service Amazon EventBridge.
  - Make my trip
  - Ola
  - Uber
  - Netflix
  - Hotstar and many more.

- **Demonstration** – If some ec2 instance goes down notify the user automatically using Amazon EventBridge.

- First prepare the SNS topic
  - Go to SNS and give the topic name.

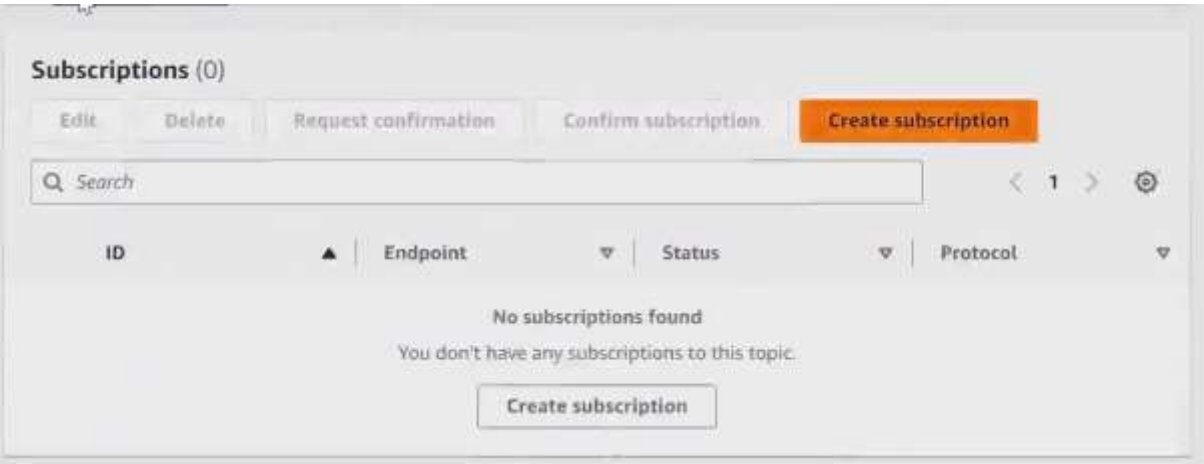


  - Choose the type as 'standard'



  - Click on 'Create topic'

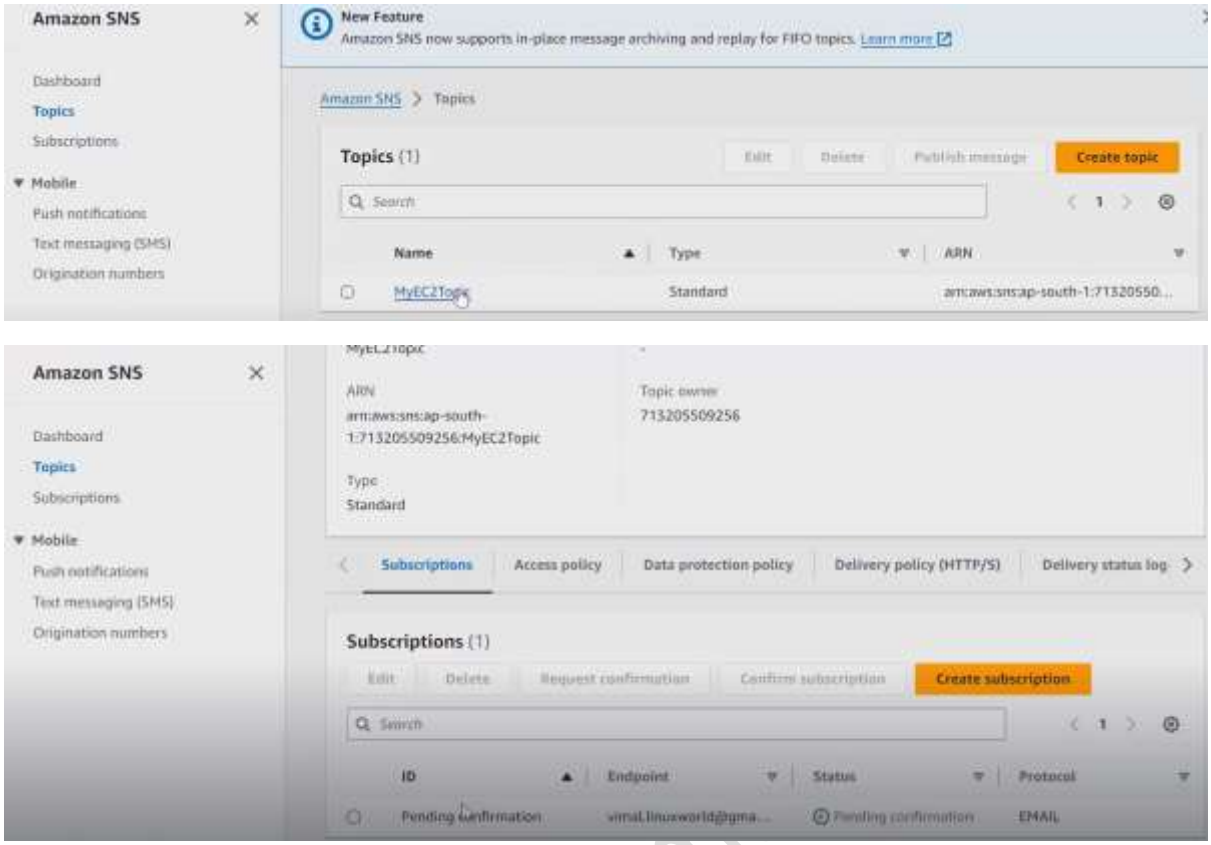
- Click on ‘create subscription’ to add the emails



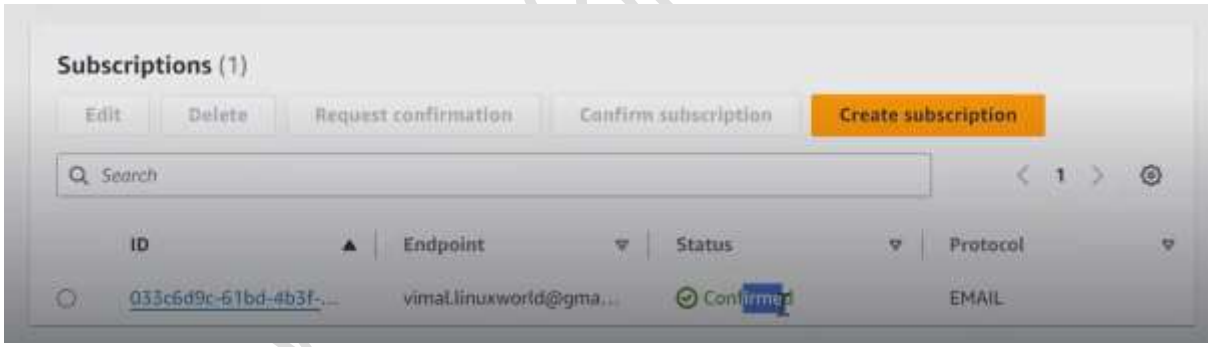
- Choose email as ‘protocol’ and give an email address in ‘endpoint’.

- Click on ‘Create Subscription’

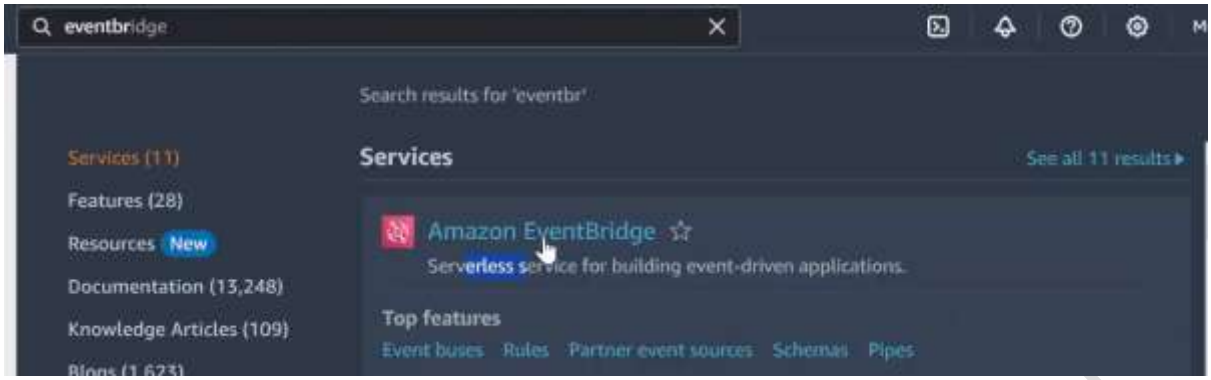
- Go to the created topic and we can see the email is added but the confirmation status is pending. Go to your email inbox and confirm the subscription.



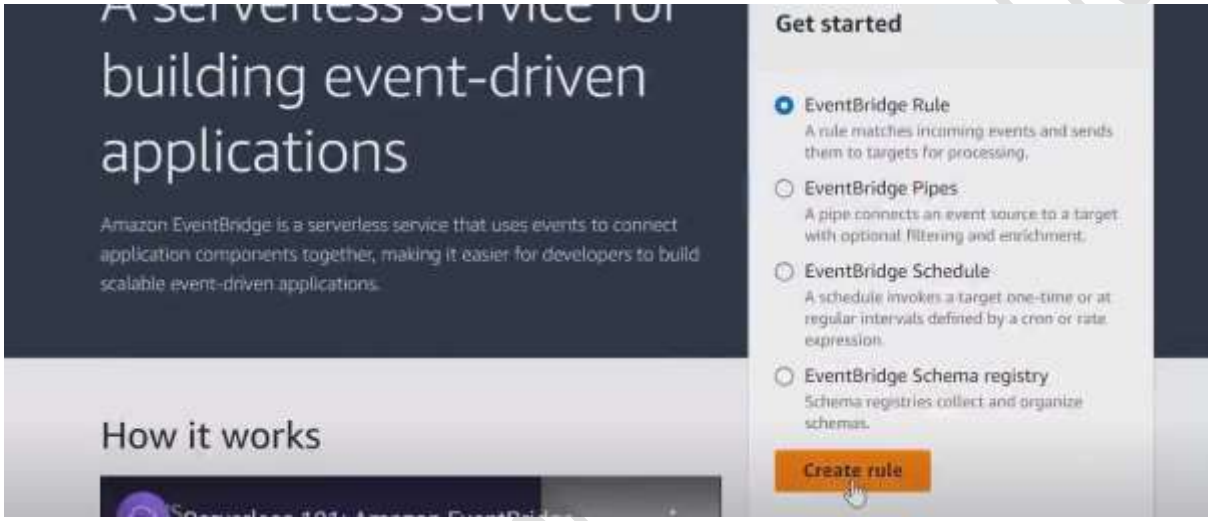
After confirming on email, the status is confirmed.



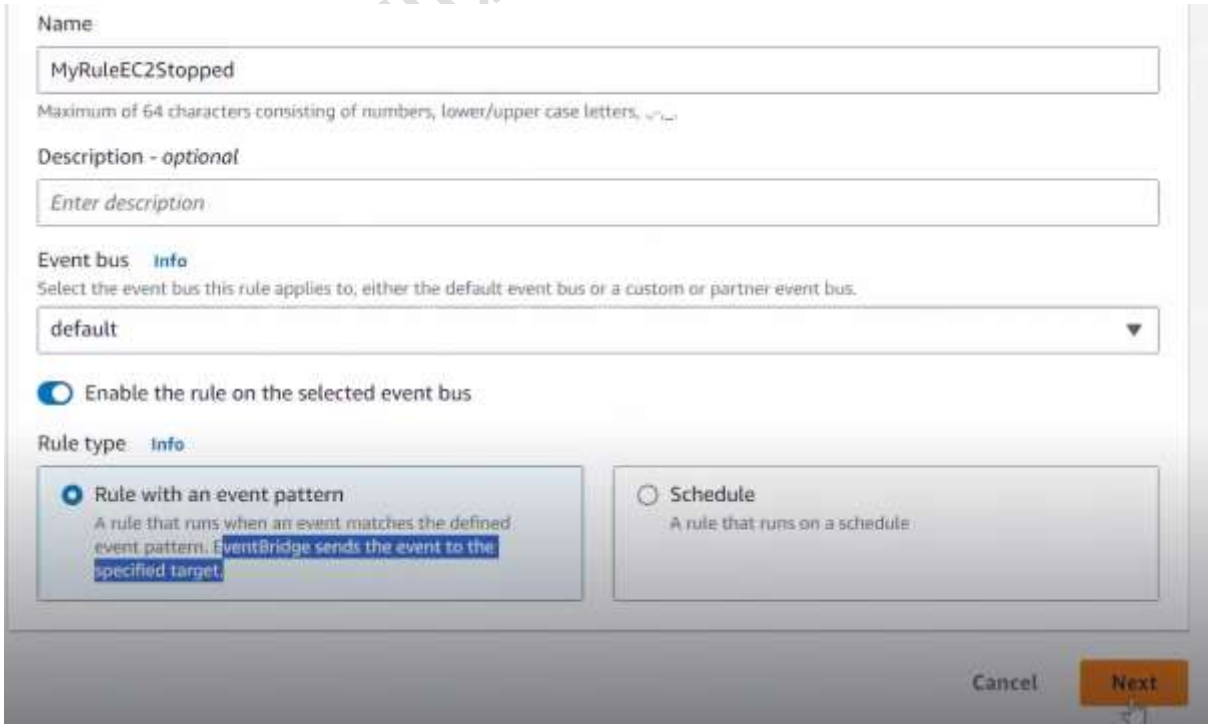
- Amazon EventBridge keeps on checking all event occurrences, for the event occurrence we can create some rules to be performed.
- Go to Amazon EventBridge and create a rule.



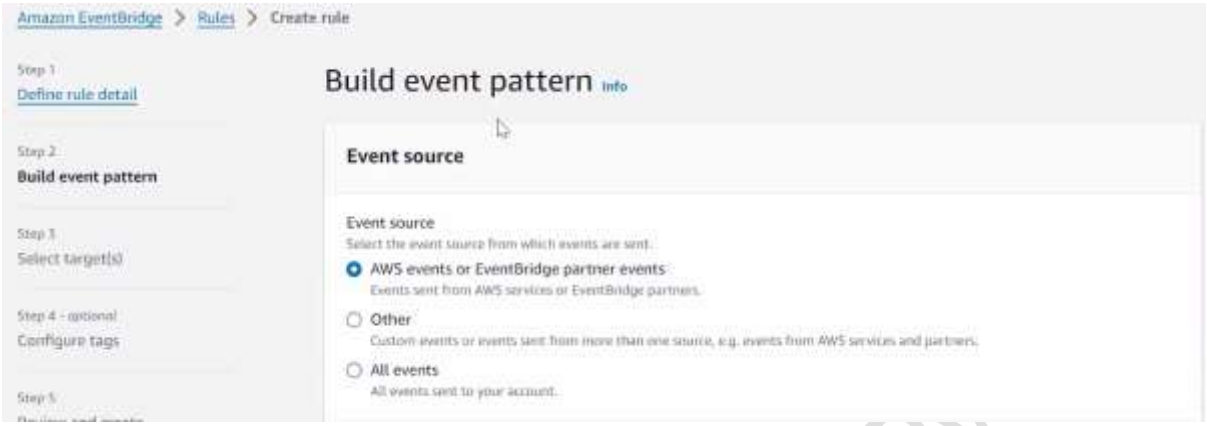
- Click on ‘create rule’



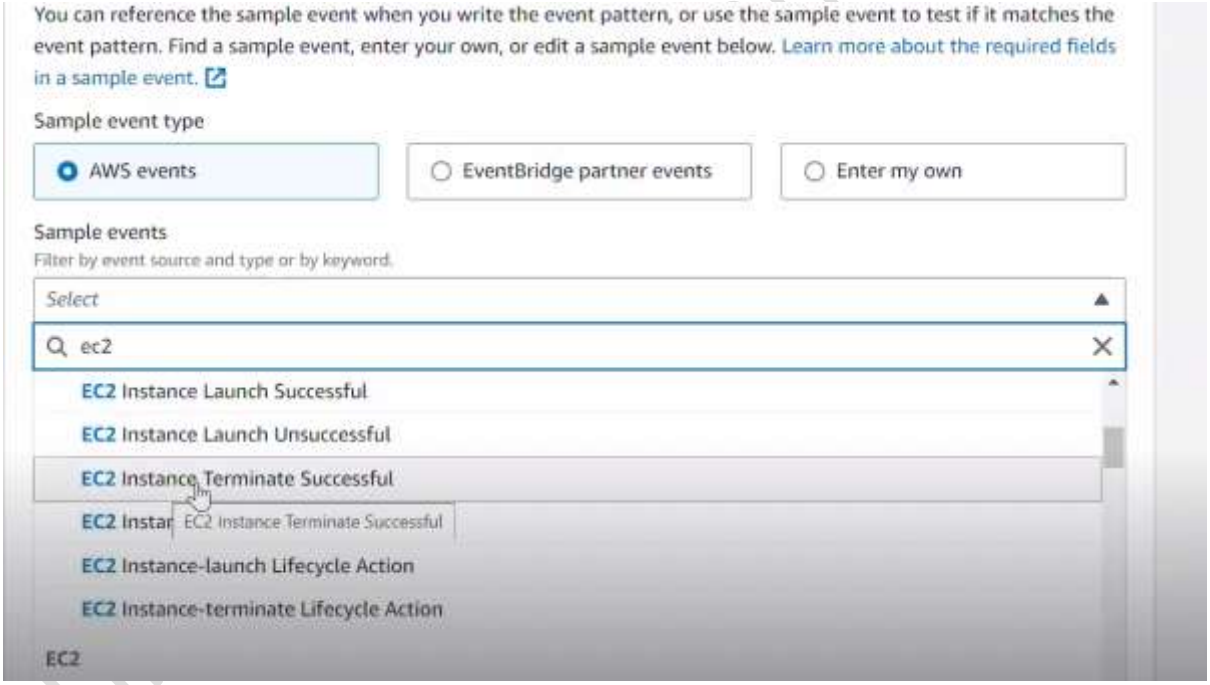
- Give the rule name, choose ‘Rule type’ as ‘Rule with an event pattern’, and click on ‘next’



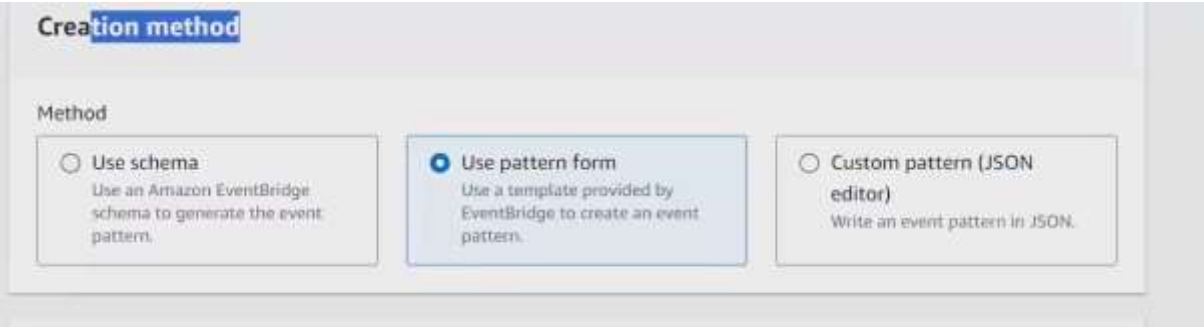
- As we selected ‘Rule with an event pattern’, we have to create an event pattern which means at what event pattern trigger happens.
  - Choose ‘Event source’ as ‘AWS events or EventBridge partner events’



  - Choose ‘sample event type’ as ‘AWS events’.
- In ‘sample events’ choose your event, in our case, it is ‘EC2 instance Terminate Successfully’

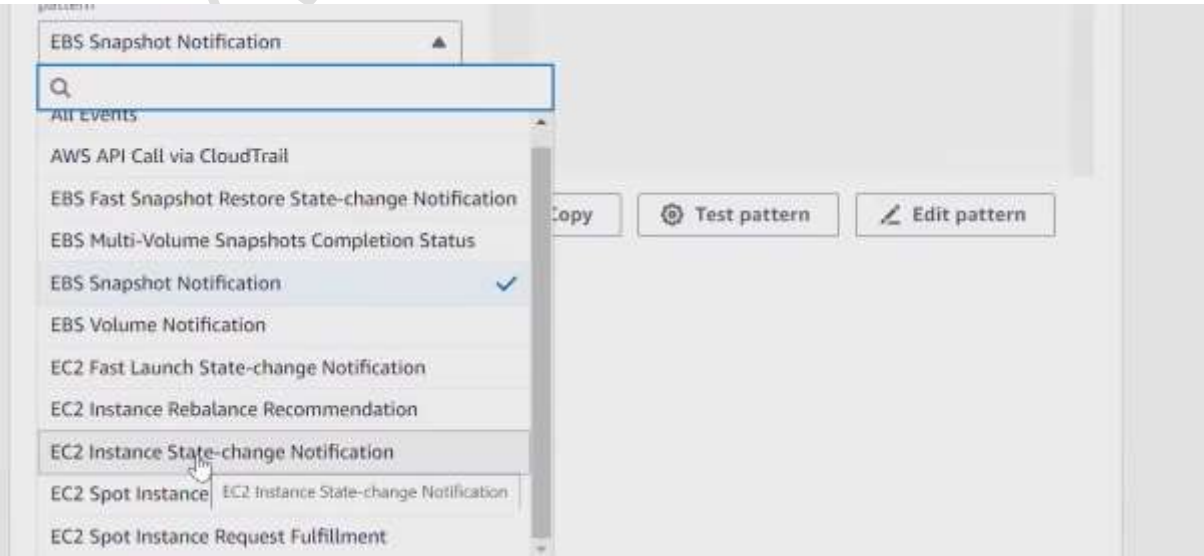


- Choose ‘method’ as ‘use pattern form’ because we are working on the event pattern provided by EventBridge.

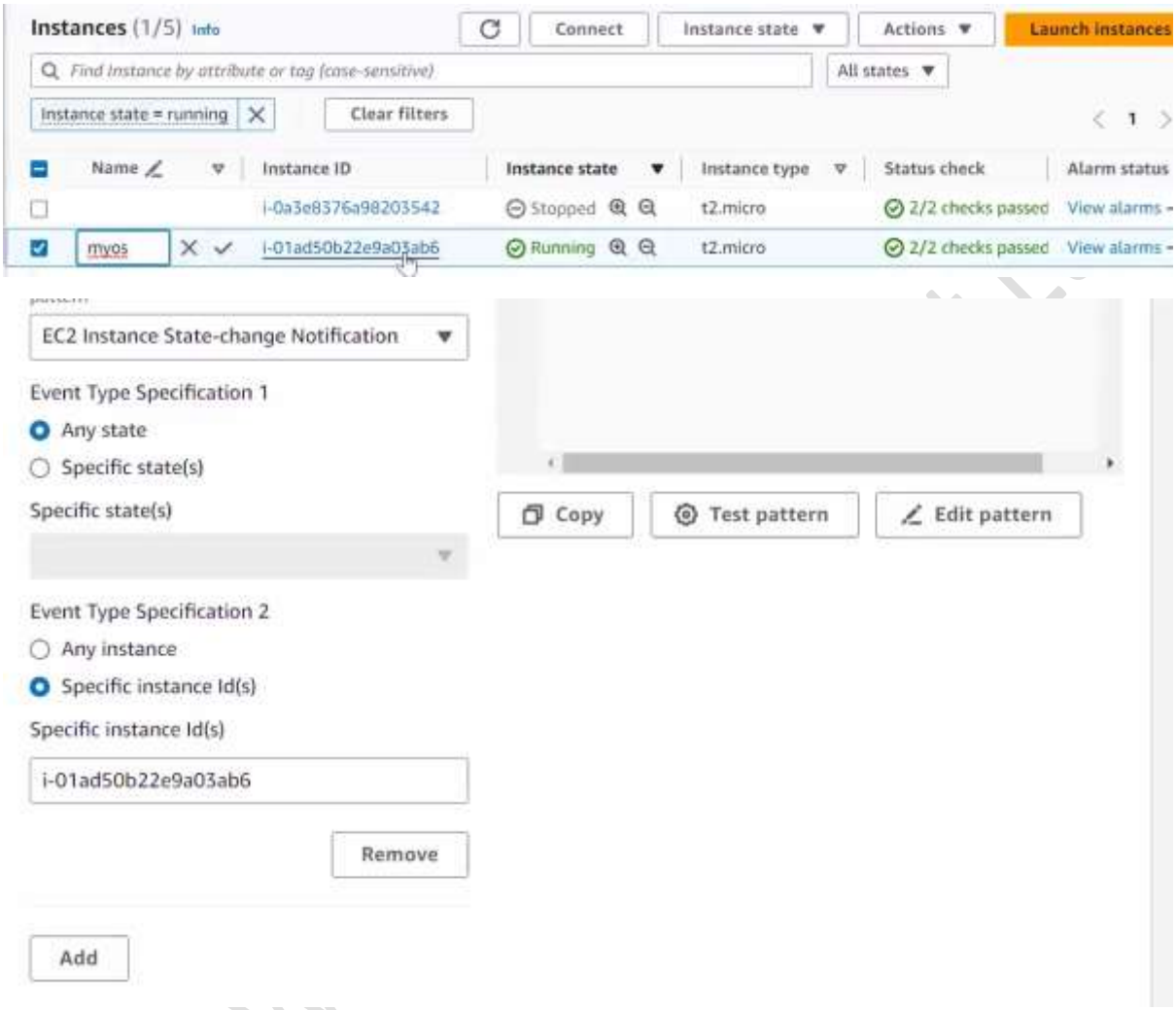


- Choose ‘event source’ as ‘AWS service’ and ‘AWS service’ as ‘ec2’.

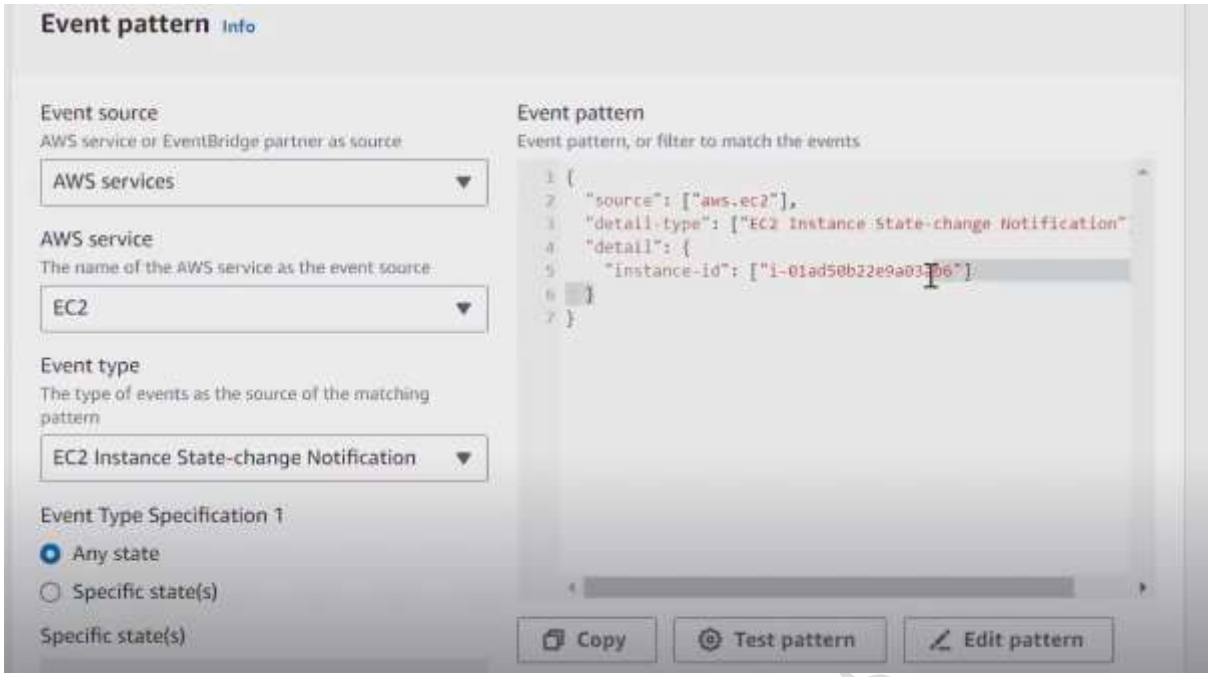
- Choose ‘Event type’ as ‘EC2 Instance State-Change Notification’



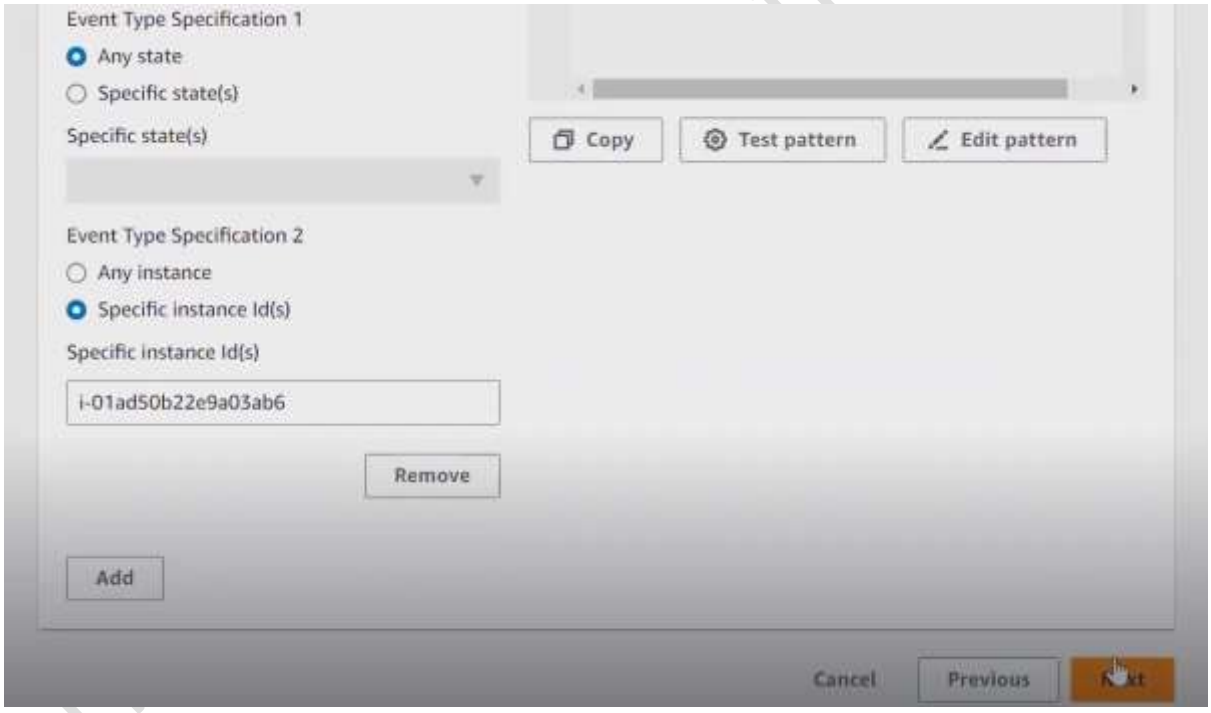
- In the event type, we can add specific details, in the first specification, we can add a specific state of ec2. For now, we selected ‘any state’.
- In the second specification, we have added an instance ID to monitor that particular OS.



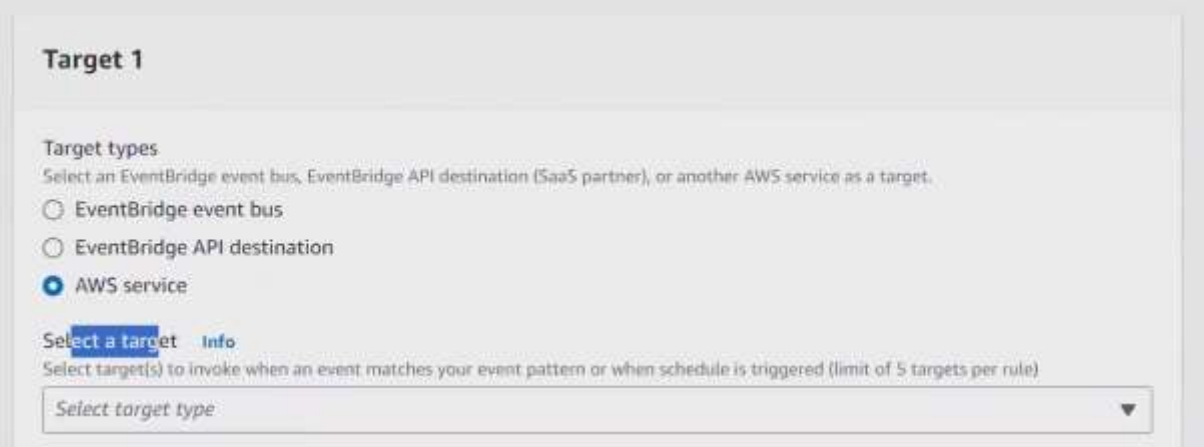
- The event pattern is built. See the details written in JSON format that we added.
- If this pattern matches an event then EventBridge triggers some service (SNS in our case).



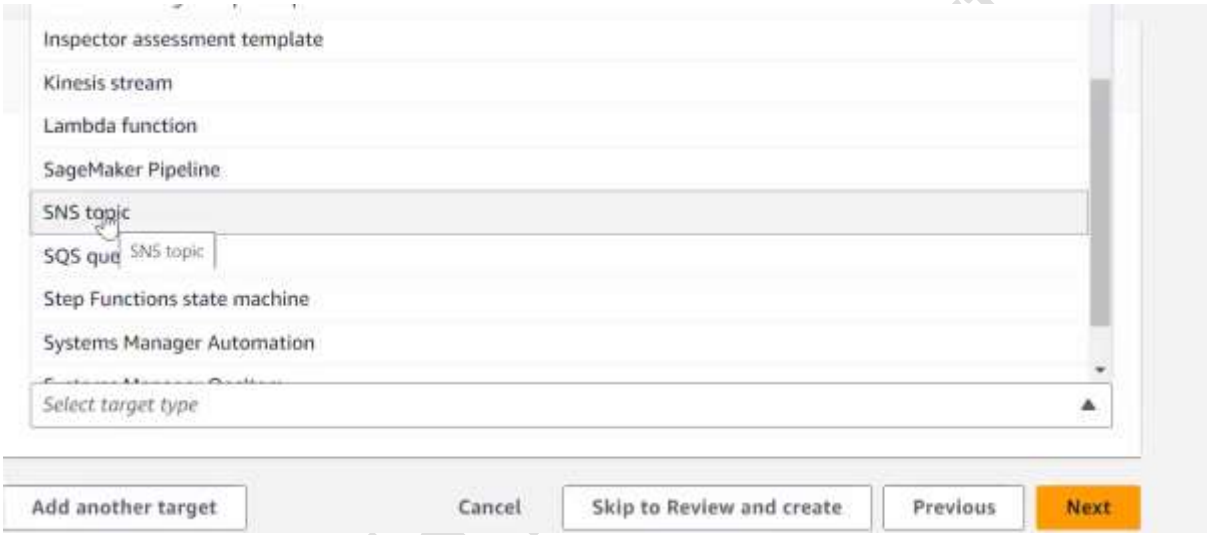
- Click on 'next'



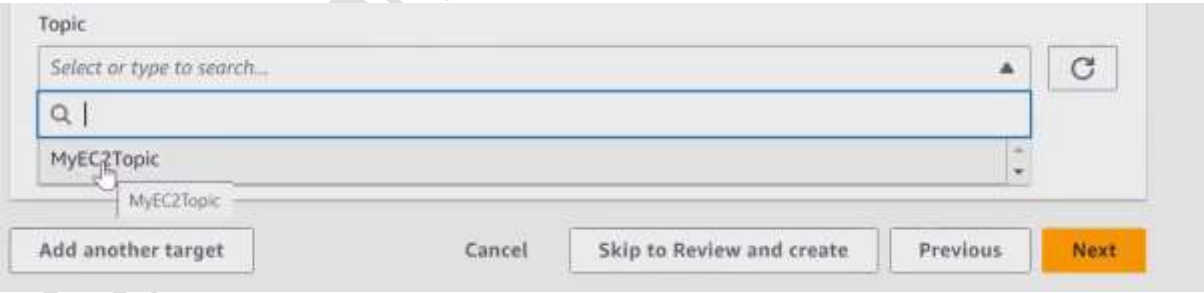
- Add the target.
- **Target** – what we want to be triggered on the event pattern match.



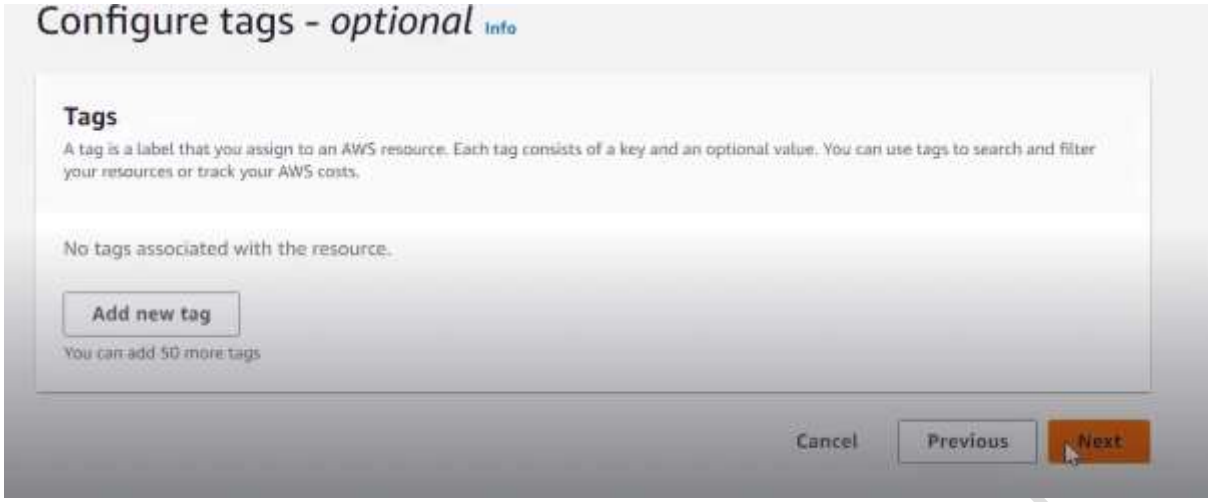
- Select a target as ‘SNS topic’



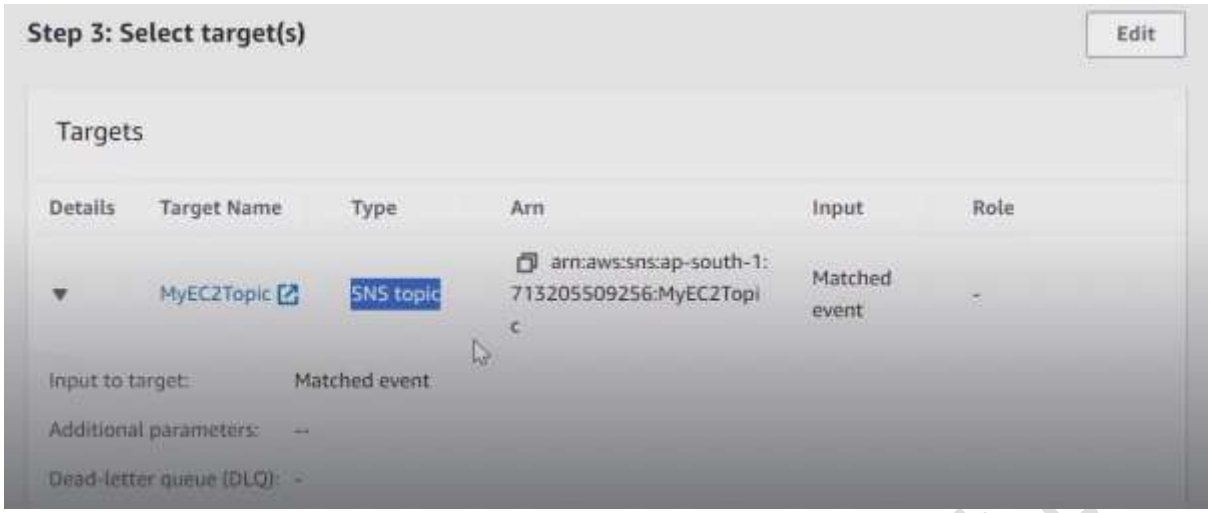
- Select the topic we created and click on ‘next’.



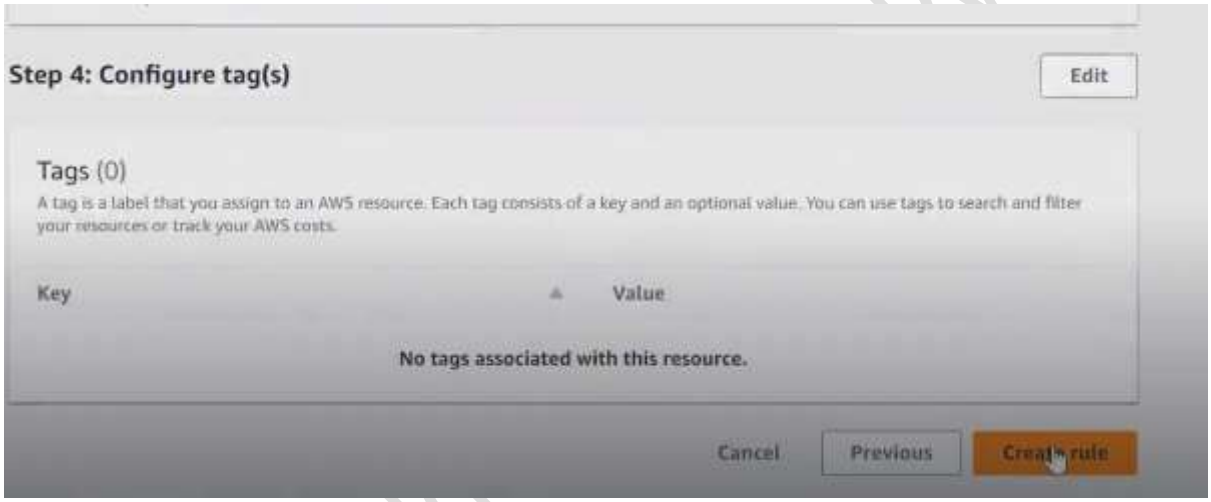
- We can add some tags otherwise click on ‘next’



- According to this rule whenever the ec2 instance state is changed SNS service is triggered and sent the mail.
  - If some change is required, can be edited from here.

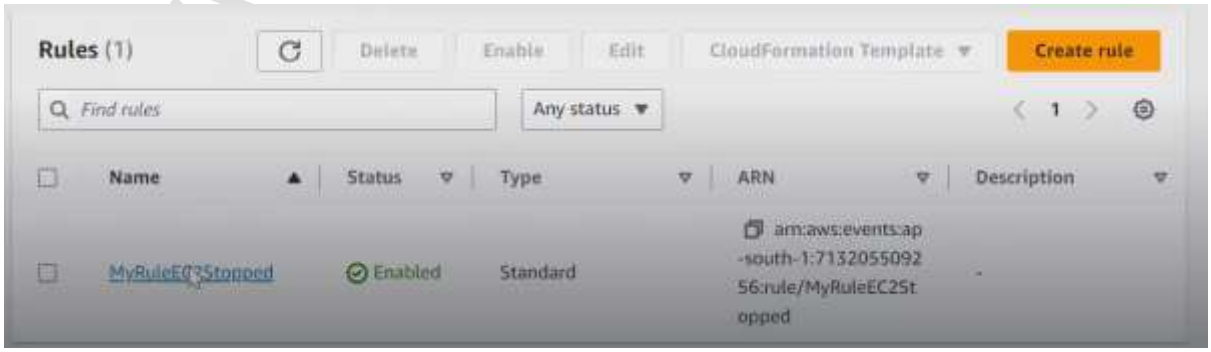


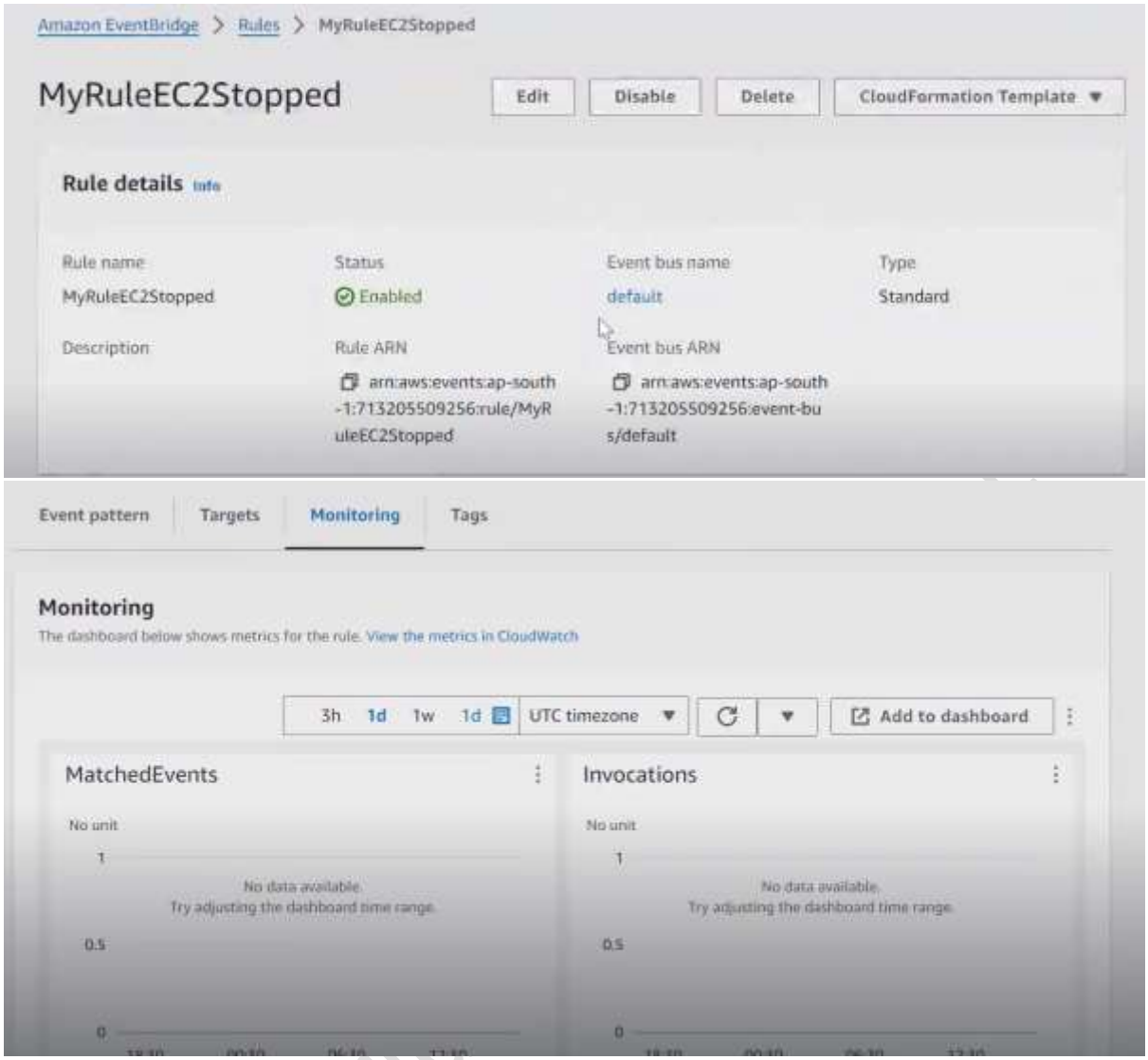
- Click on 'Create rule'



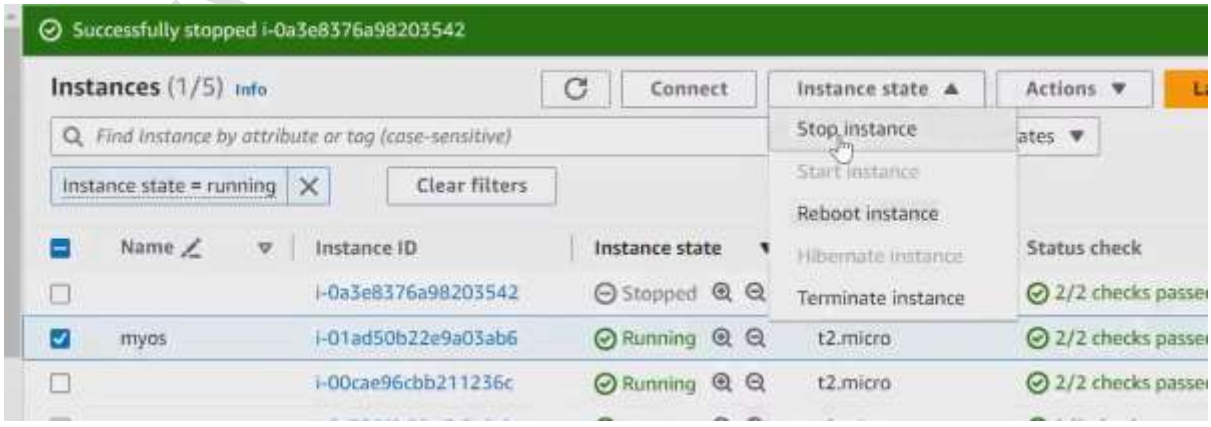
- So this entire process is called the **EventBridge rule.**

- If we go to the rule, in the monitoring section matched events and other records will be updated.

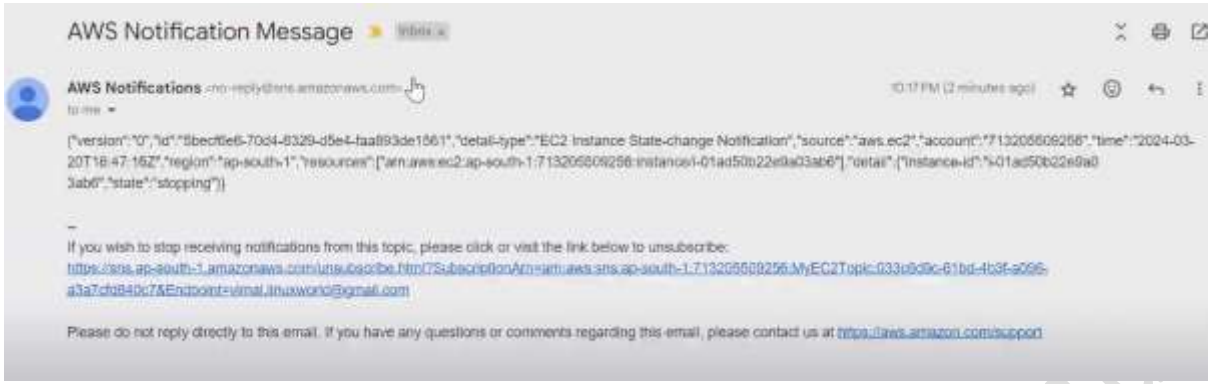




- As soon as I shut down the OS this info lands on the event bridge bus.
- Notification is sent to email instantly.



- Check the email



- In the event bridge rule, the monitoring section will be updated, it takes some time.