Ganpat University
॥ विद्यया समाजोत्कर्षः ॥
Institute of Computer Technology

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Sub: EADC (Enterprise Application Development for Cloud)

Branch: CBA

Batch:61

----------PRACTICAL 07----------

❖ Question :

Imagine you're developing a distributed application spanning across IBM Cloud and AWS. You
want to ensure seamless communication between components deployed on both platforms, particularly for notifying about events or triggering actions based on certain conditions.

The Event Notification
Service (ENS) on IBM Cloud and the Simple Notification Service (SNS) on AWS are
both messaging services designed to facilitate real-time communication and event-driven workflows within their respective cloud ecosystems.

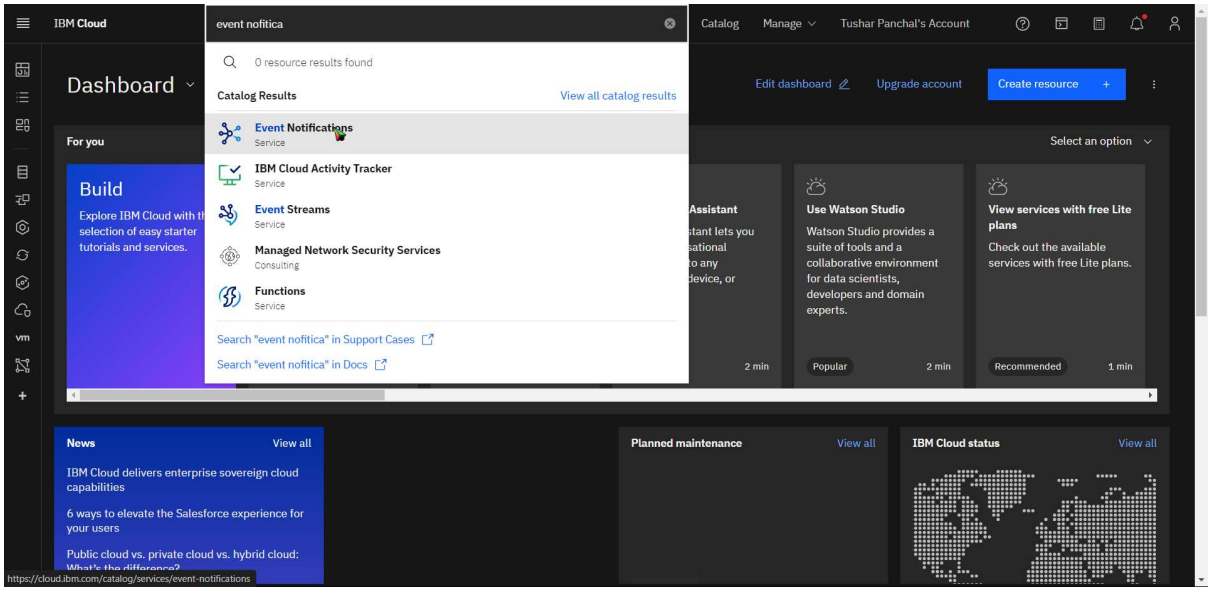
Setting up IBM Cloud ENS:
Create an IBM Cloud account if you haven't already.
Access the IBM Cloud dashboard and navigate to the Event Notification Service.
Define your event sources and configure event rules to specify the conditions triggering
notifications.
Generate necessary credentials or access tokens for authentication.
Subscribe your application endpoints (e.g., HTTP endpoints, messaging queues) to receive
notifications.

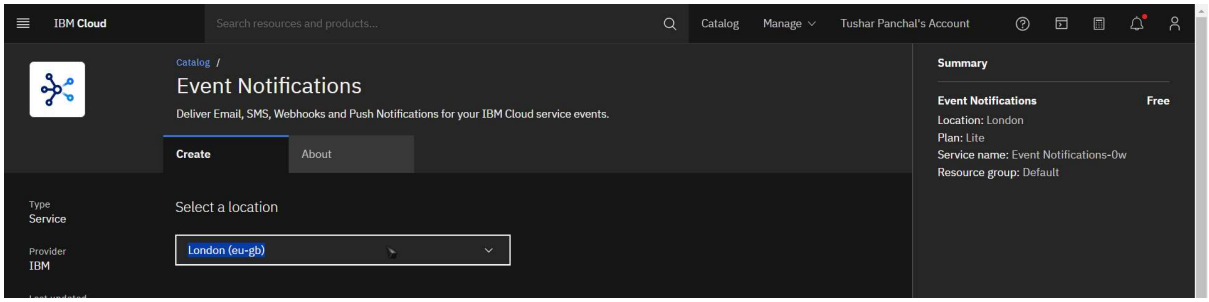
Configuring AWS SNS:
Sign in to the AWS Management Console.
Navigate to the SNS service.
Create a new topic or select an existing one to which notifications will be published.
Define subscriptions, specifying endpoints (e.g., email addresses, HTTP/HTTPS endpoints, Lambda
functions) that should receive notifications.
Configure access policies to ensure proper authentication and authorization.
Obtain necessary credentials (e.g., access keys, IAM roles) for authentication when accessing
SNS APIs.
Integrate your application with SNS using AWS SDKs or RESTful APIs.

TASK: Integrate Slack as a destination with the event notification service of IBM Cloud to collect the events ingested by the sources to your Slack channel

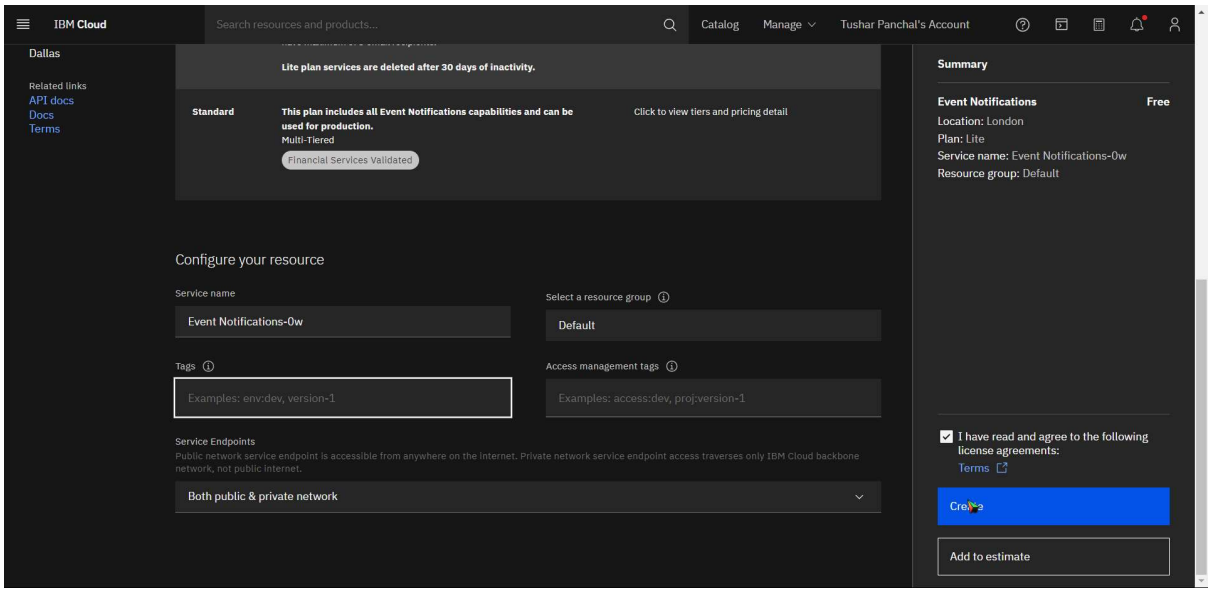
- **Access the IBM Cloud dashboard and navigate to the Event Notification Service.**

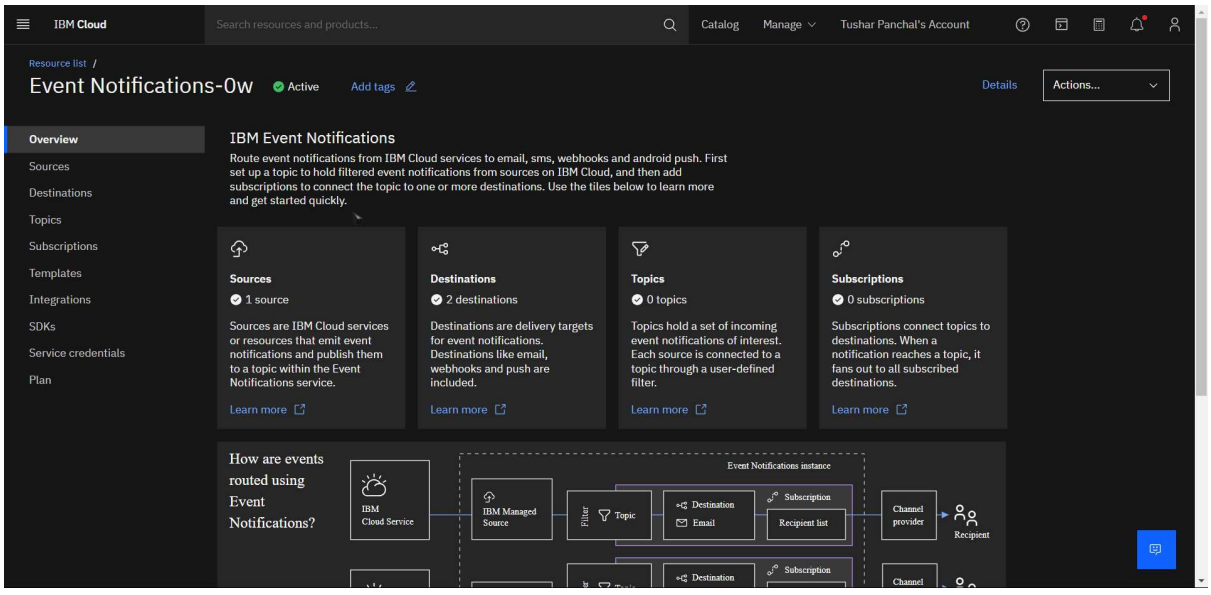
» **Step 1 :** navigate the service name event notification.





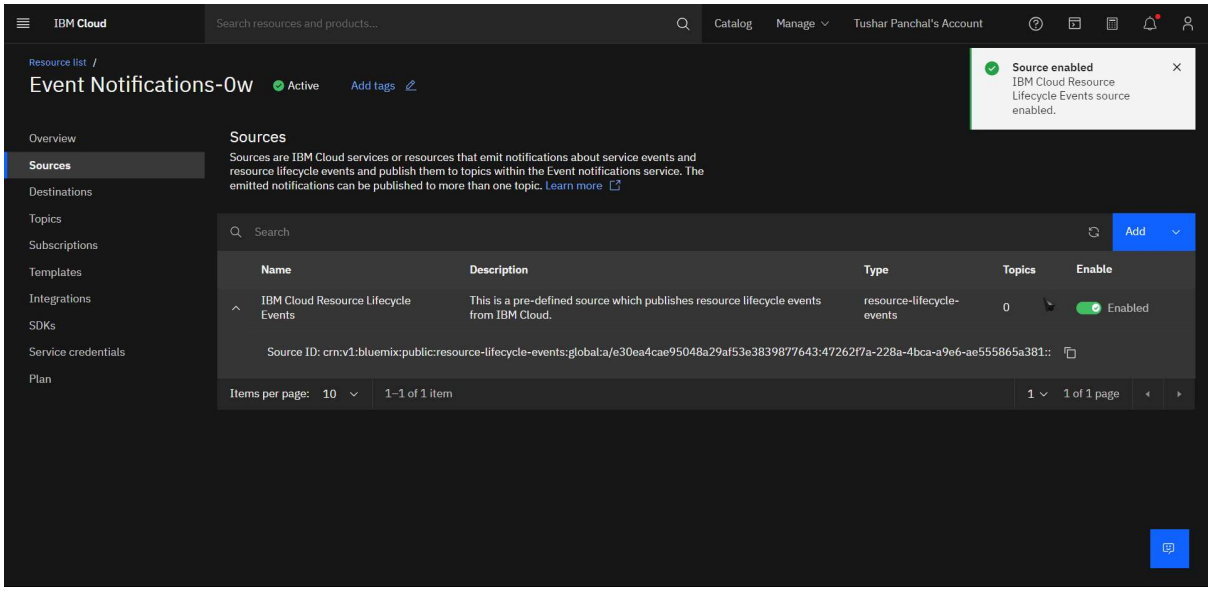
Step 2 : i created service by default name.





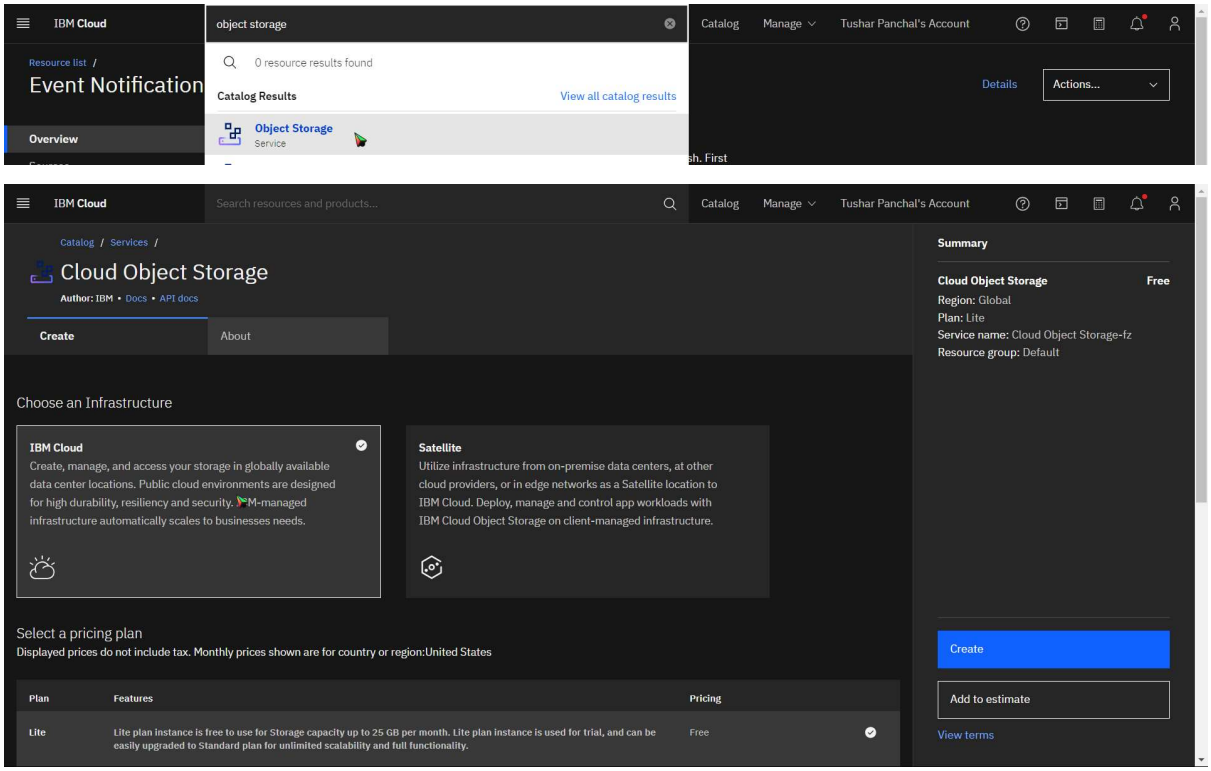
That's it event notification service created successfully

» **Step 3 :** Than go to source and enable lifecycle option.



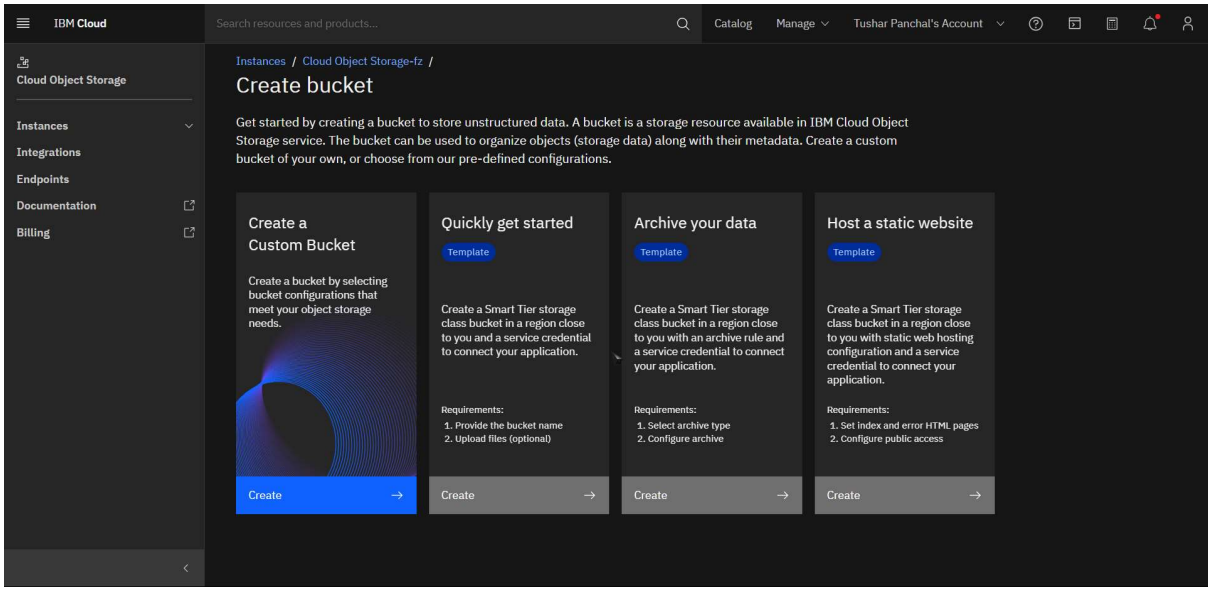
» **Step 4 :** navigate service name and Create cloud service storage.

Open another IBM cloud tab and serch for object storage



Name it Then simply hit create.

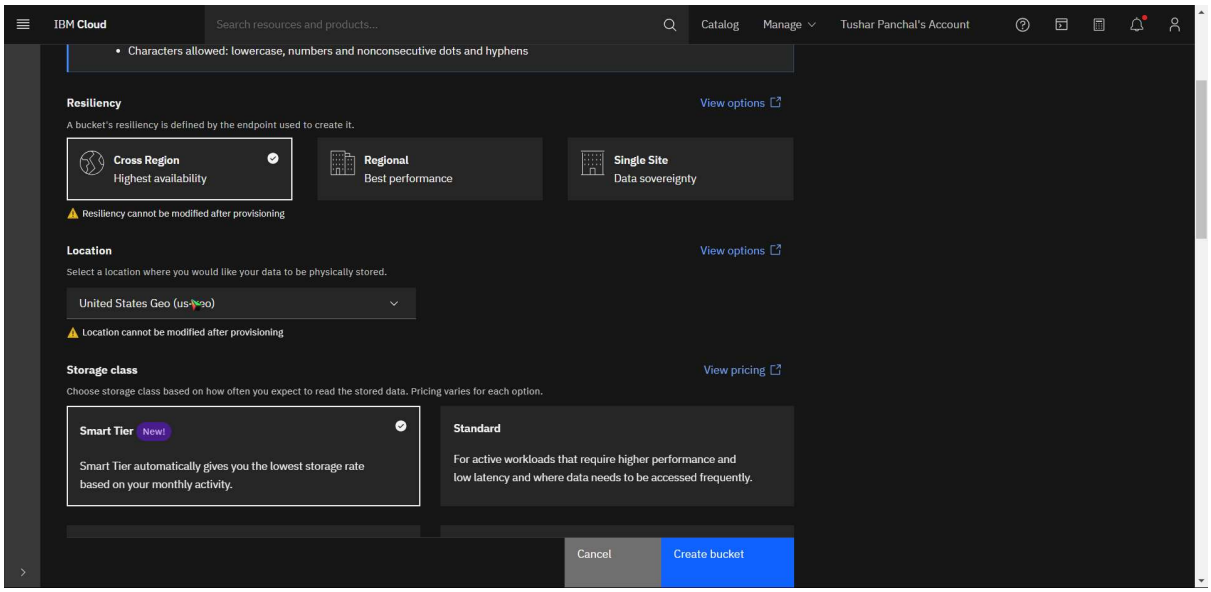
» **Step 5 :** Then create a bucket in object storage tab.



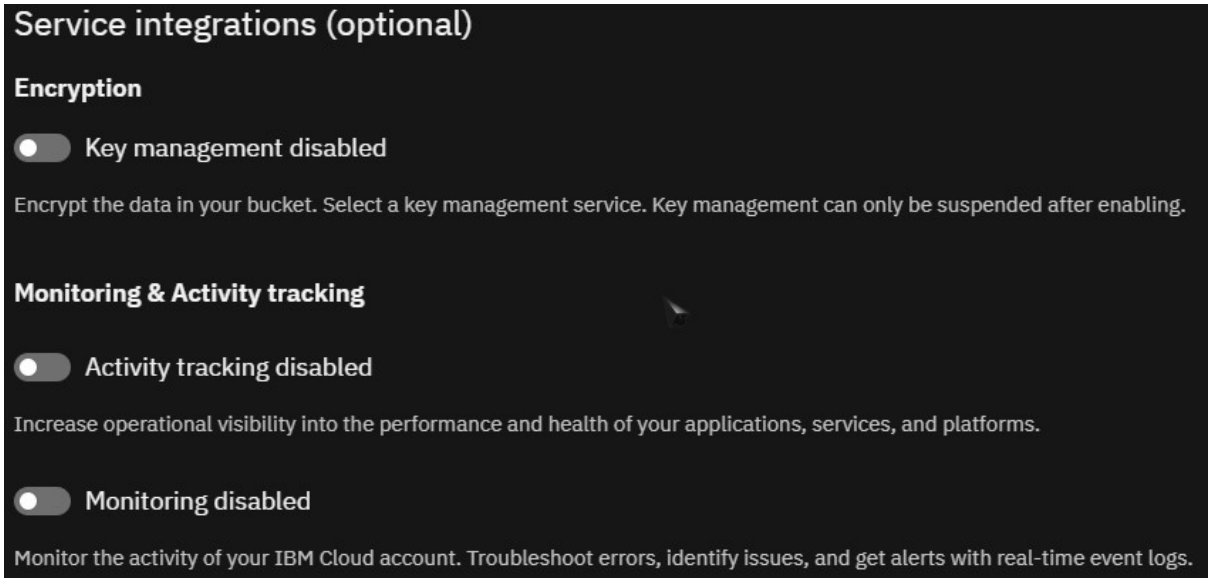
Open another IBM cloud tab and serch for object storage

Hit create a custom bucket and name it

Then select cross region and default location

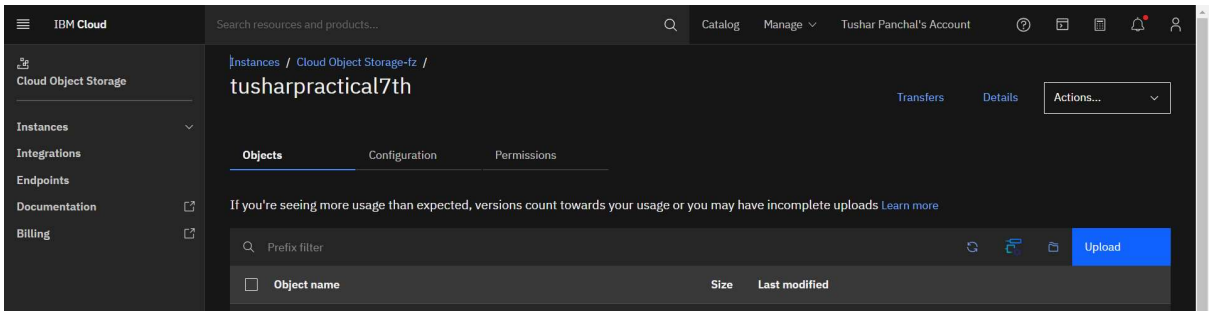


» **Step 6 :** Then left author option default and create bucket.

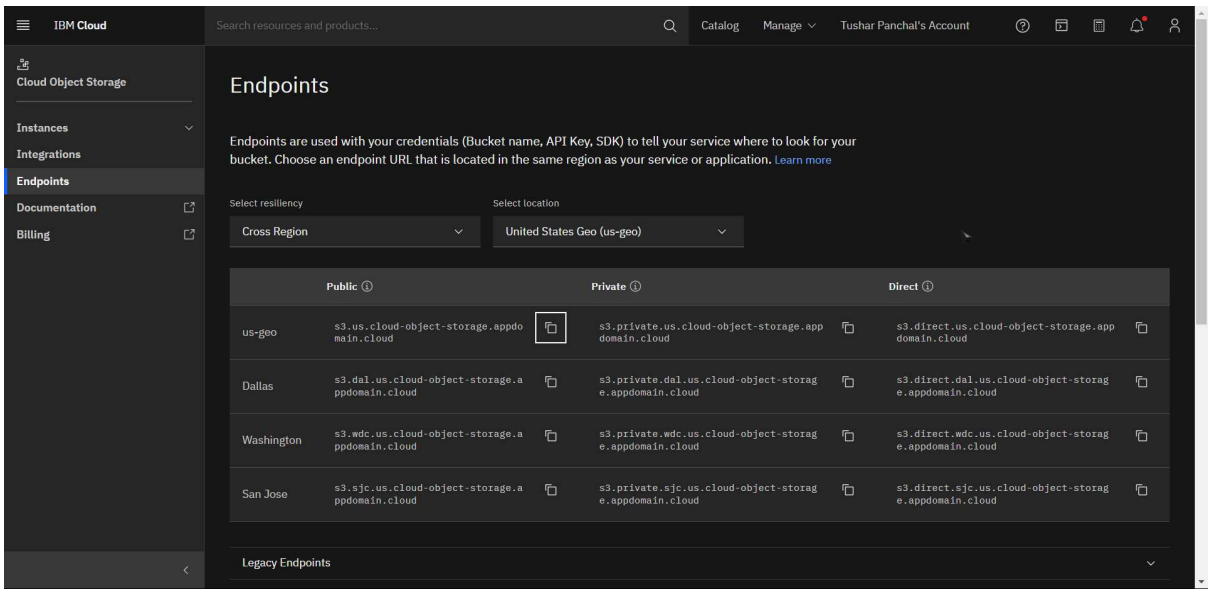


Then hit create bucket.

As you can see here our bucket has been created.

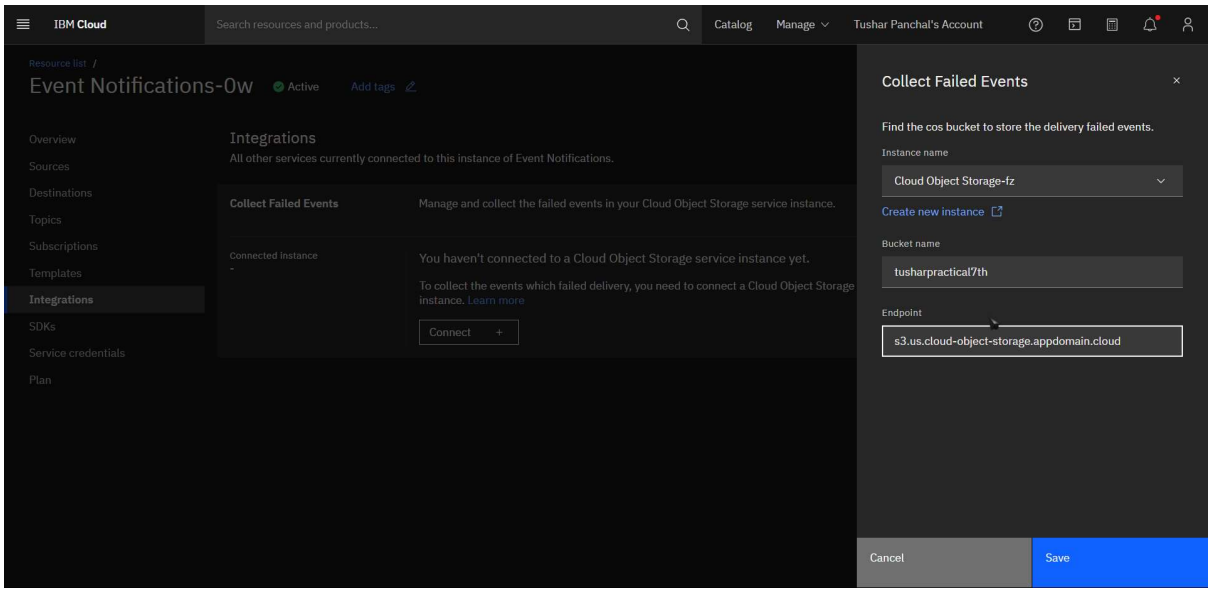


» **Step 7 :** Go into endpoint and copy public link.



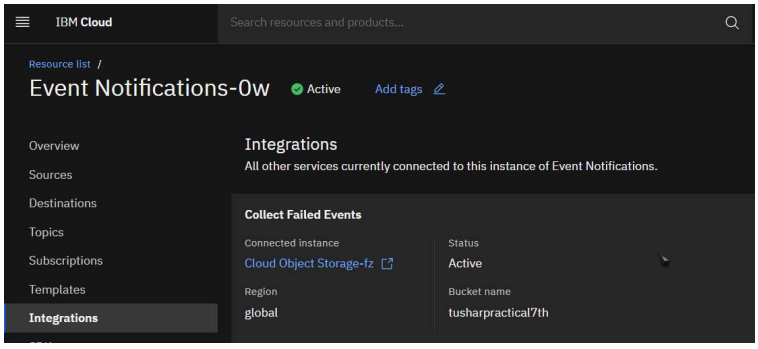
s3.us.cloud-object-storage.appdomain.cloud

» **Step 8 :** Open event notification that we has been created before and open integrations and hit connect.

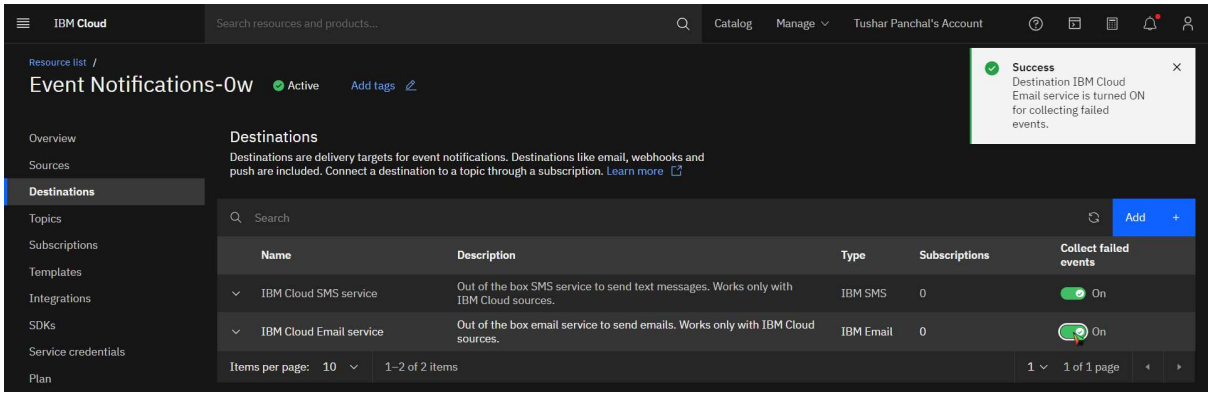


Then enter your bucket name that you have created and endpoint that you have copied and save

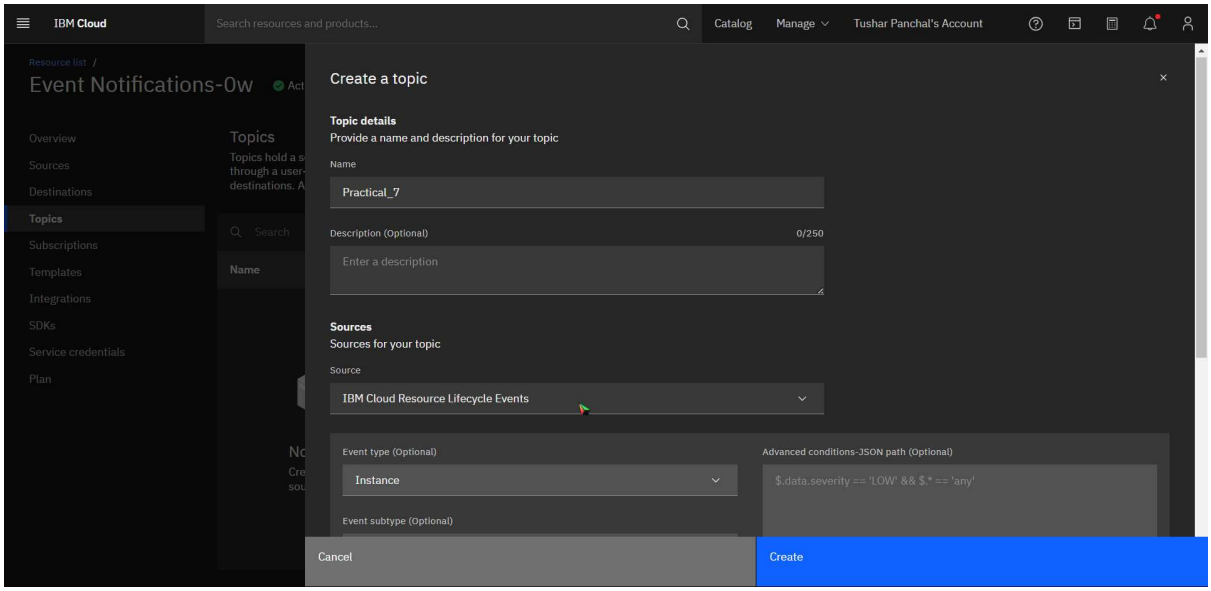
as you can see here we successfully configured public endpoint.



» **Step 9 :** Then go to destination & enable SMS & Email service.

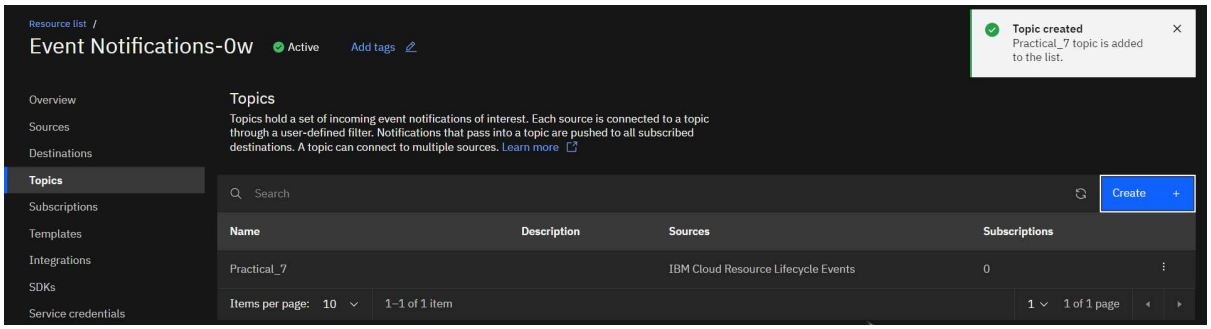


» **Step 10 :** go in topic and create topic name & then create.

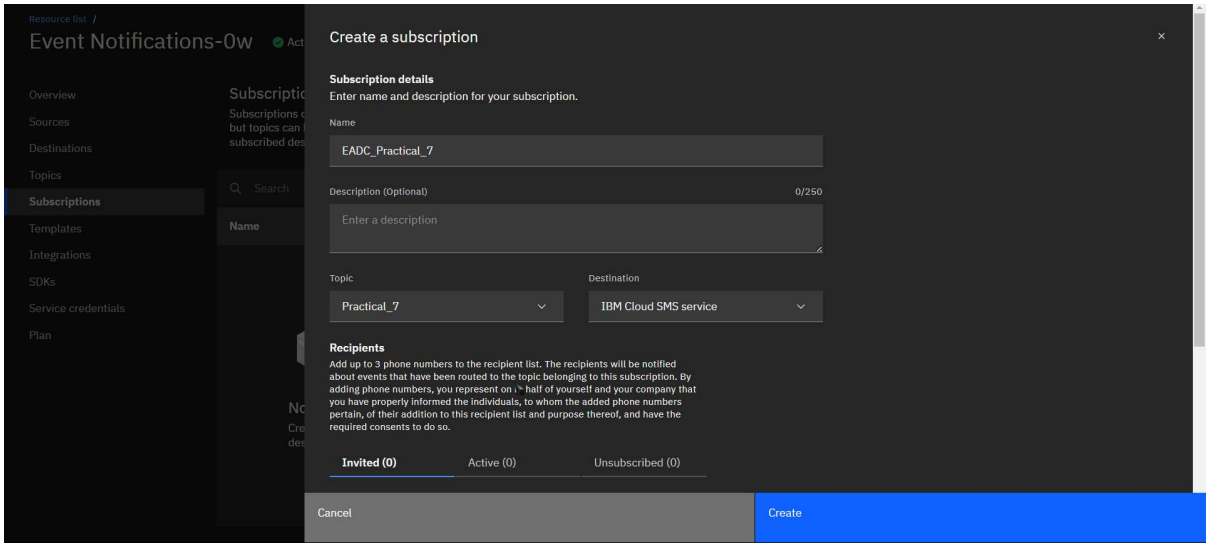


Then don't select event subtype and event type then hit create

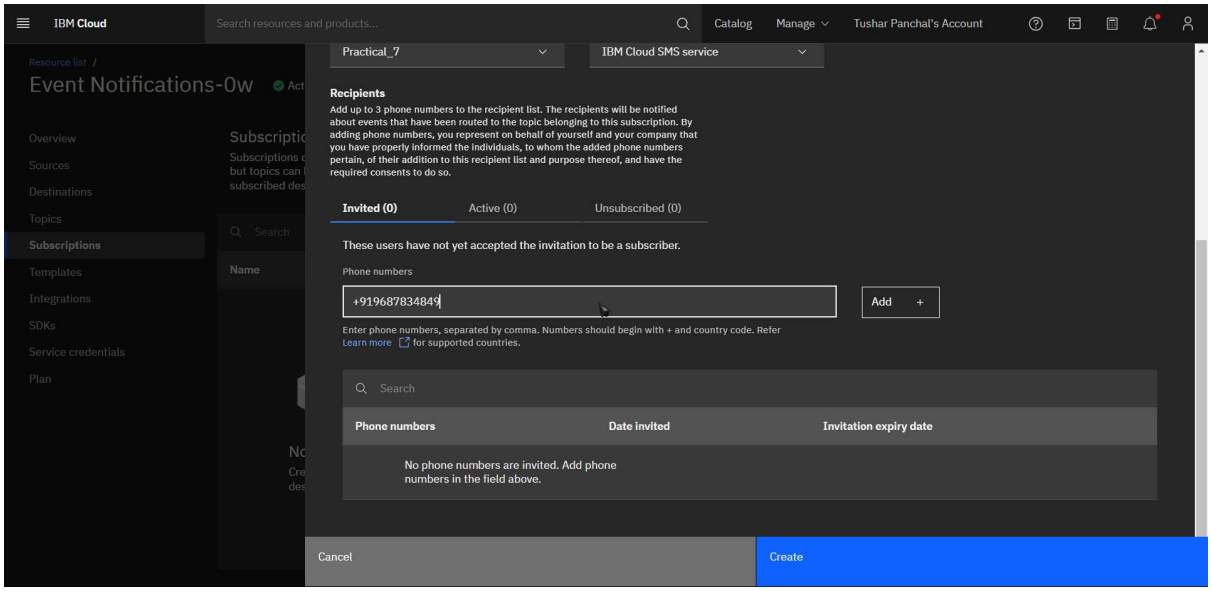
As you can see here our topic has been created



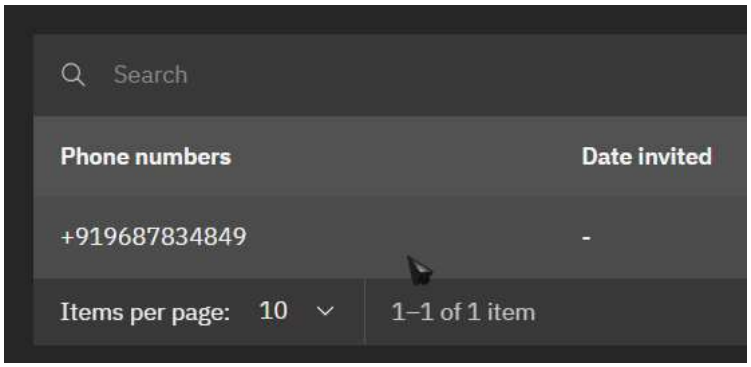
» **Step 11 :** go to subscription & name it & select topic that we has been created & choose SMS service in destination.



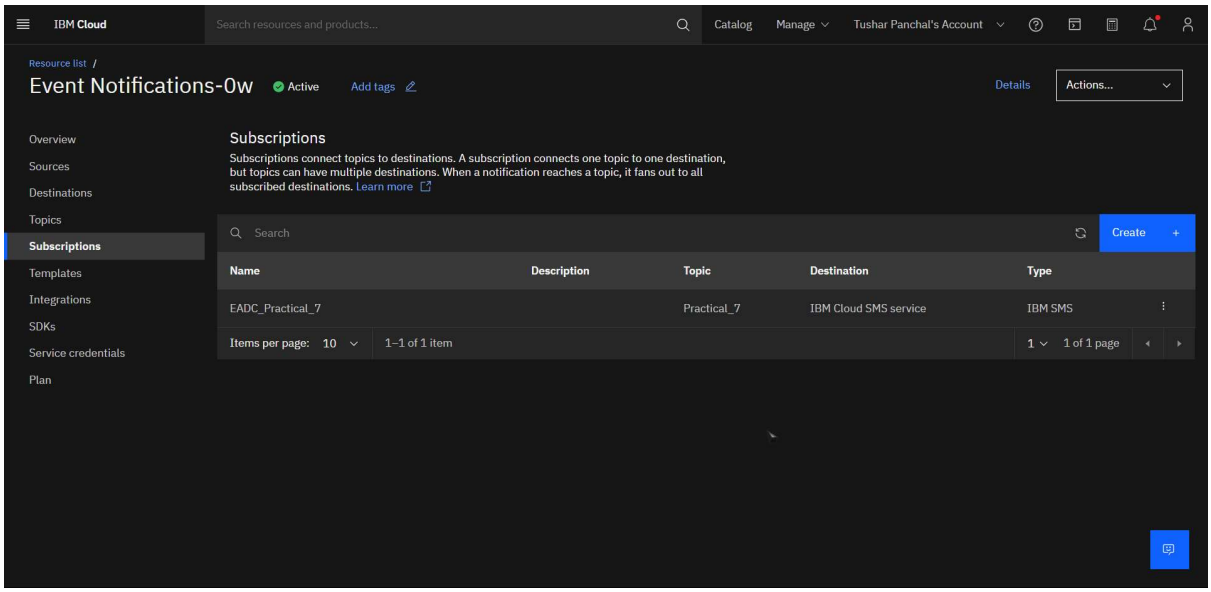
then enter your phone number.



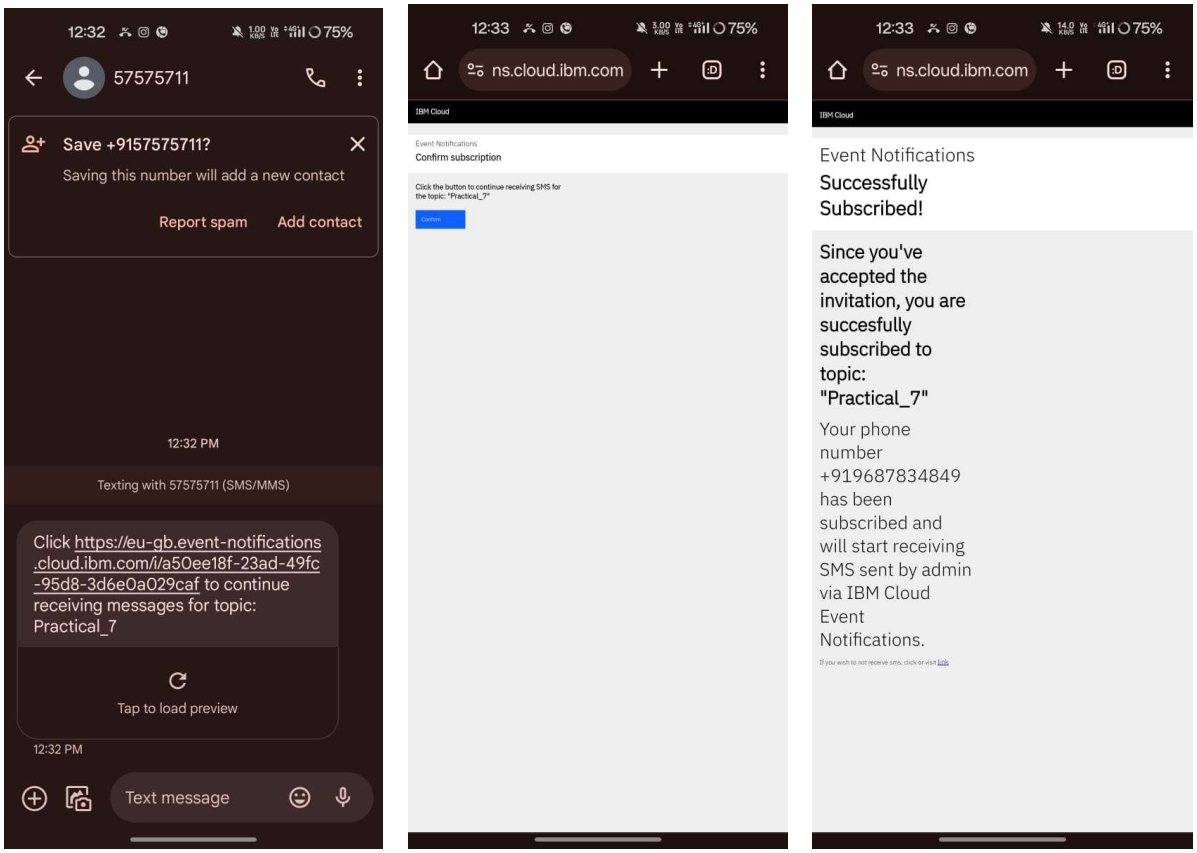
As you can see here my phone number has been added



You can see here my subscription has been created successfully.

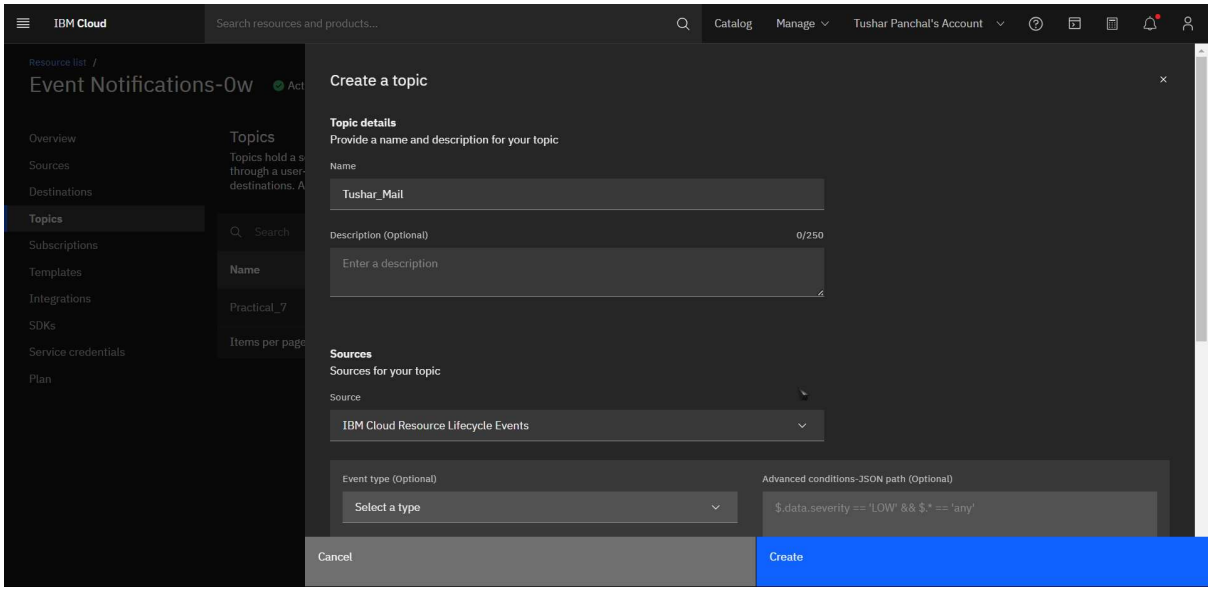


After that you will receive sms on your mobile number and open that link on your smartphone & confirm that to subscribe service

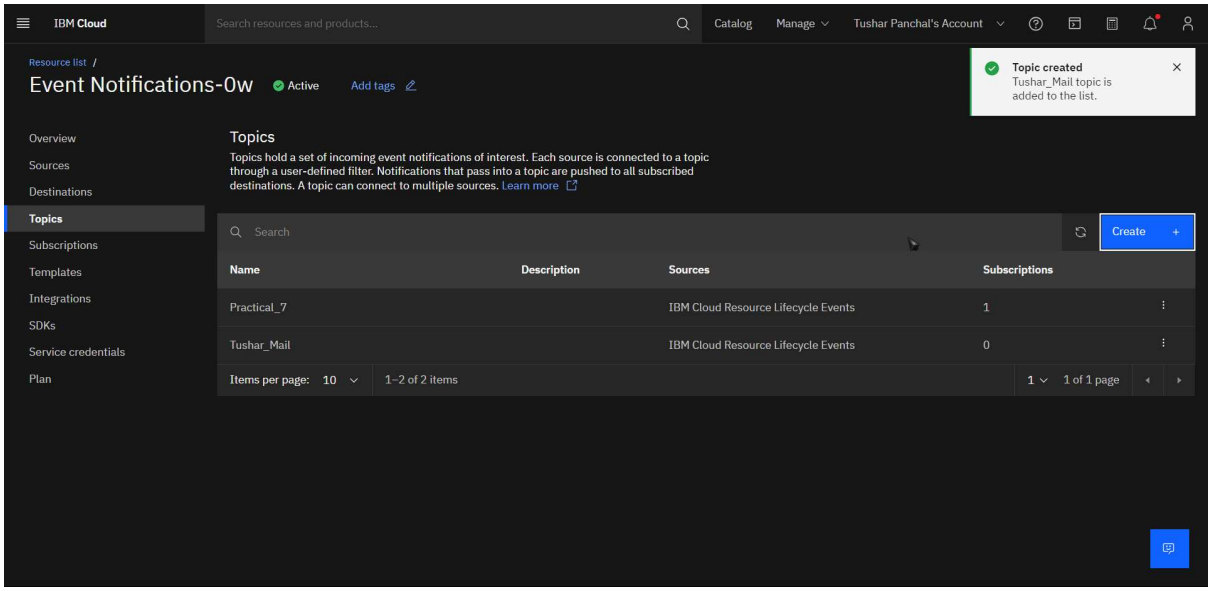


» **Step 12 :** create a new topic for mail name it and hit create.

I named it Tushar_Mail and selected IBM cloud Resource Lifecycle Events and hit create :

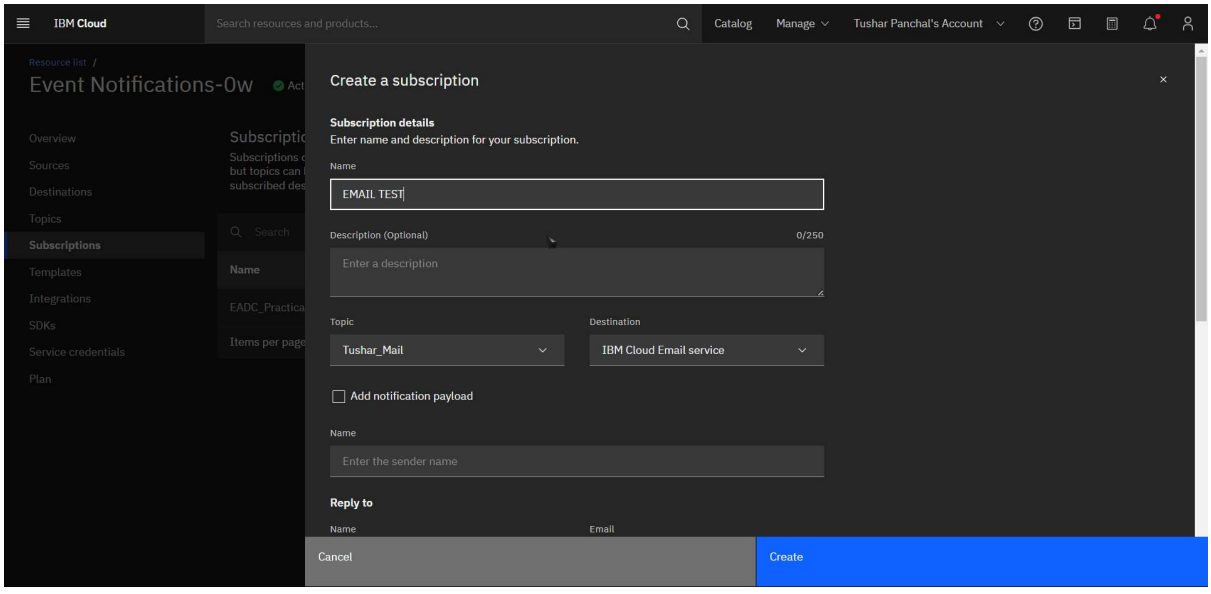


As you can see here my topic created successfully :

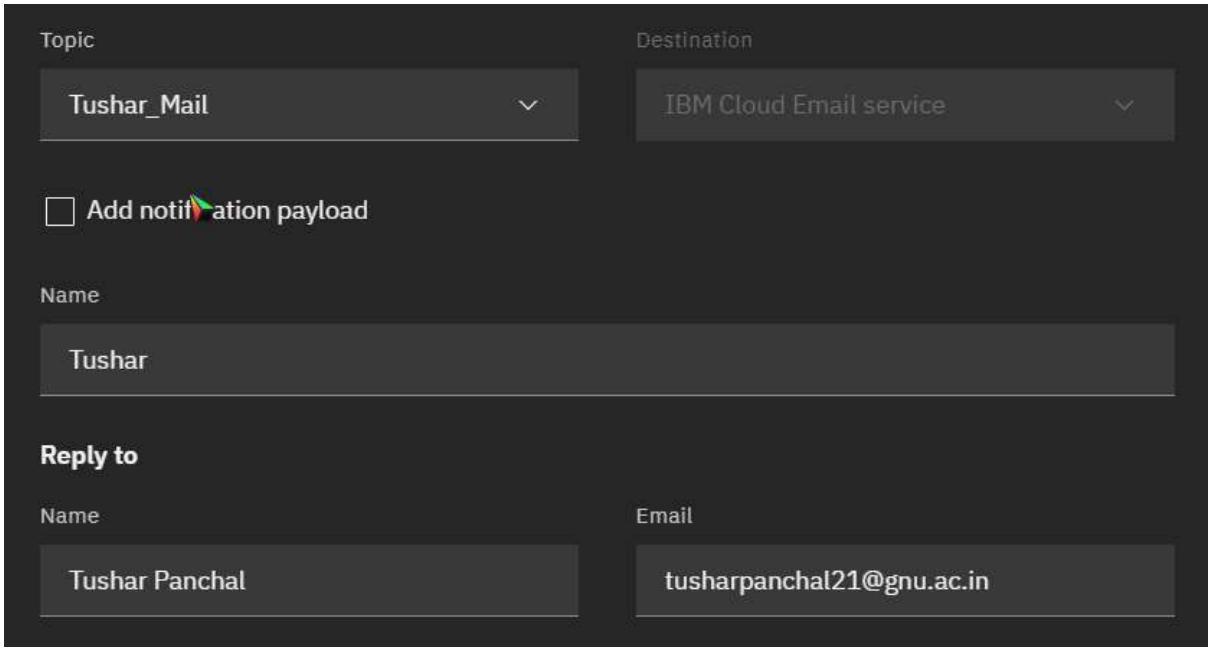


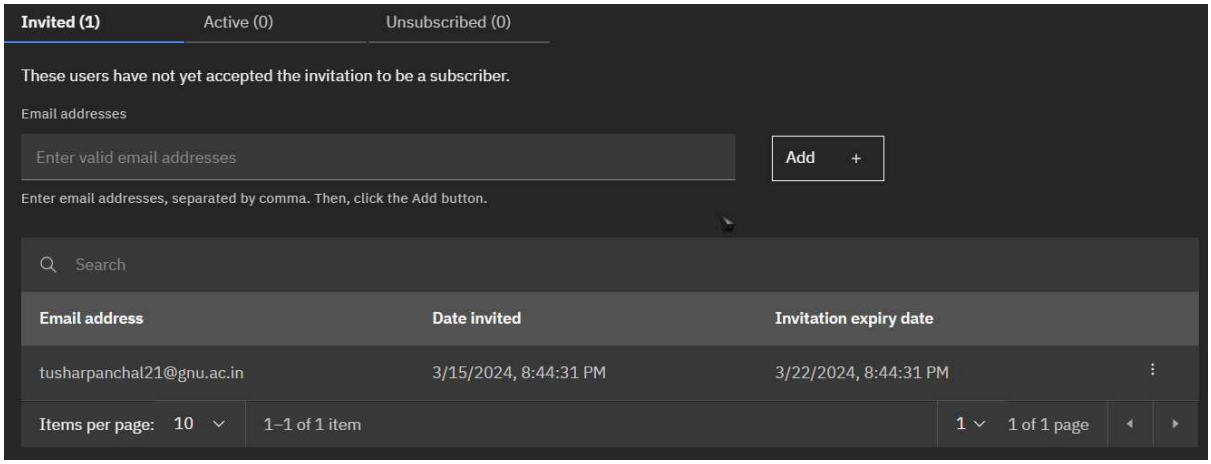
That's it now go to Subscription under overview of event notification that we created before.

Go to subscription & hit create then name it and select topic that we created for mail before and select Email service in Destination:

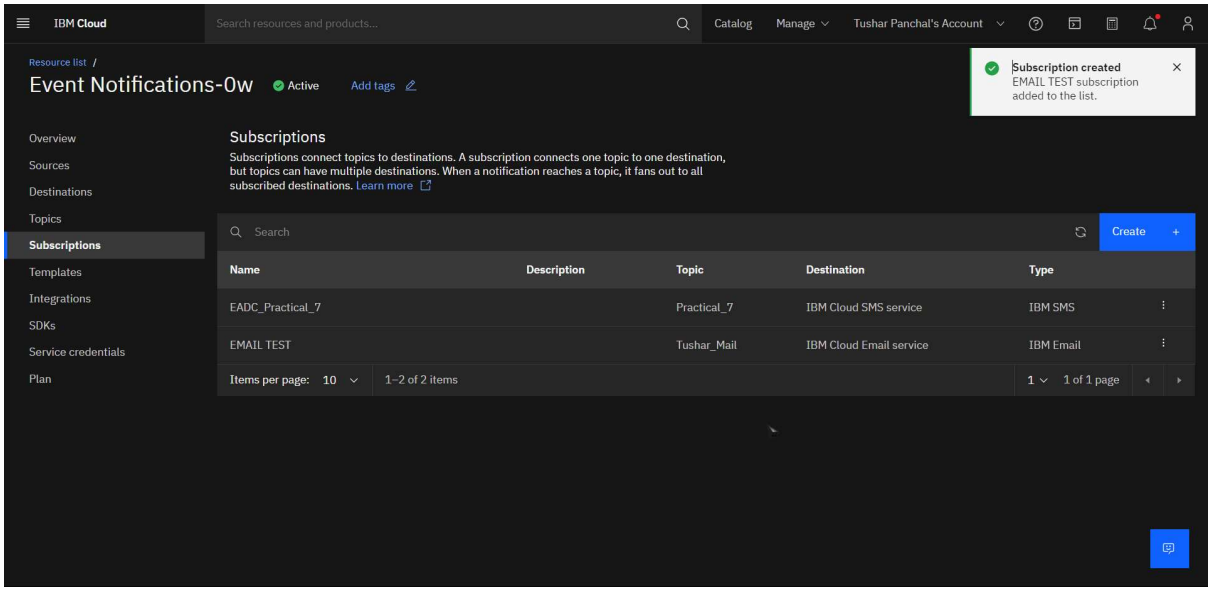


Add reply to & give mail id to get notifications of activities and add valid email address in below of it :

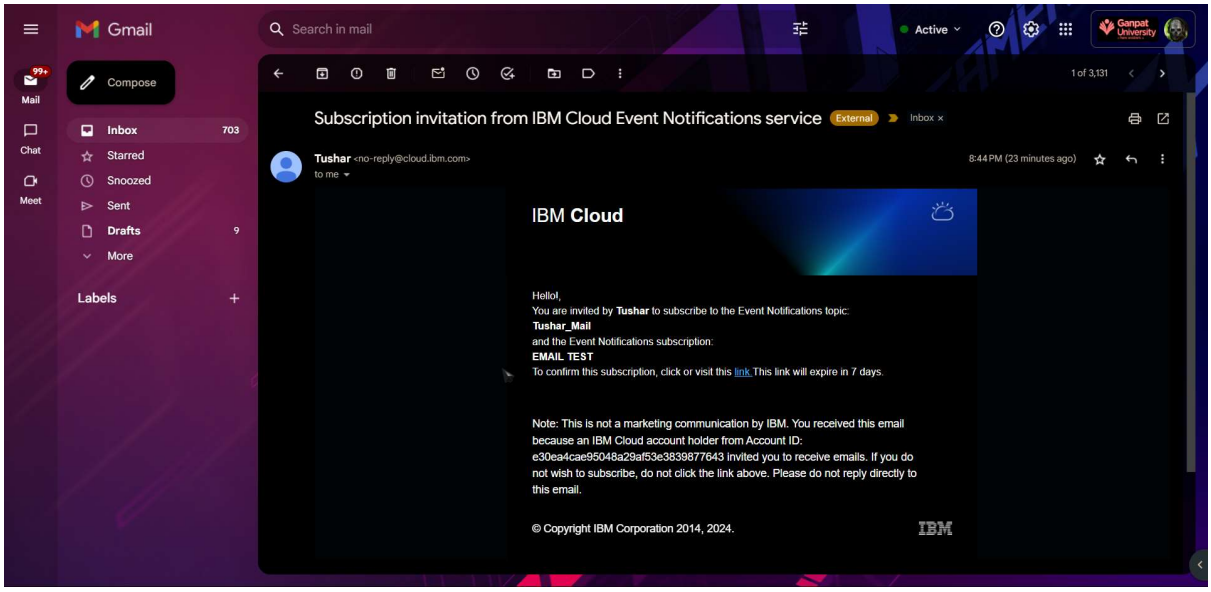


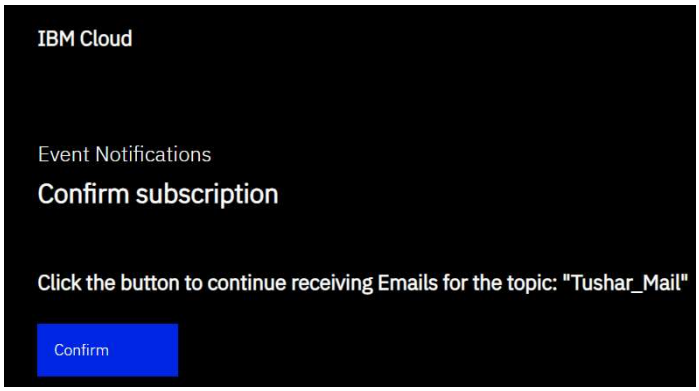


As you can see here my subscription has been created successfully:

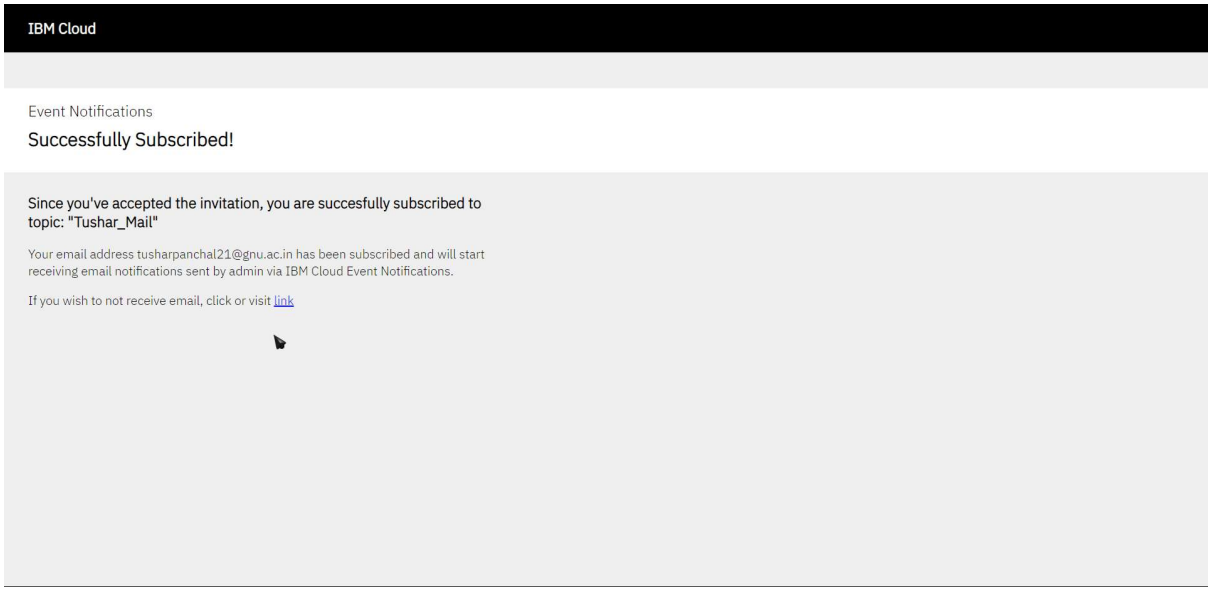


» **Step 13 :** Check subscription invitation on email hit link to subscribe service.



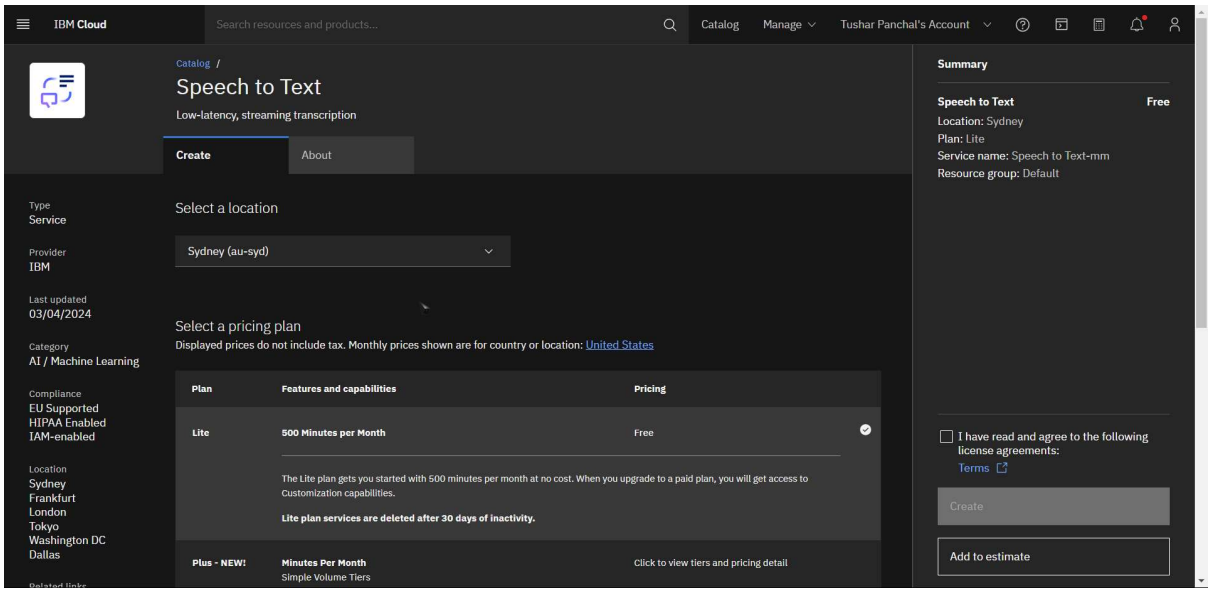


As you can see service succuessfully subscribed.

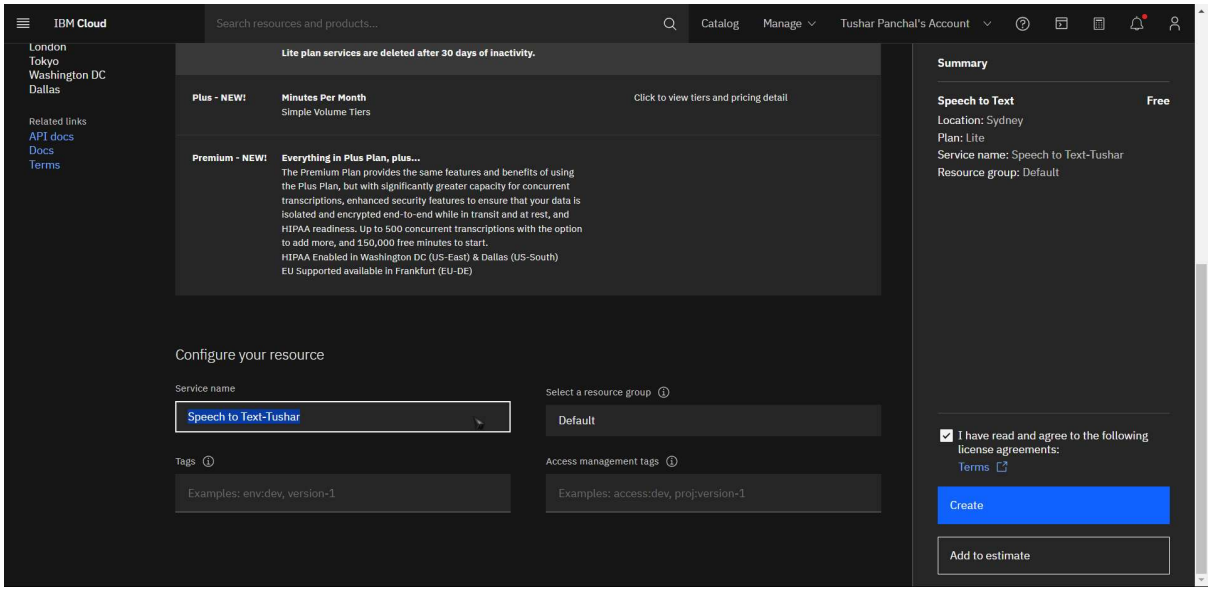


» **Step 14 :** To check that we receive notification or not make a speech-to-text service.

Directly search for speech to text in catalog seach box

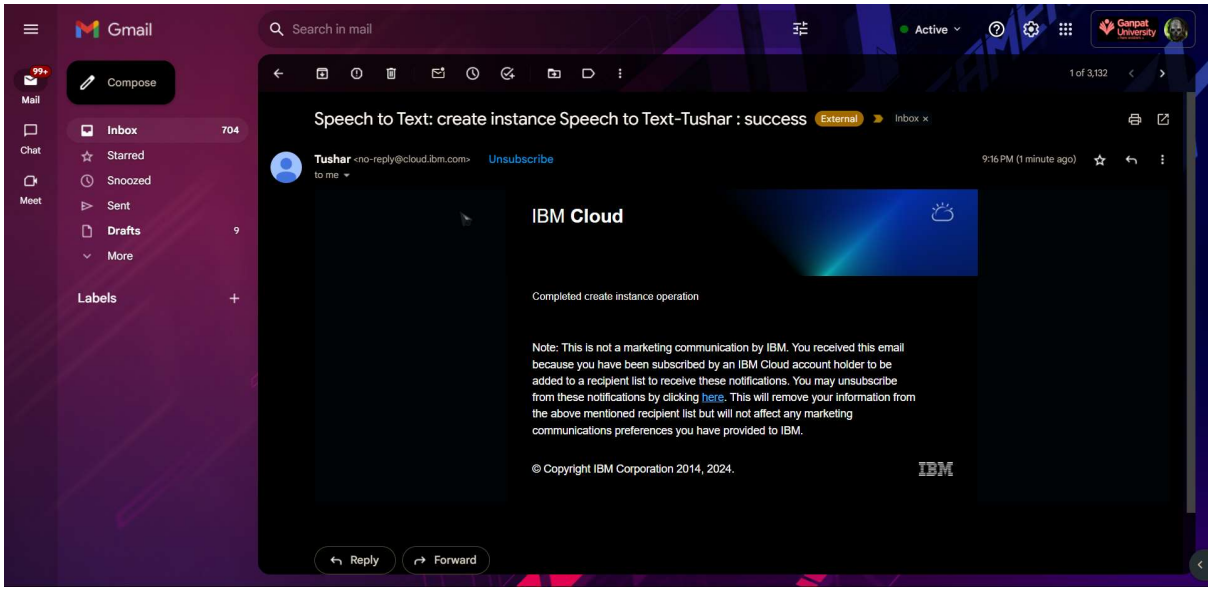


Then name it and create

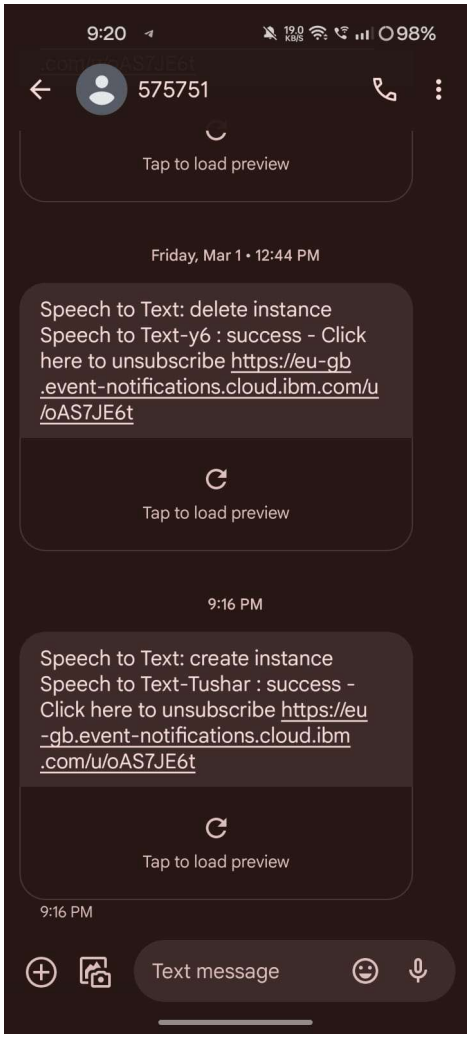


That's it our speech to text service has been created successfully.

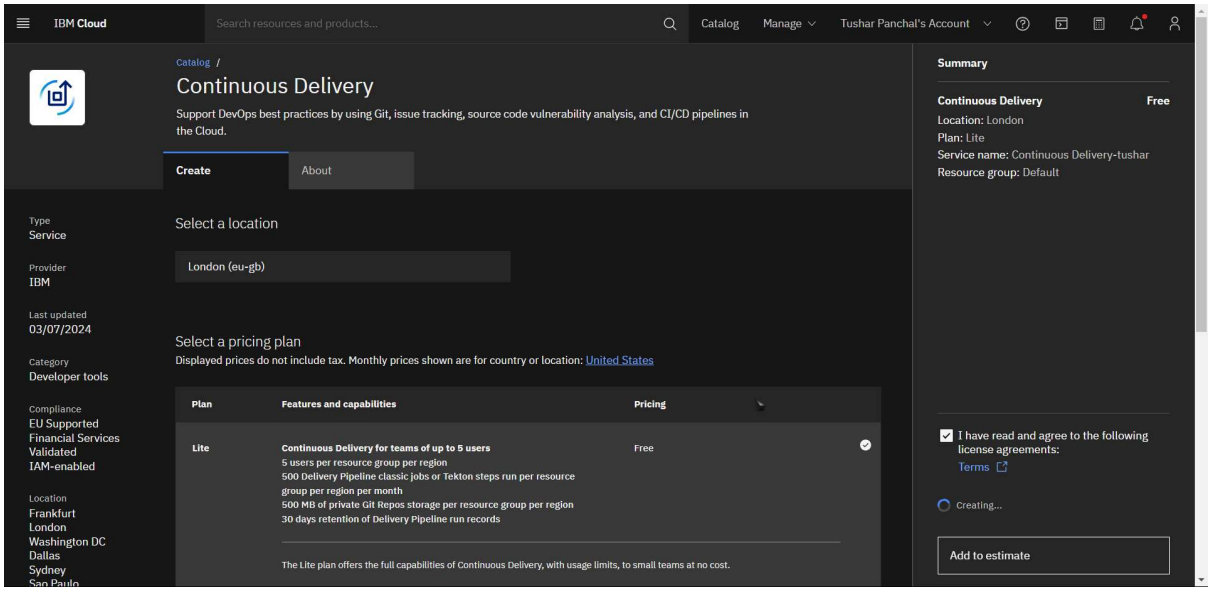
Now check on mail you will receive an email that you created and speech to text service



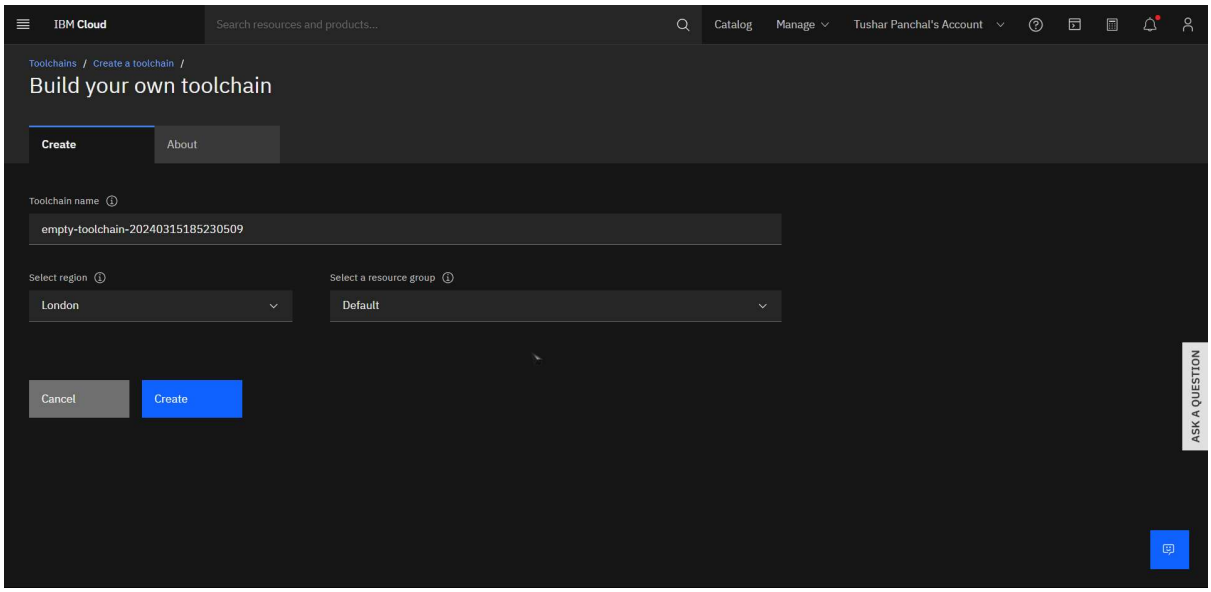
And on you mobile number you also receive SMS of that too

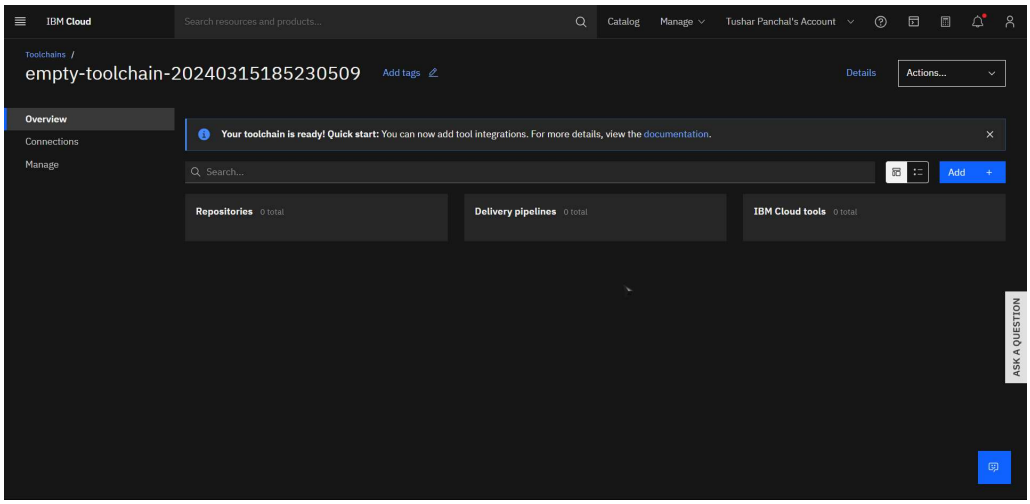


create a Continuous Delivery and select region London

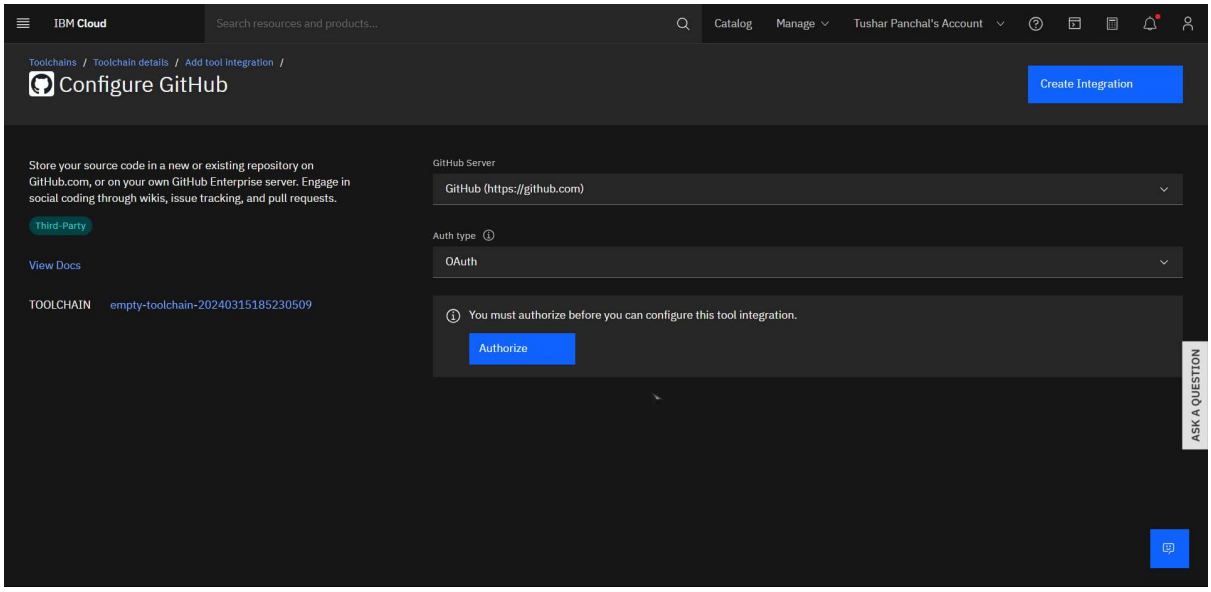


create Tool chain and select the region London

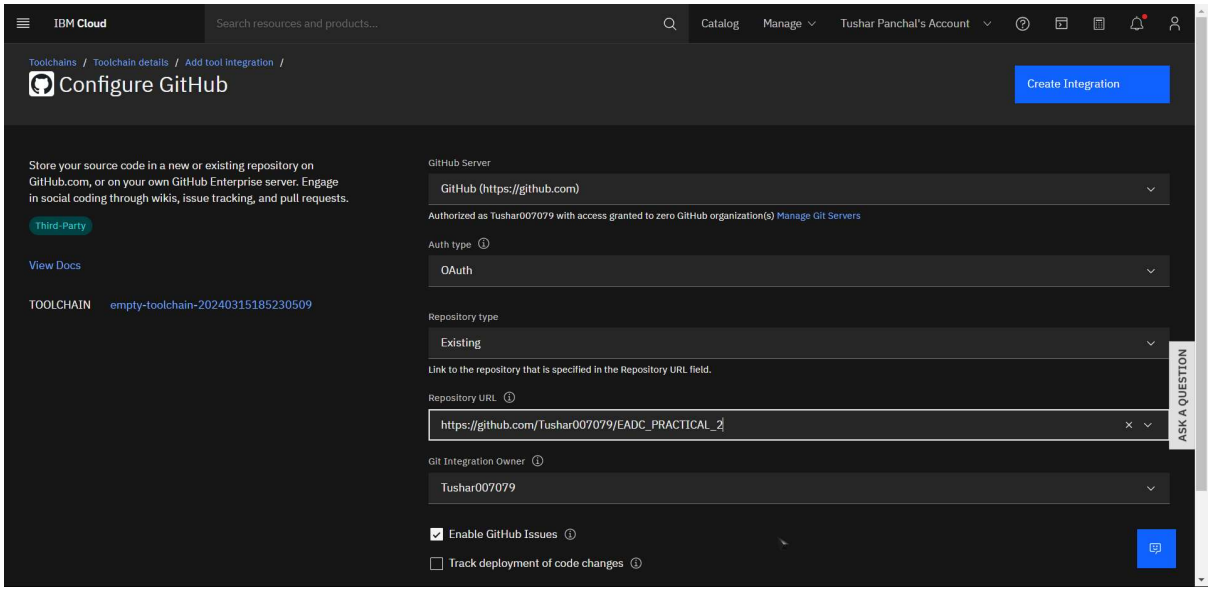




After creating toolchain you have to add the Github As repositiories

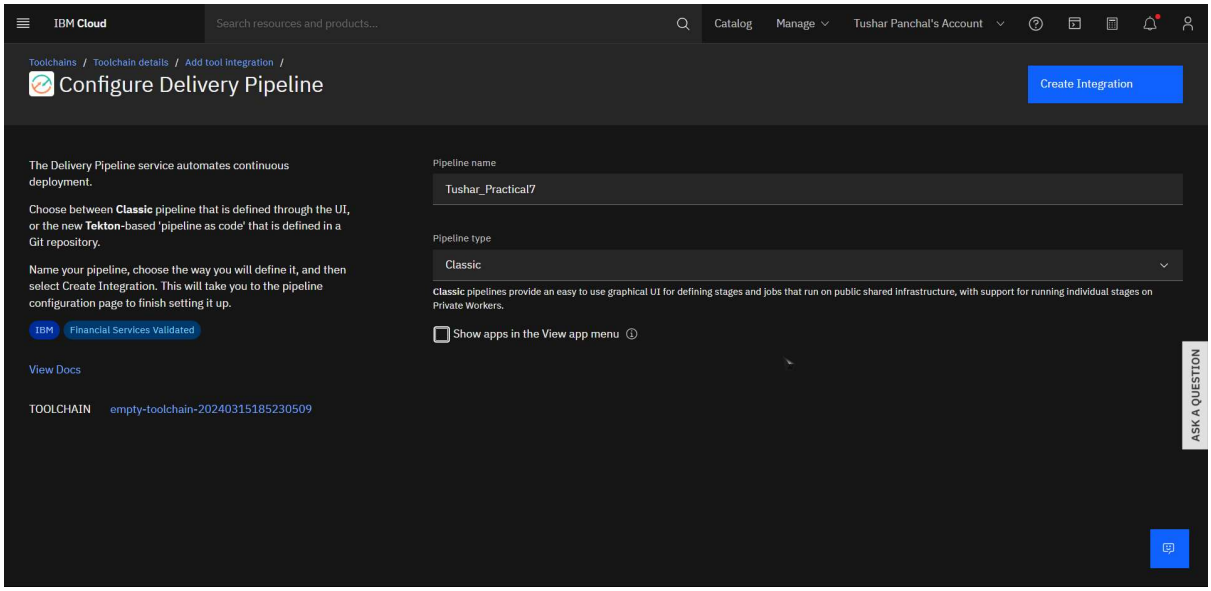


After Giving authorization to git hub you have to select the existing in repository type and select the your exiting repository

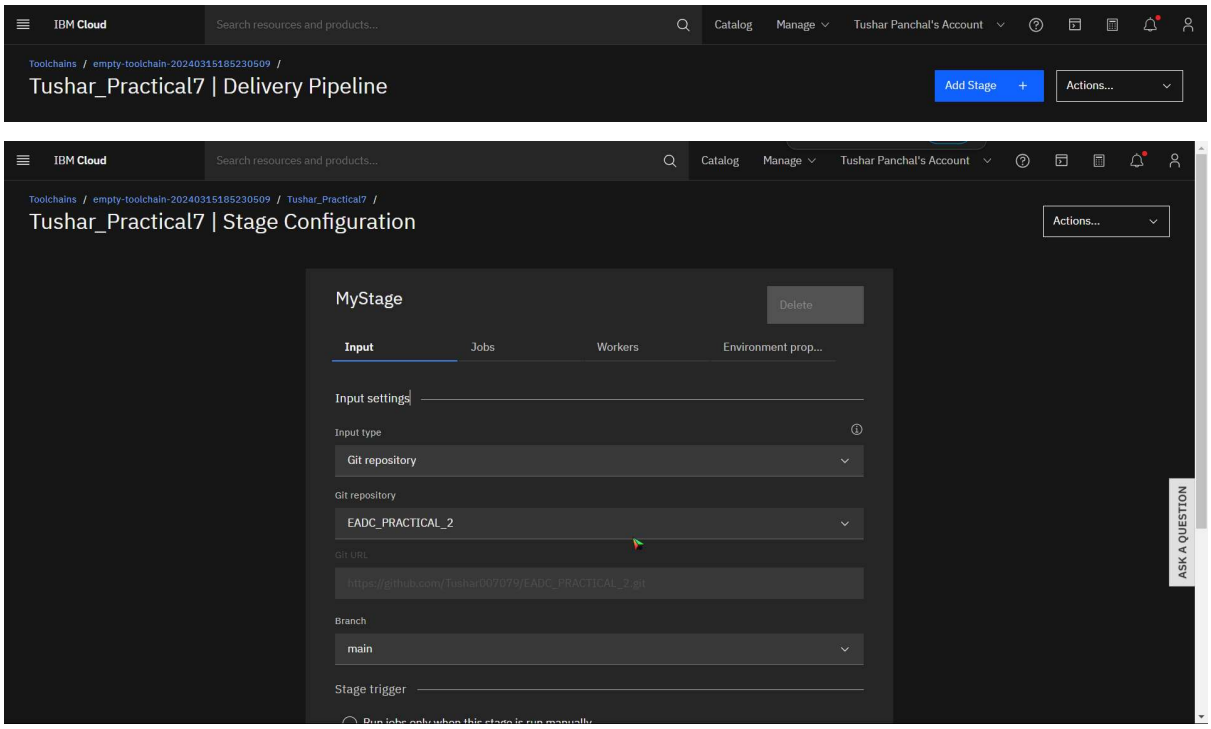


Now go to toolchain and add the Delivery Pipeline

Name it and hit create integration

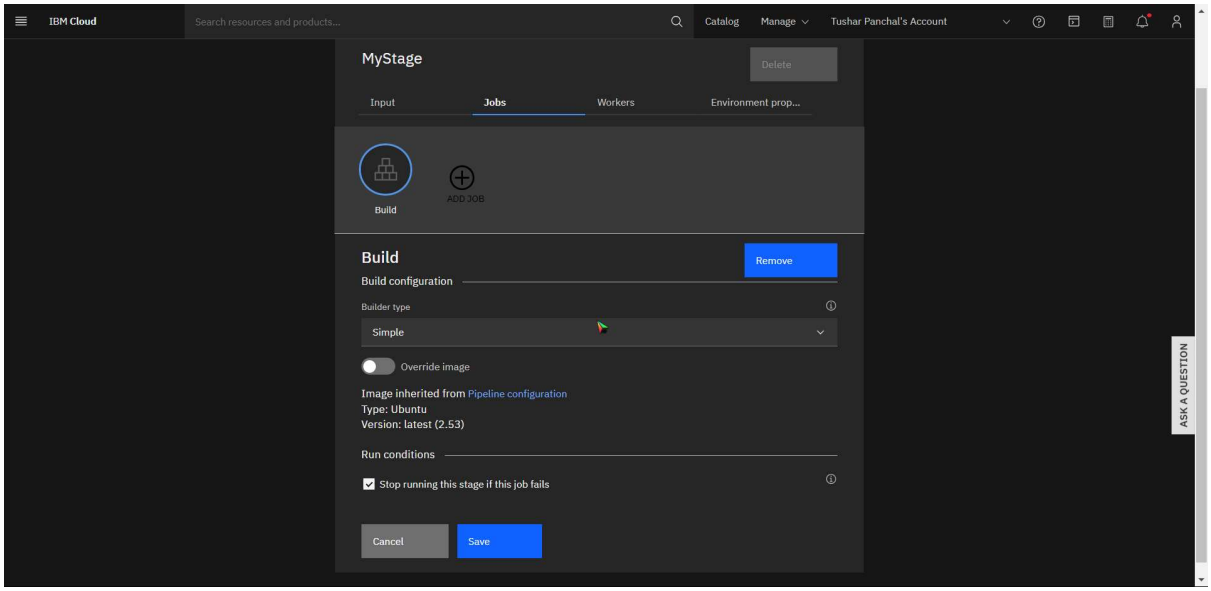


Let's add stage in our pipeline:



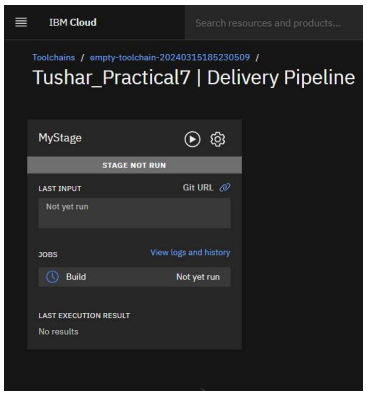
Choose input type and git repository as above

In jobs add job as build

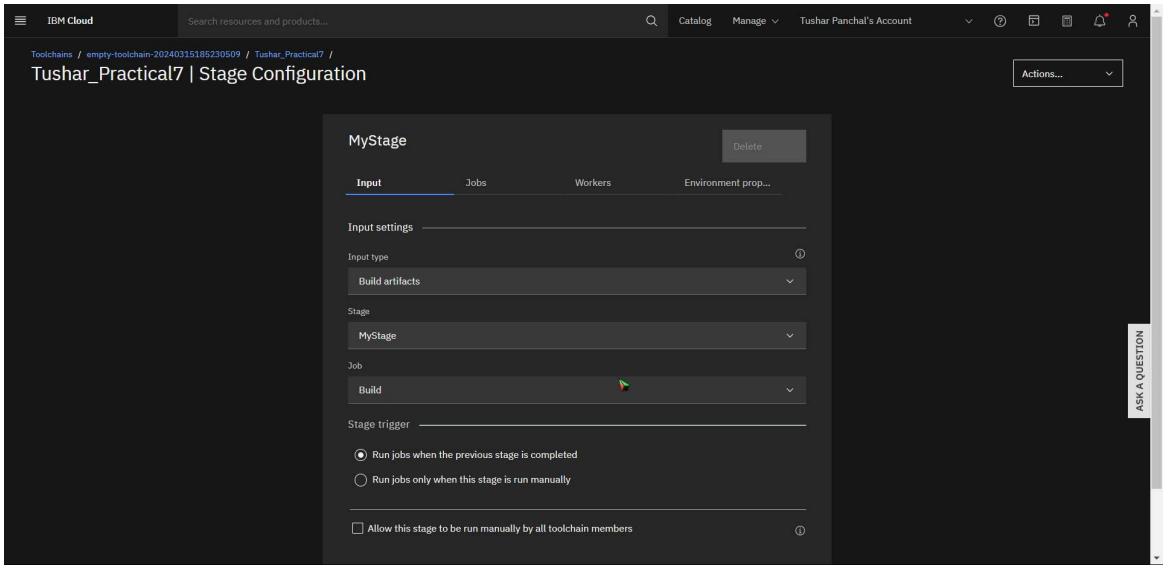


Then save it

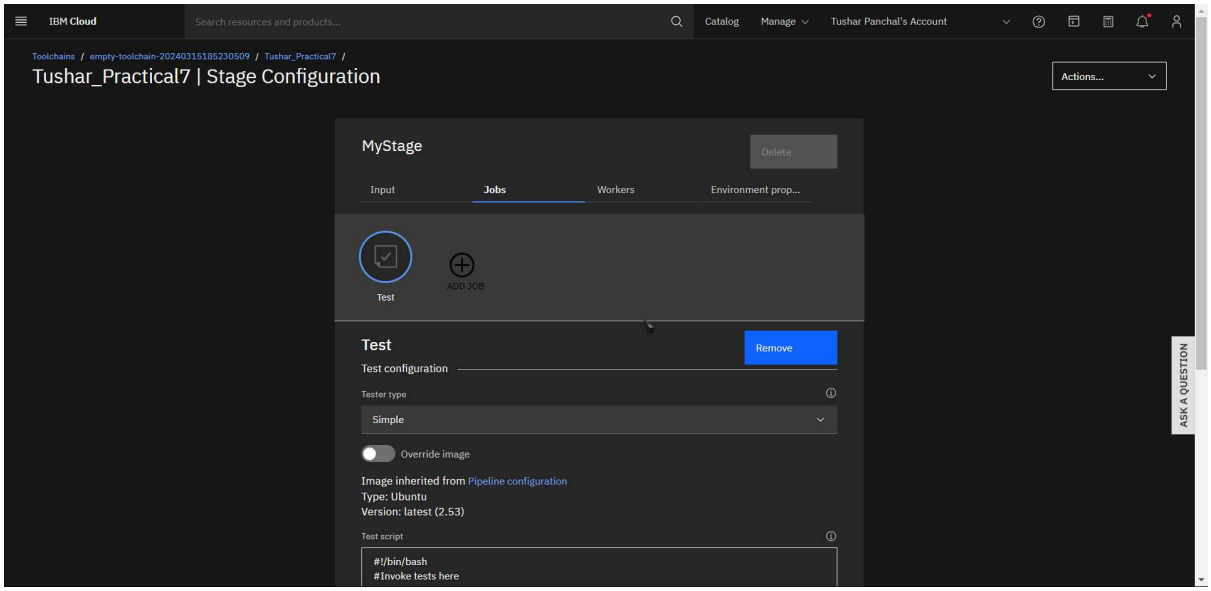
As you can see our stage has been added



Same as add the other stage for testing take input as build artifacts.

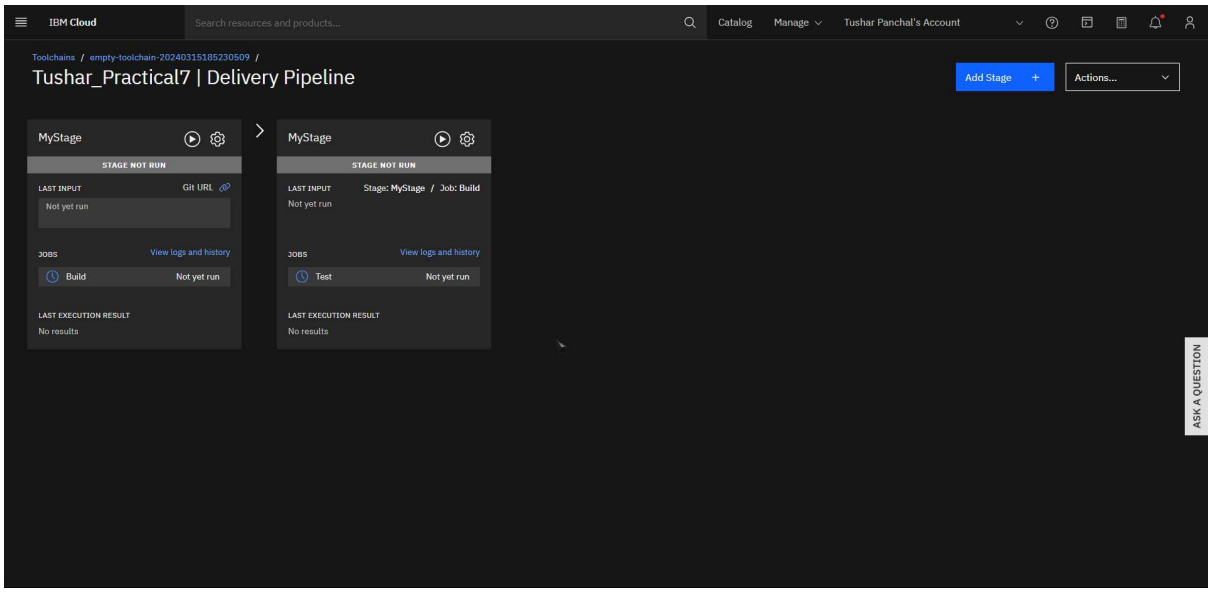


In jobs select test in add job



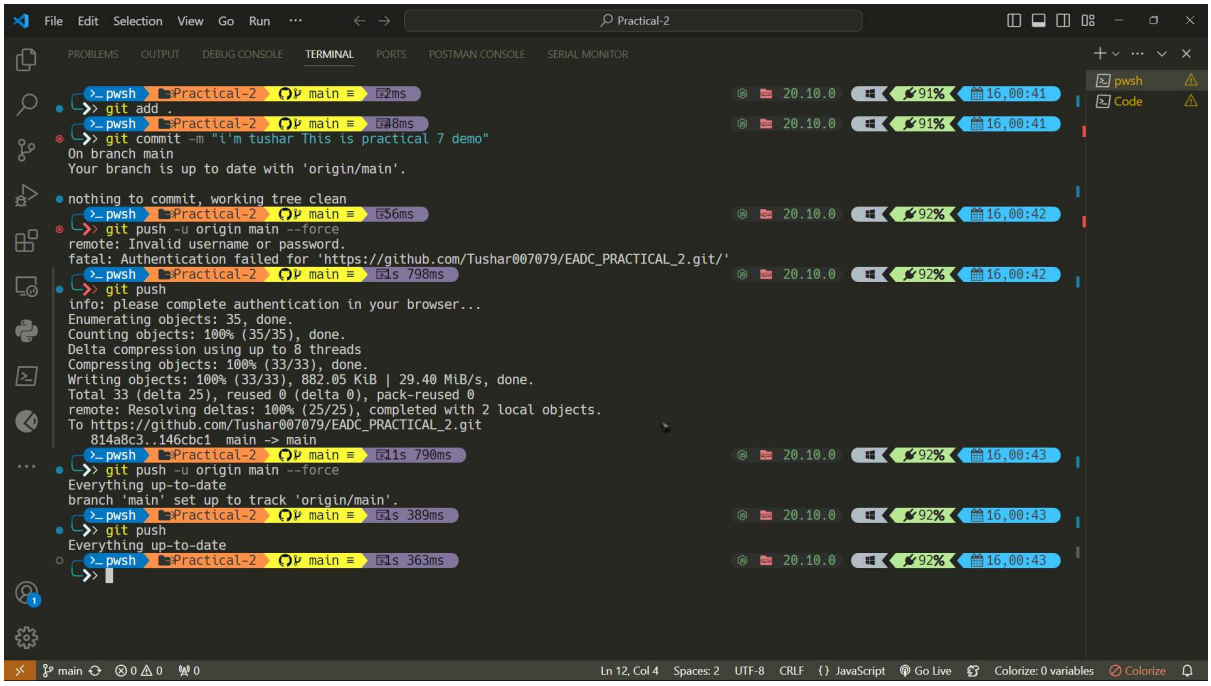
Then save it

As you can see our stage has been added

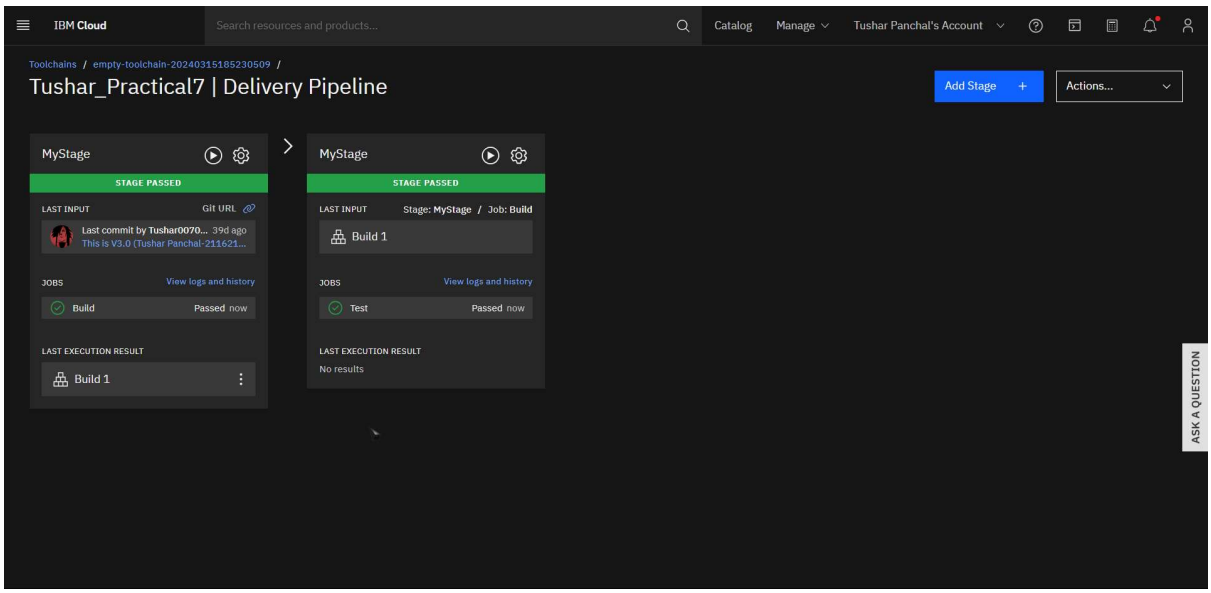


after creating this two Stage acess your git file and some changes and push it to git

Make some changes in file or code for github you selected in continuous delivery and commit it thorugh terminal.



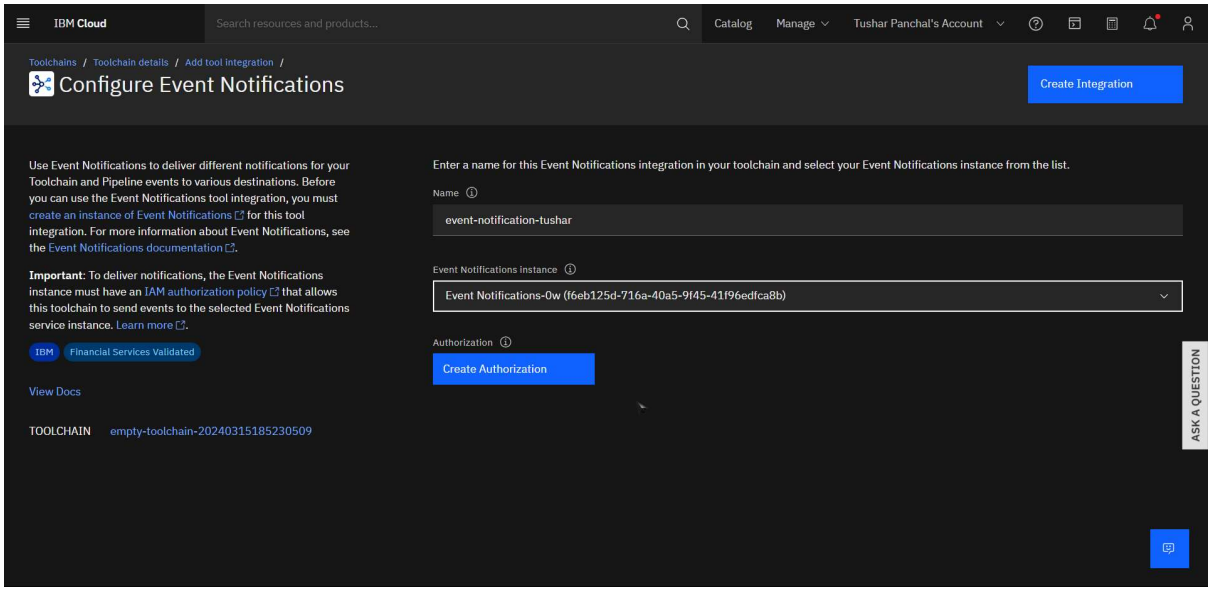
As you can see I commit changes it automatically started stages



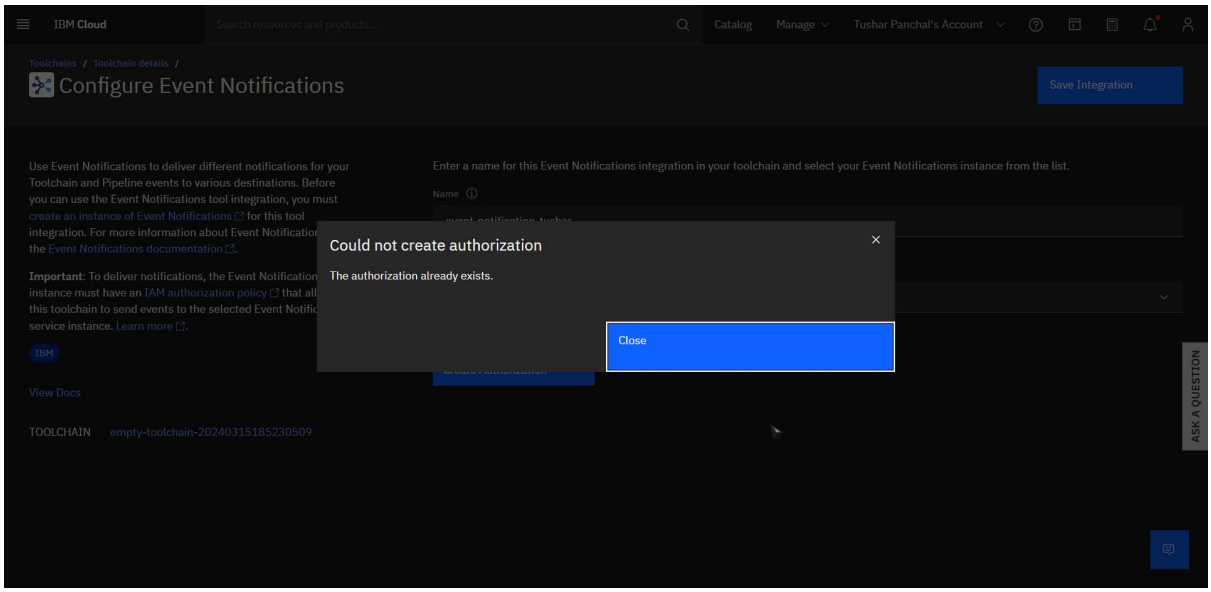
After that you have to add one more service of Event Notification in toolchain

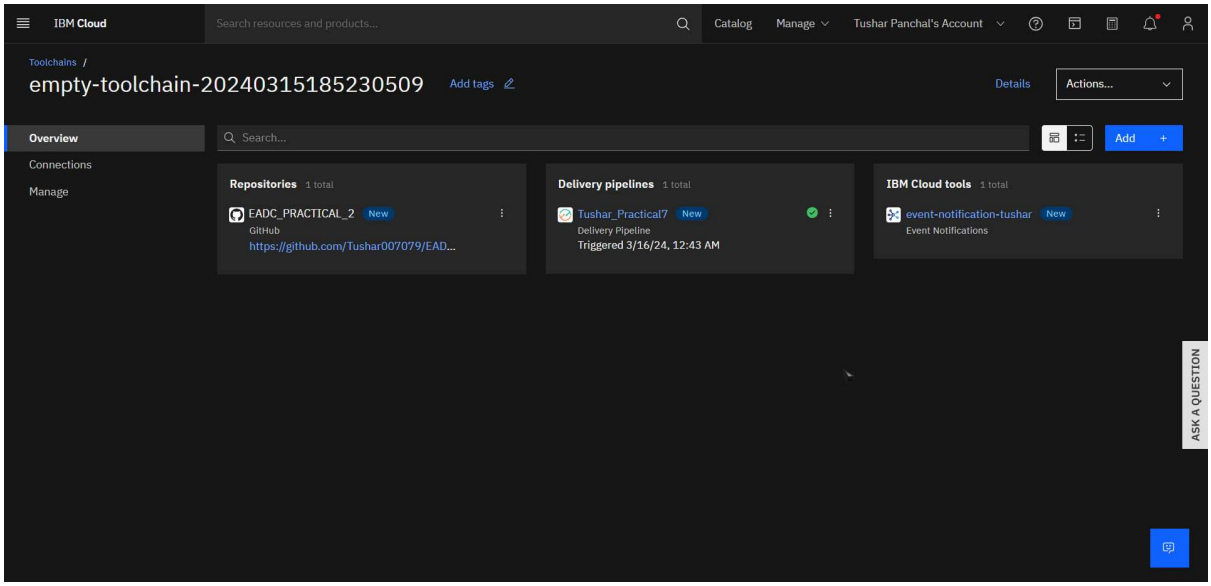
For that hit add tool in toolchain & search for event notification

Configure and create it

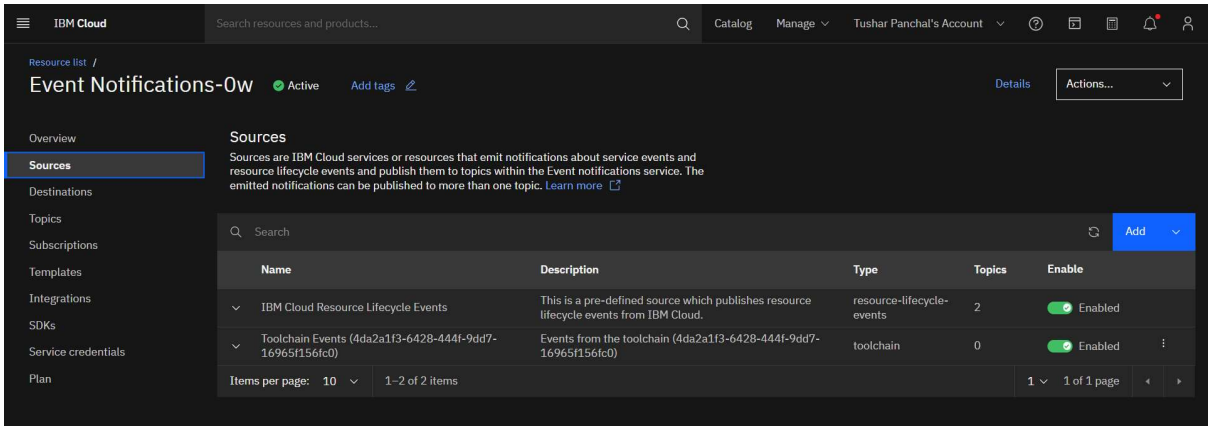


Then hit create authorization

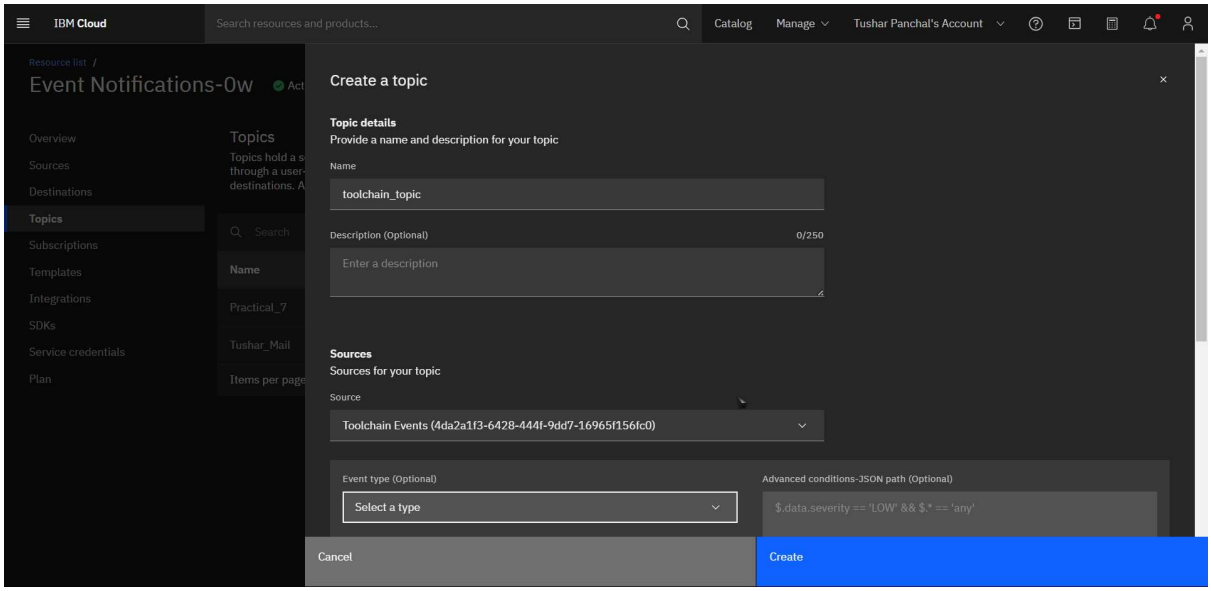


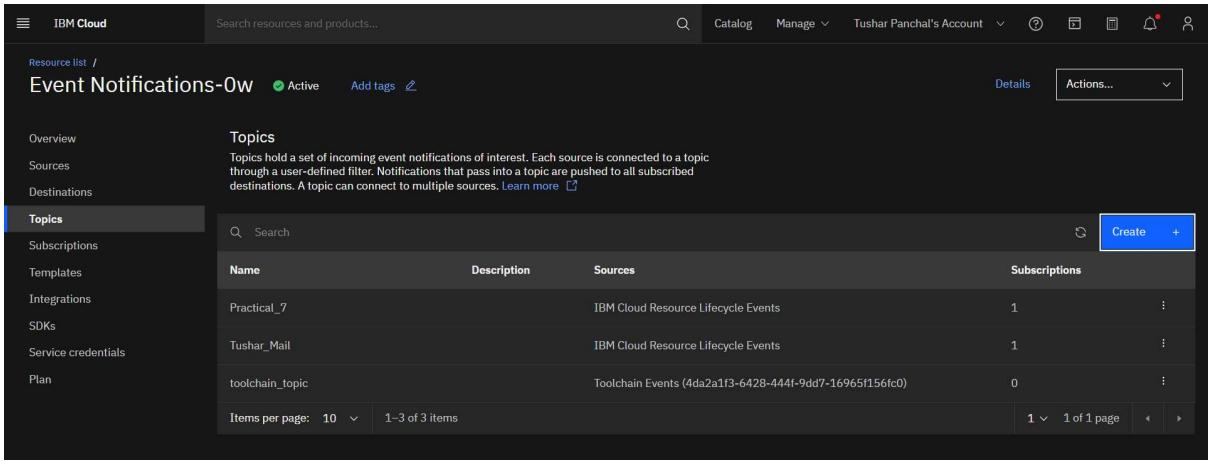


Now we can see the toolchain in Sources of event notification. hit on Enable.

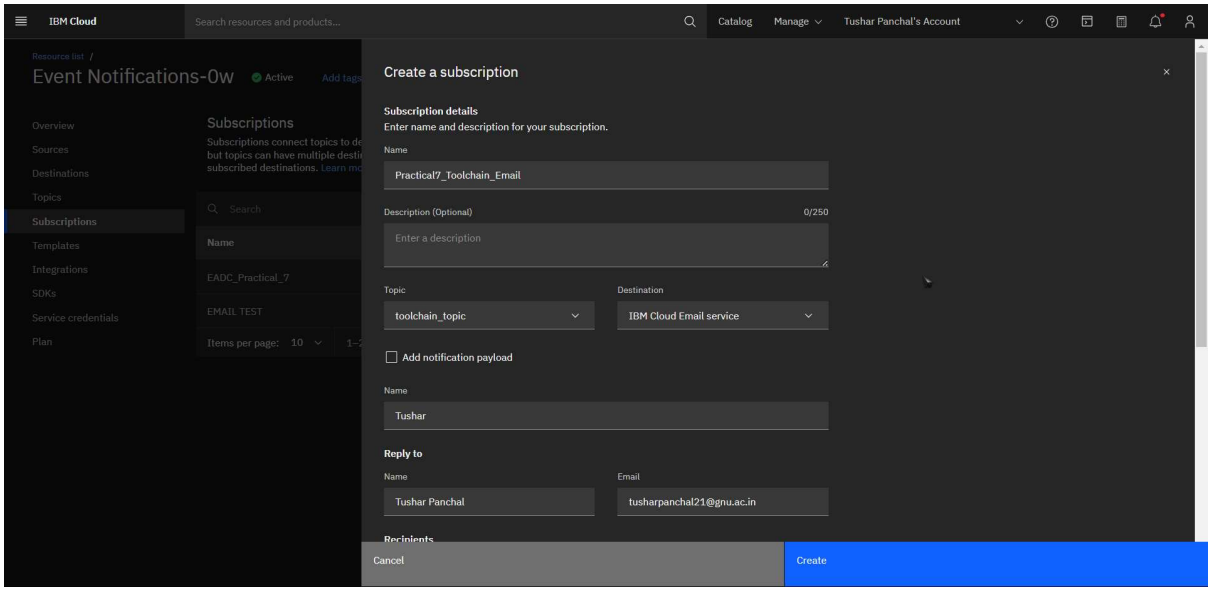


Now we need to create topic in Topics section. The topics can then be subscribed to get notifications

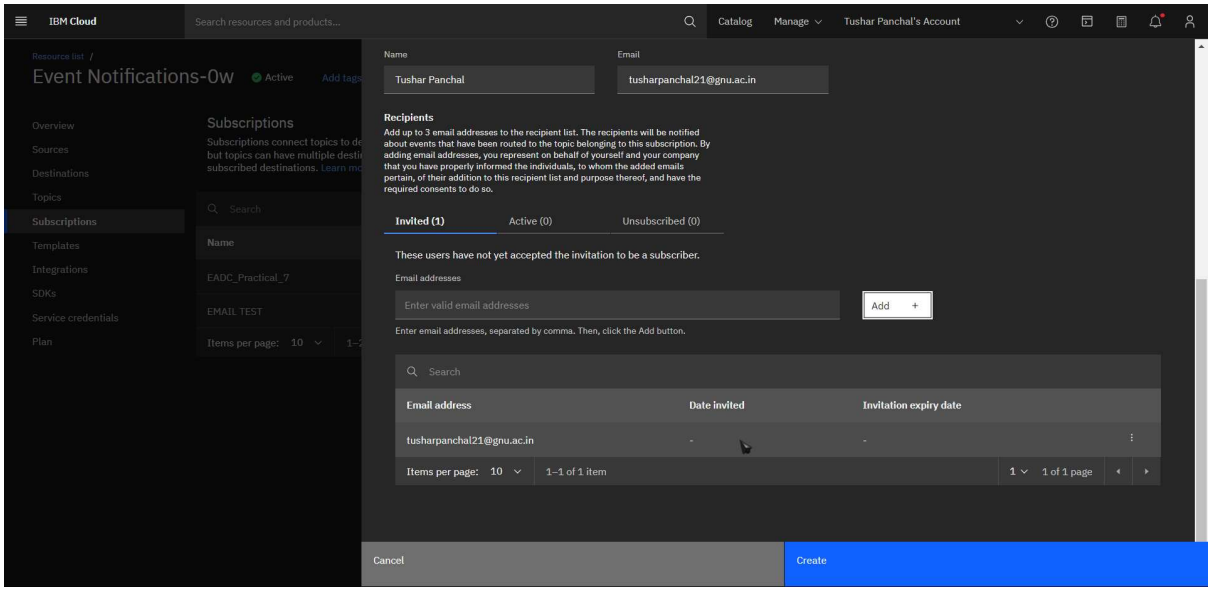




Create a new subscription select toolchain_topic and in destination enter email address:

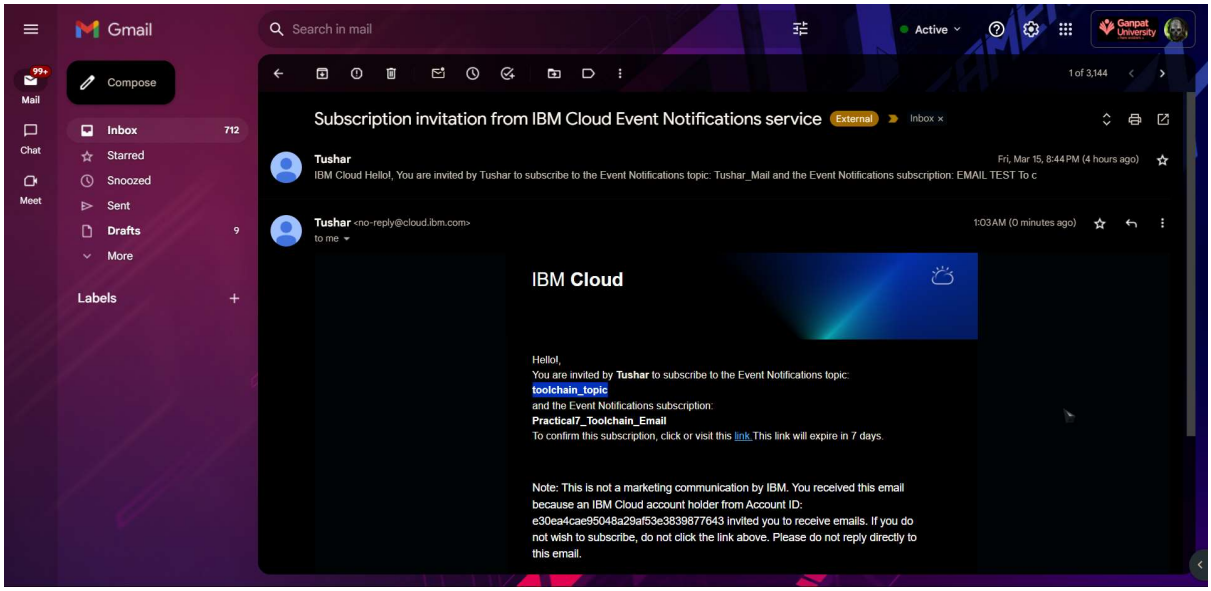


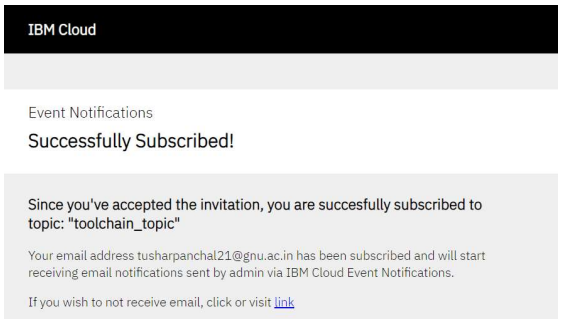
Now we need to give email which will send an confirmation email to get subscription after we create the subscription. Right now the email is in invited section .



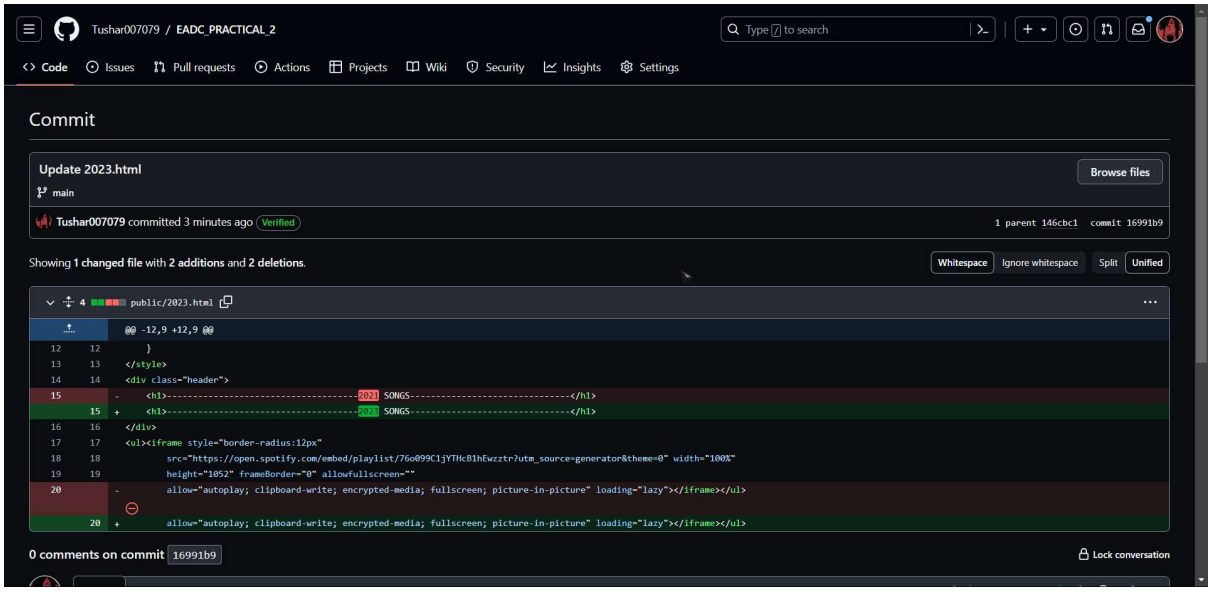
Then you will receive mail to subscribe notification

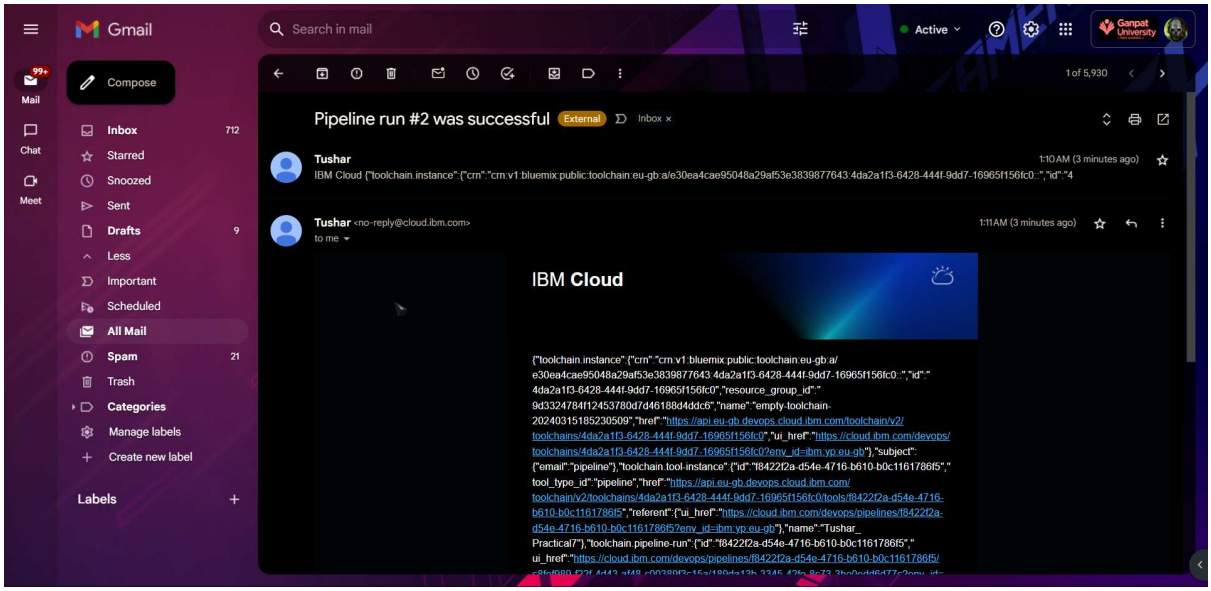
Confirm that by link



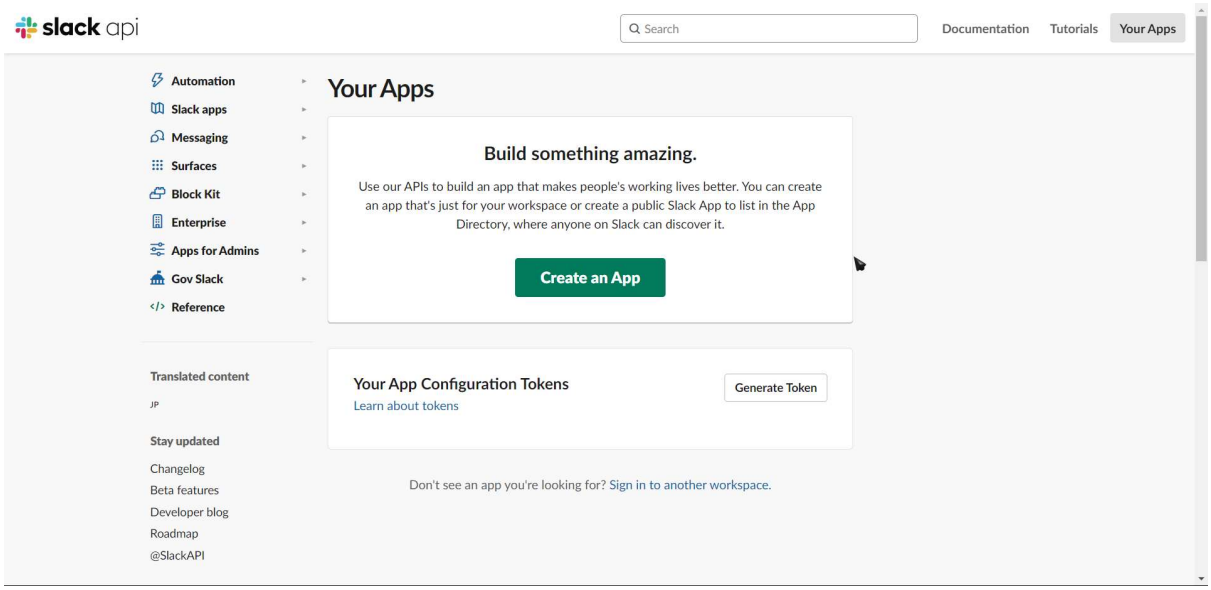


Now we can check the notification service by changing the code in the repository that is connected with the toolchain pipeline.

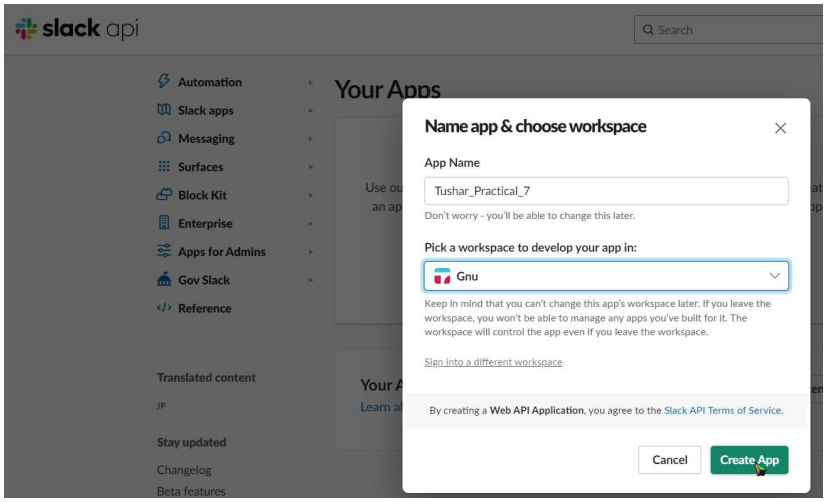




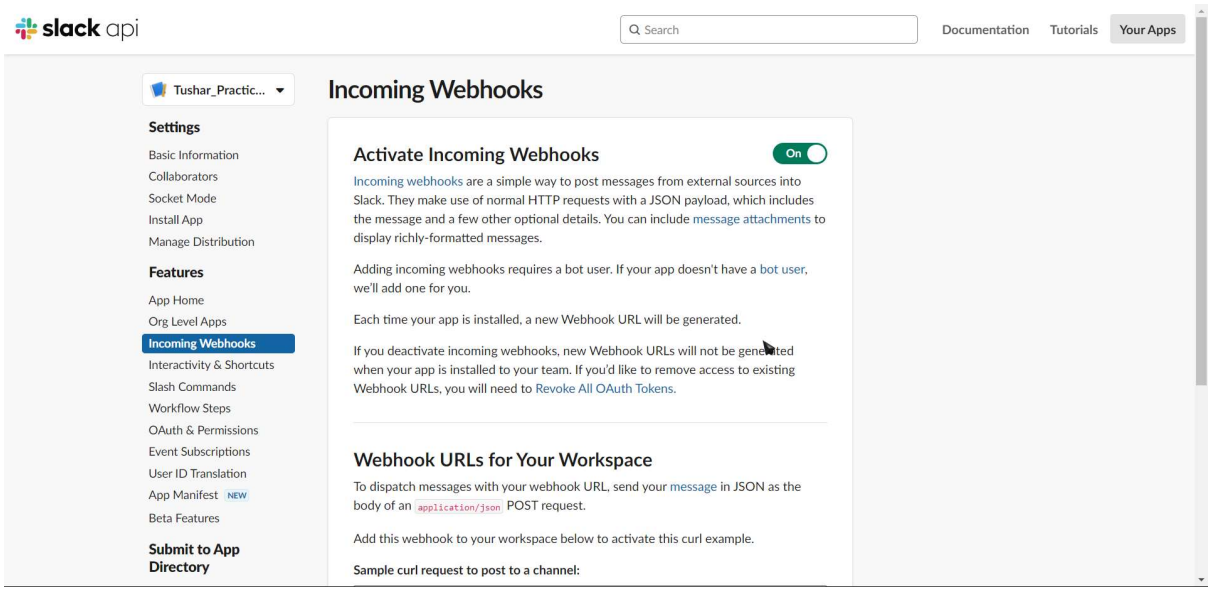
Integrating with slack. Open api.slack.com and select create a new app



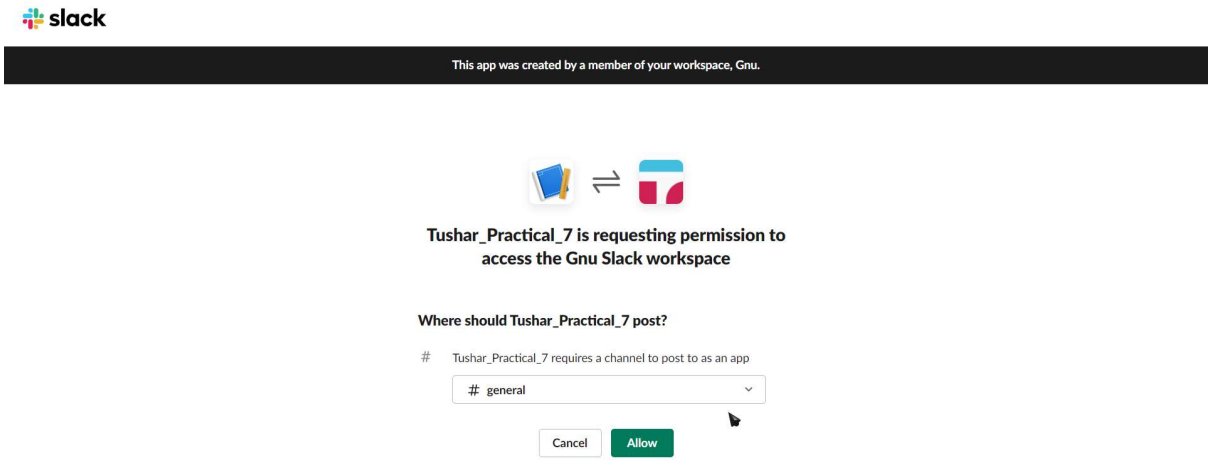
name it and create a new workspace. We also have option to add an existing workspace



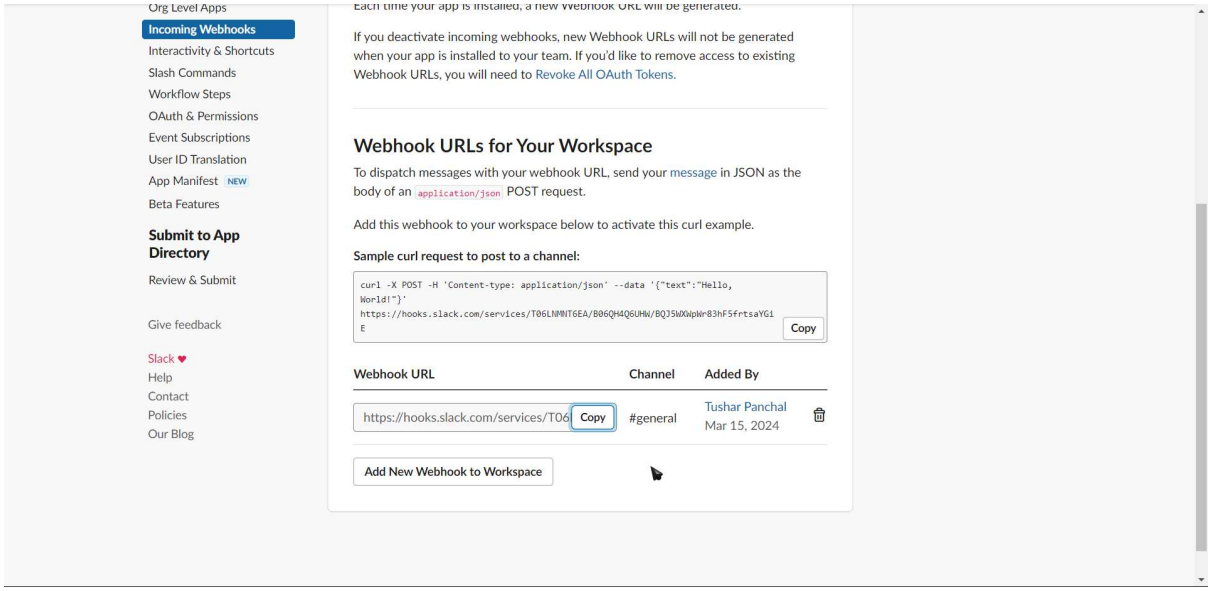
Now activate incoming webhooks which will allows to post messages in slack channels through external sources like IBM Cloud.



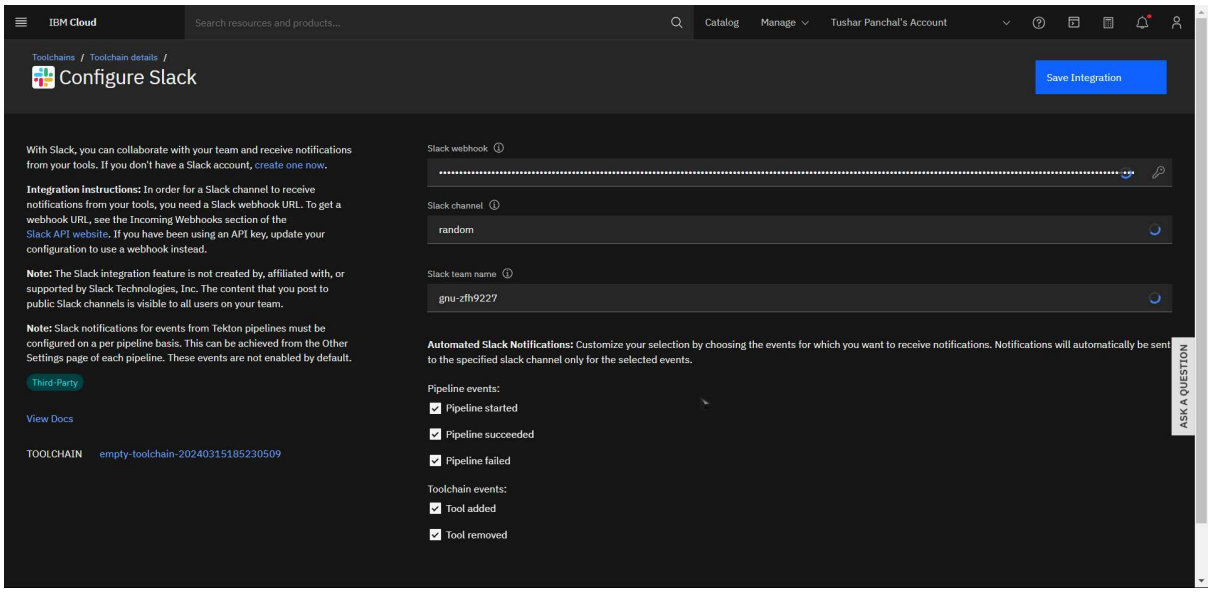
Select a channel or user to send notifications to



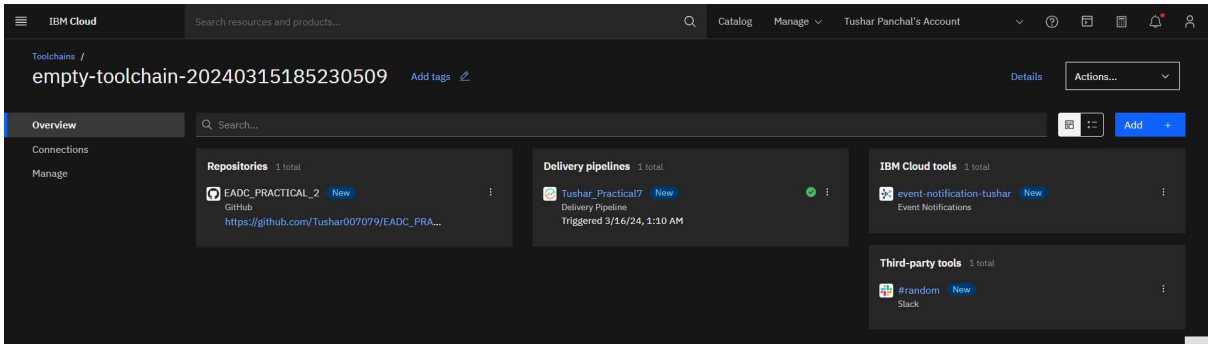
Once successfully completed we will get a webhook URL, copy the URL. we also get a sample curl request if we want to work with APIs directly.



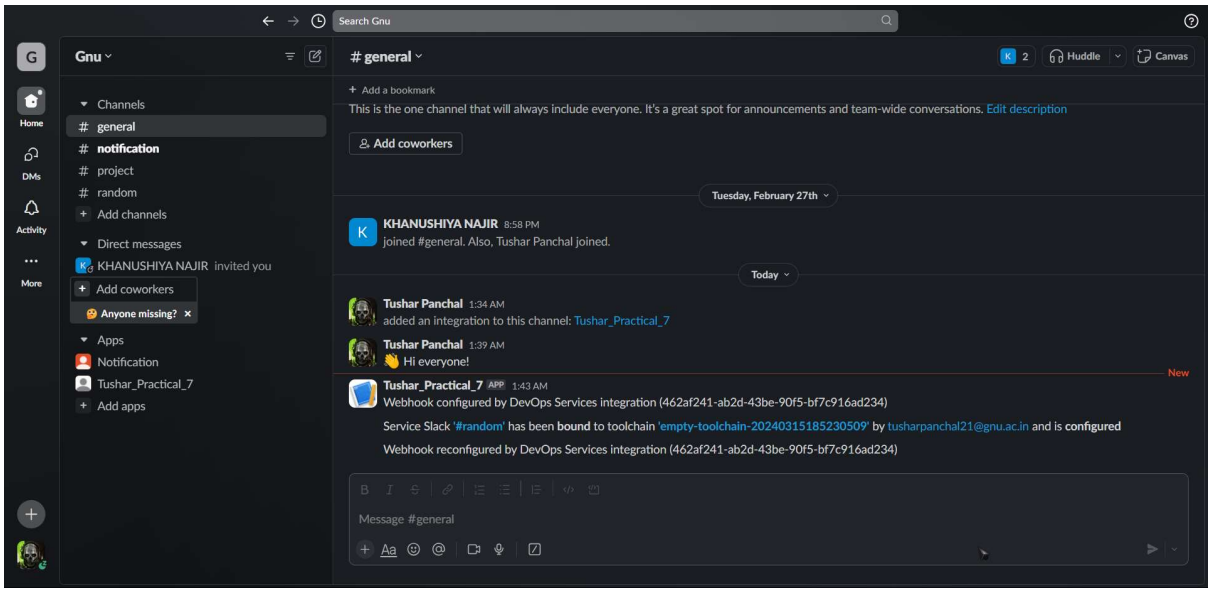
Open the toolchain>add>Slack and write the webhook URL, slack channel and team name.Now Create Integration. We can select here for which pipeline events we want the notifications for. For example if we want notifications for failed pipeline events only then we can only check the pipeline failed option.



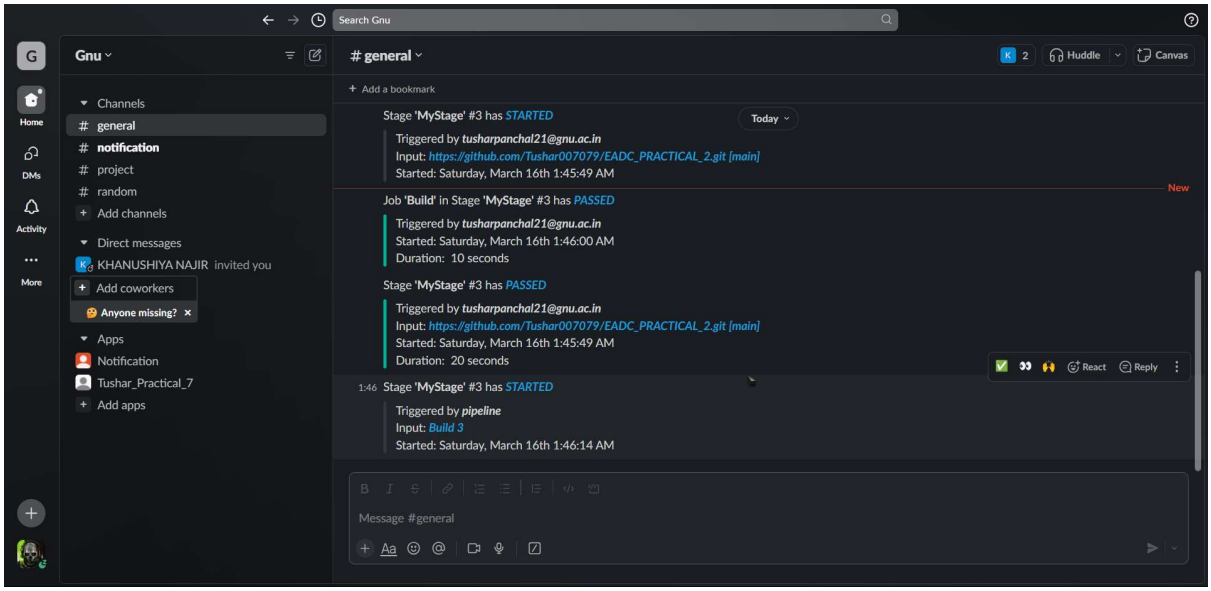
Here we can see in 3rd party tools the channel #random which we selected in slack



Message in the slack channel



The message shows the stage, status of the job and also when it started, how long it took and also some other information.

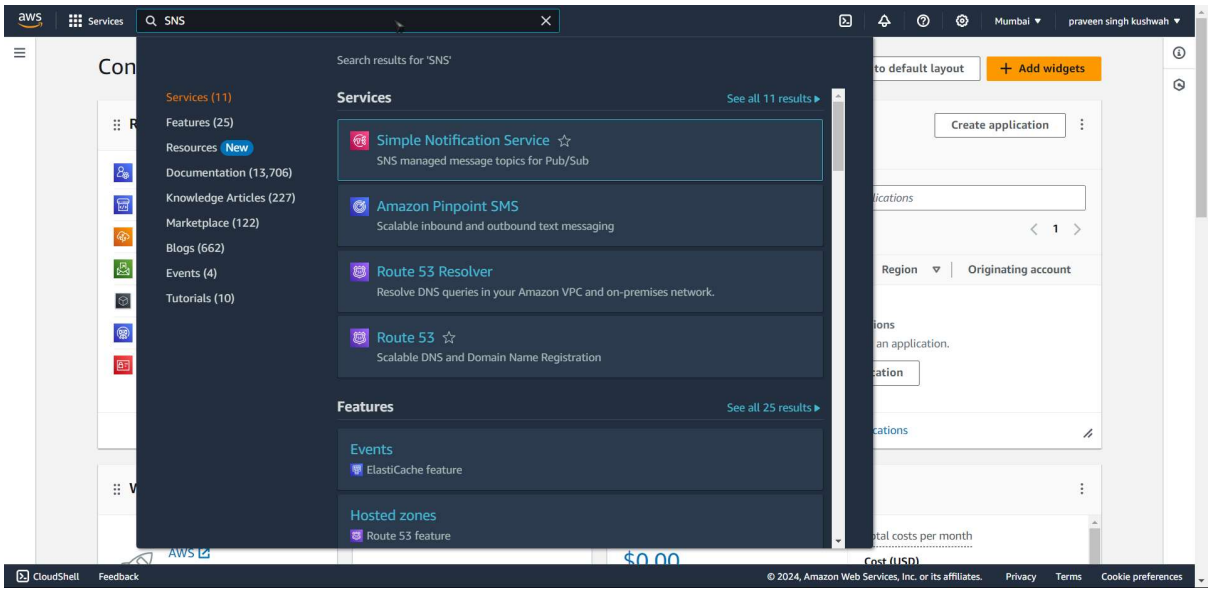


➥ Configuring AWS SNS (For Email).

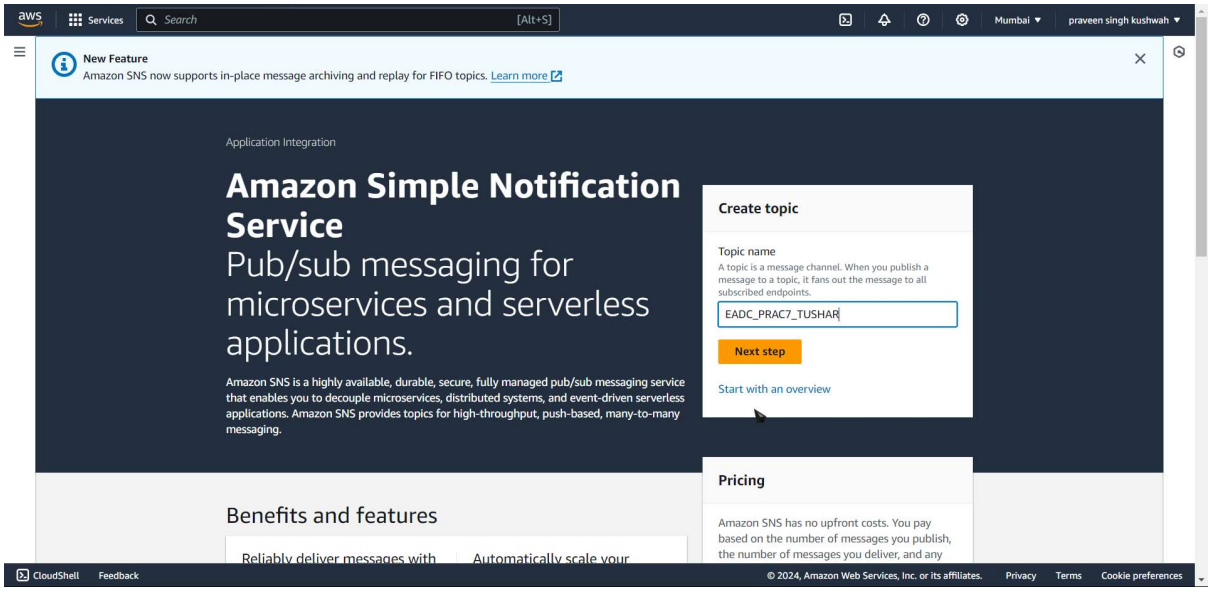
Sign in to the AWS Management console.

Here I'm using Praveen's account because my account has been suspended because of payment issues....

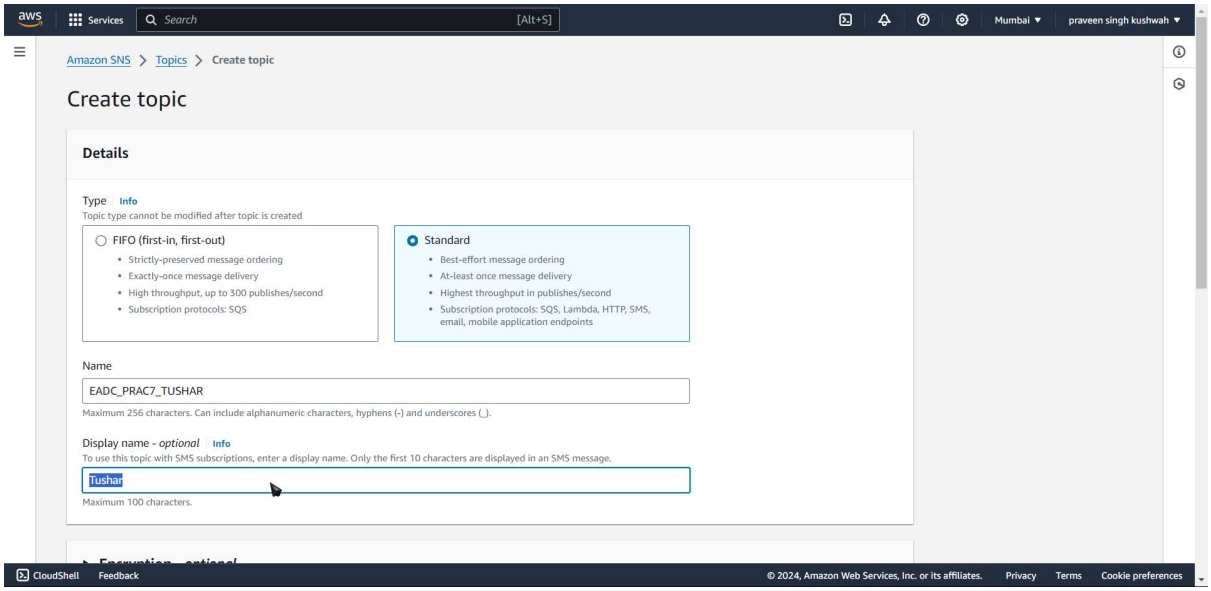
» **Step 1 :** Navigate to the SNS service.



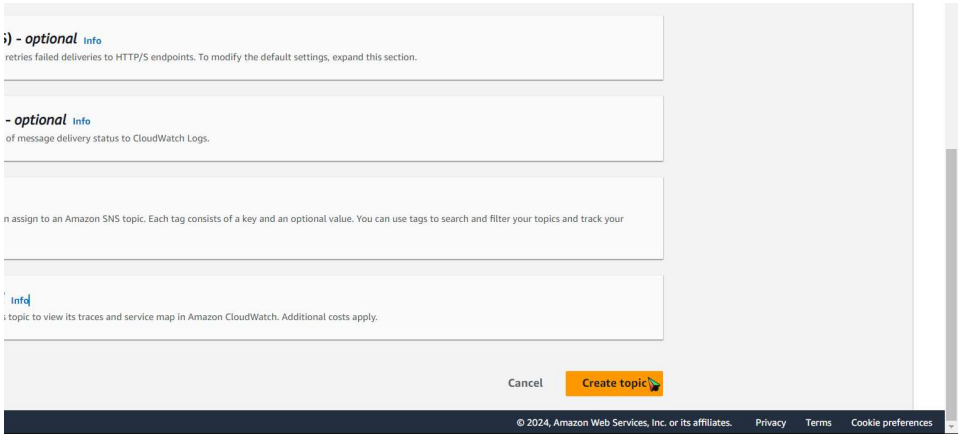
» **Step 2 :** Name it and create a topic.

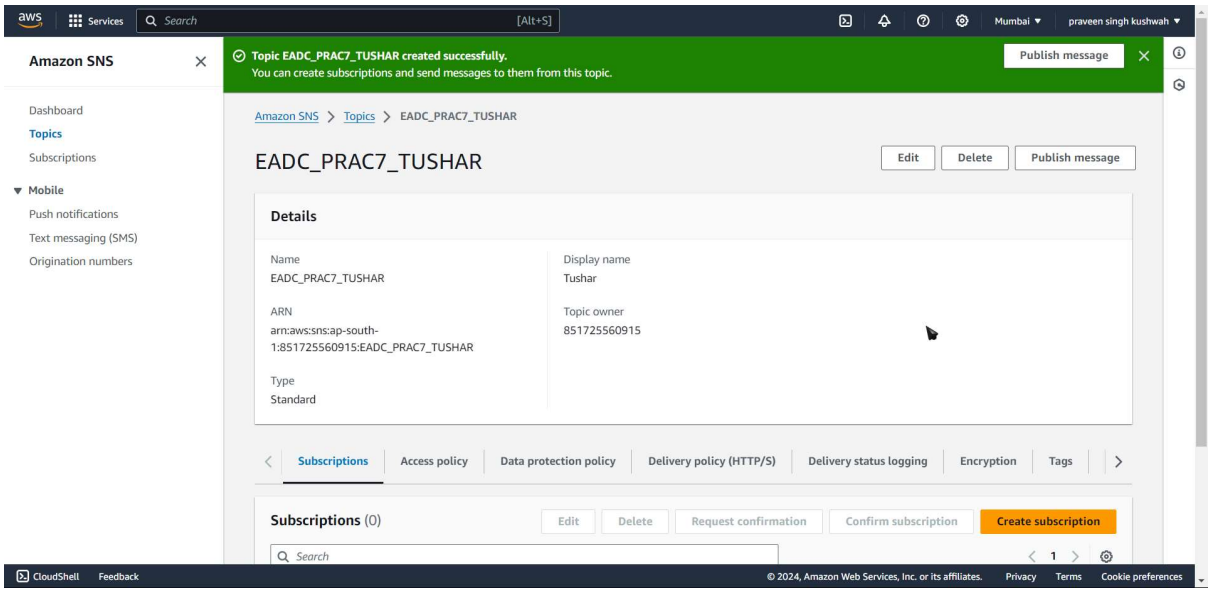


Step 3 : Select standard in type and give display name.

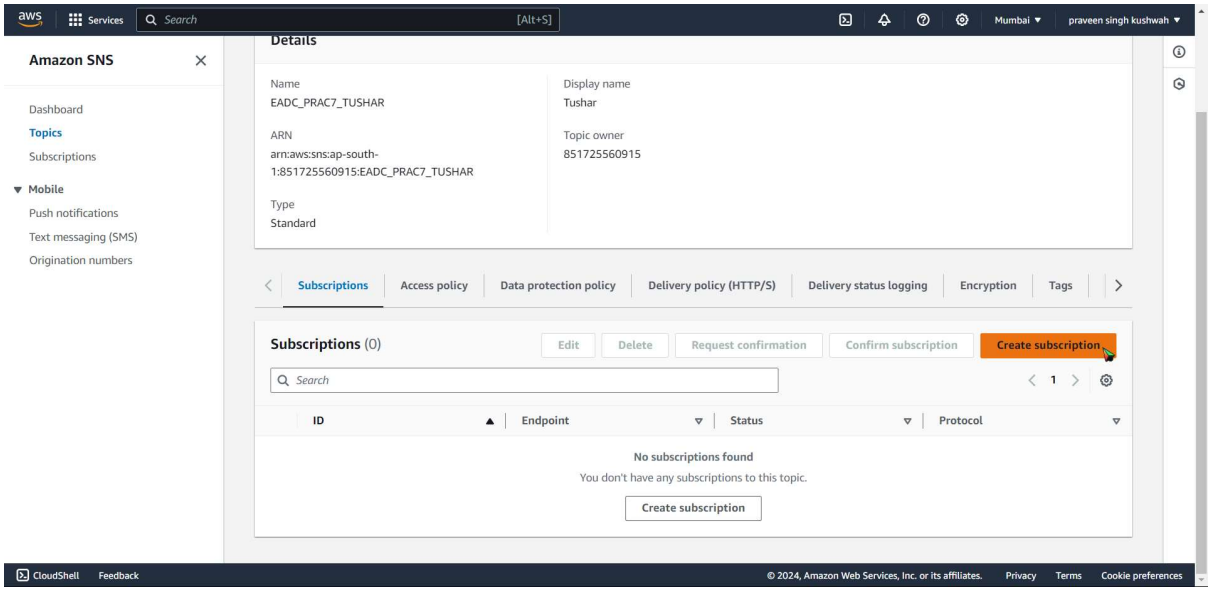


Step 4 : then hit create topic.





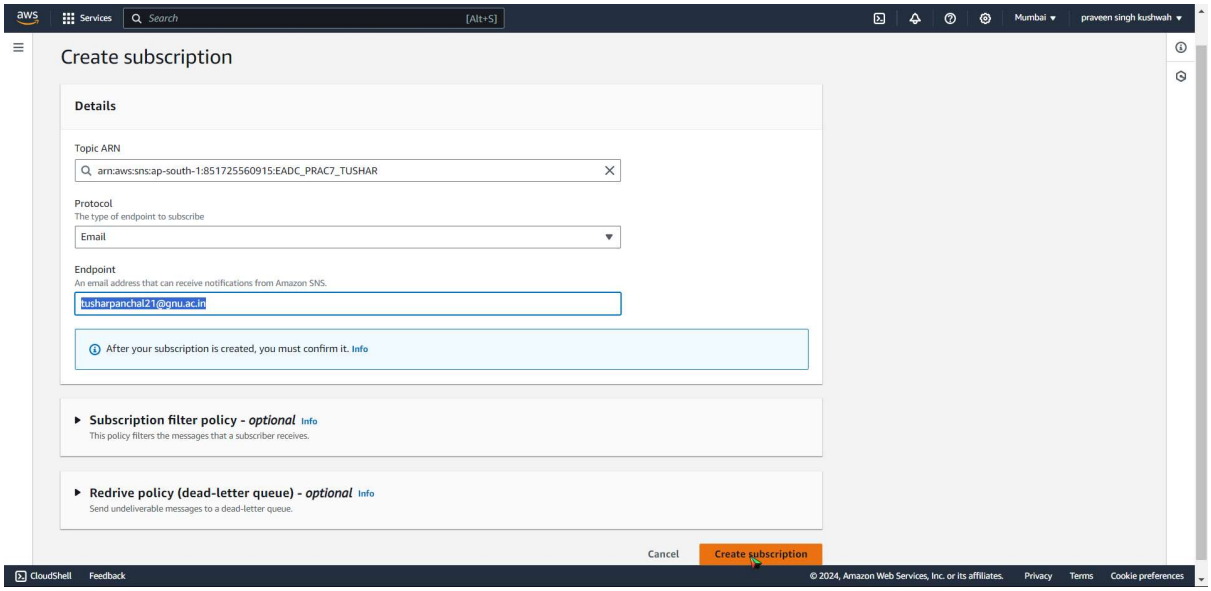
» **Step 5 :** Hit create subscription button.



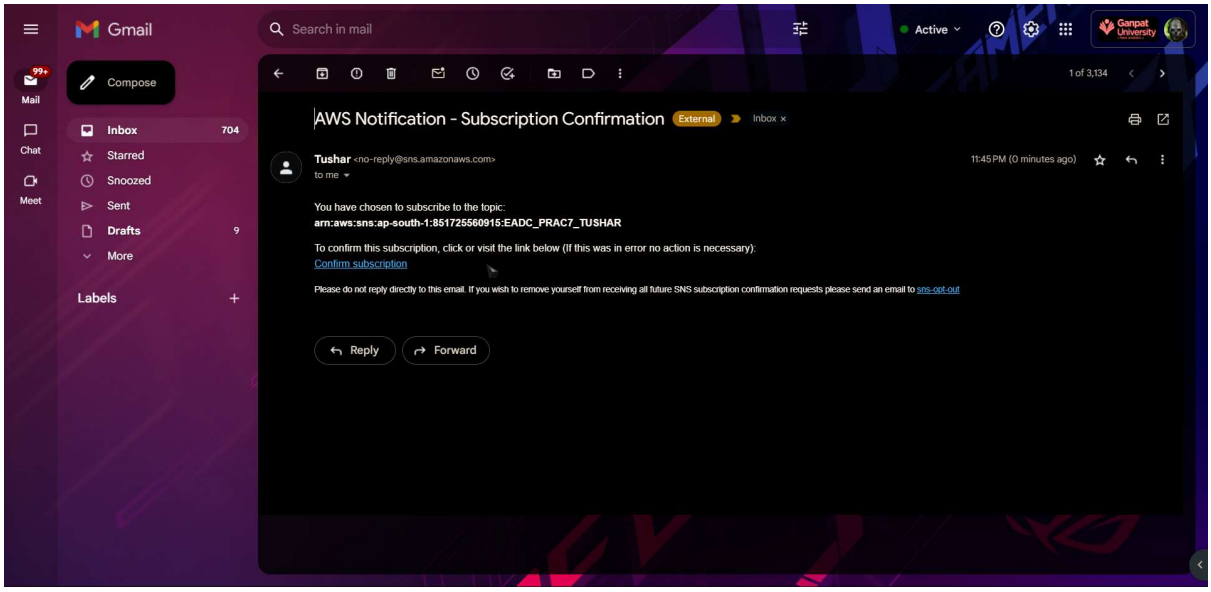
» **Step 6 :** Give endpoint as your mail id to get notification and track activities Left other as default than create.

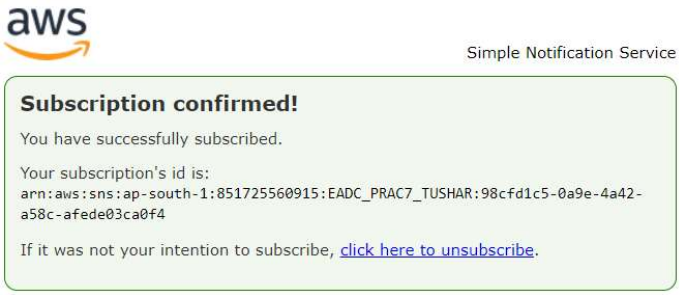
Select email in protocol

And in endpoint enter your email to get notifications



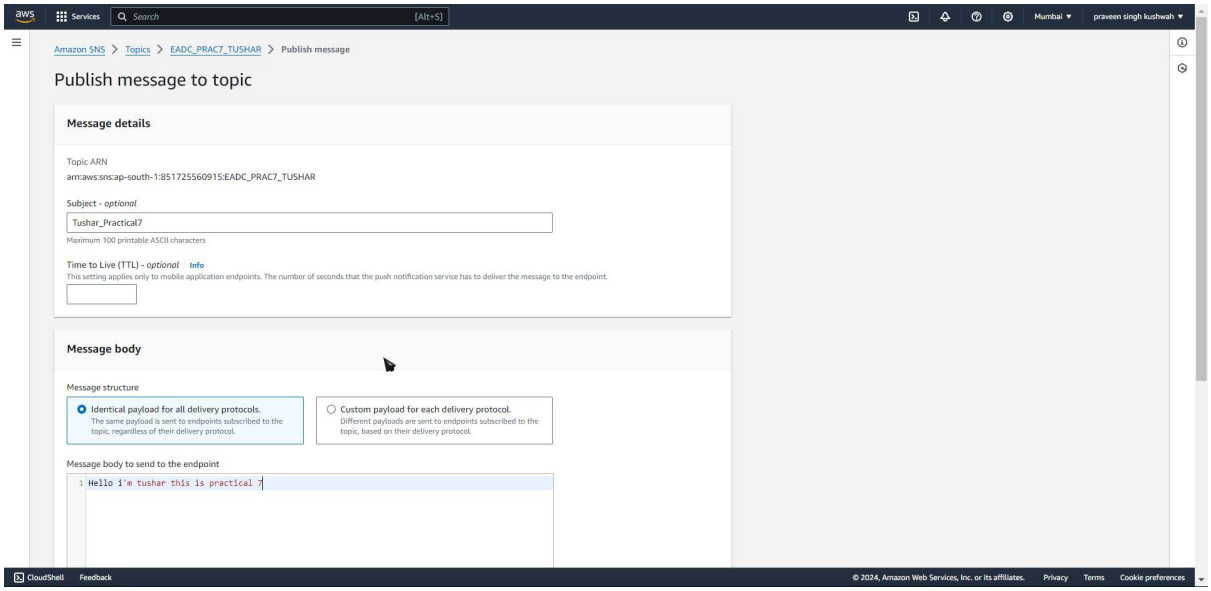
» **Step 7 :** we need to subscribe service from mail to get notifications.



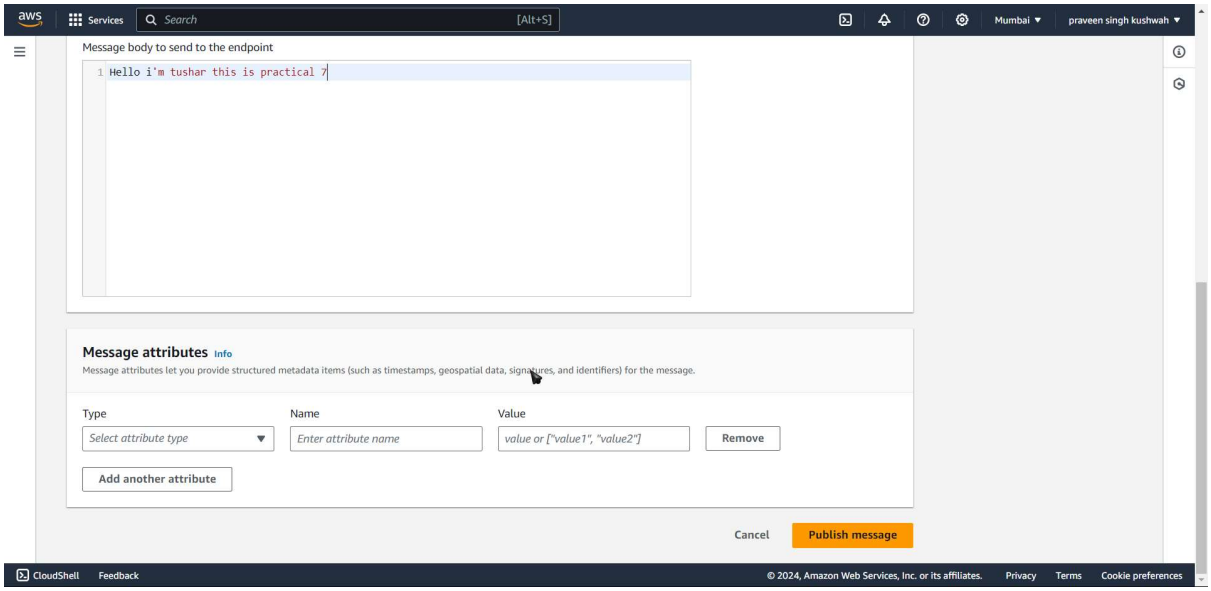


» **Step 8 :** go to publish message to topic and name it Select identical for all delivery protocols.

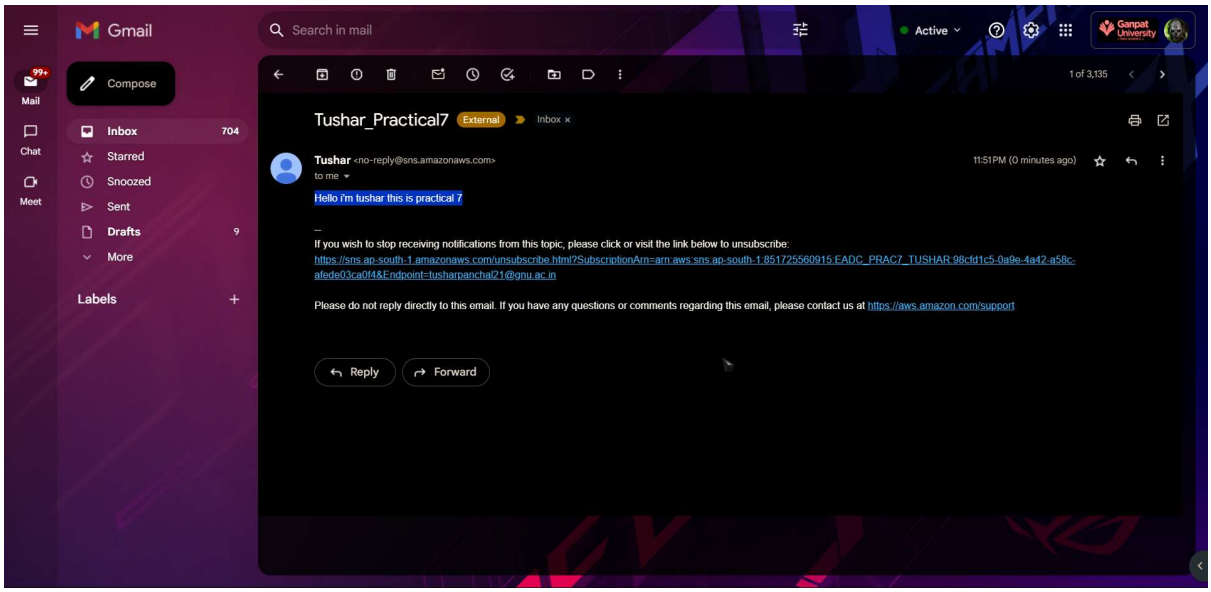
Add message in body to send to the endpoint



» **Step 9 :** publish the message that we added.



As you can see here I got notified that message in email



For some reason I can't add phone number in subscription otherwise I show in practical that how to configure AWS SNS for SMS .....