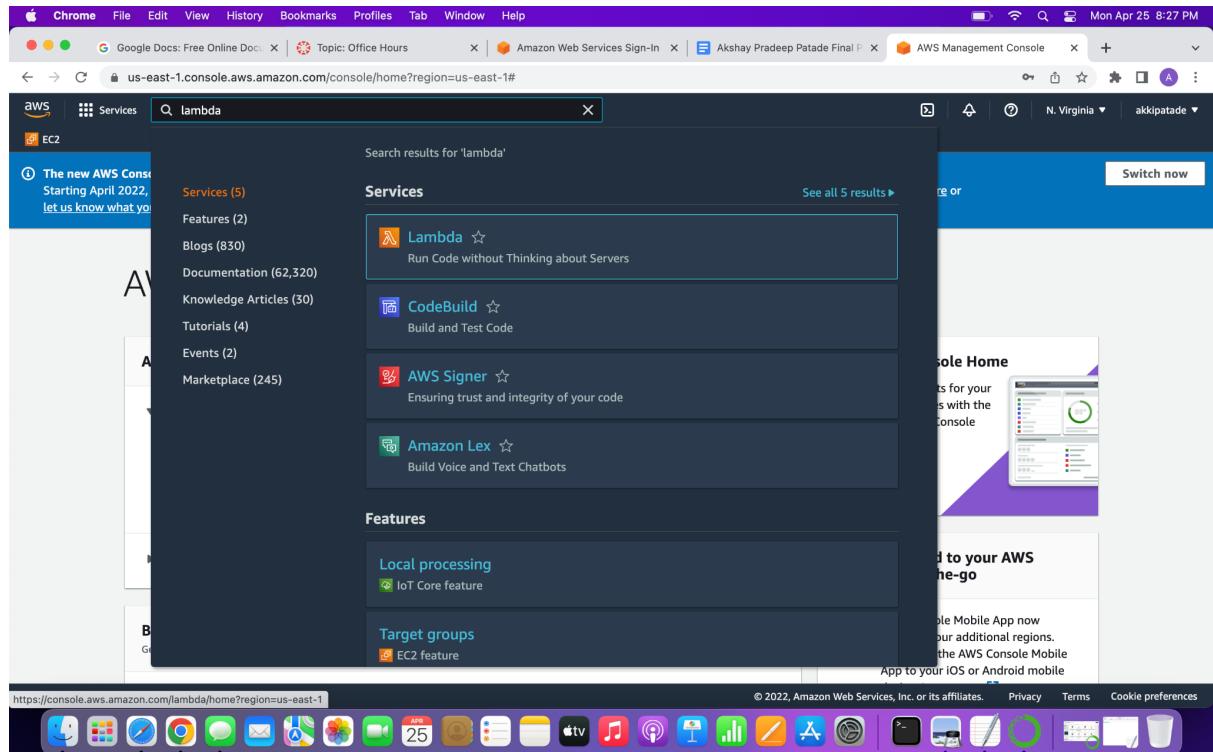


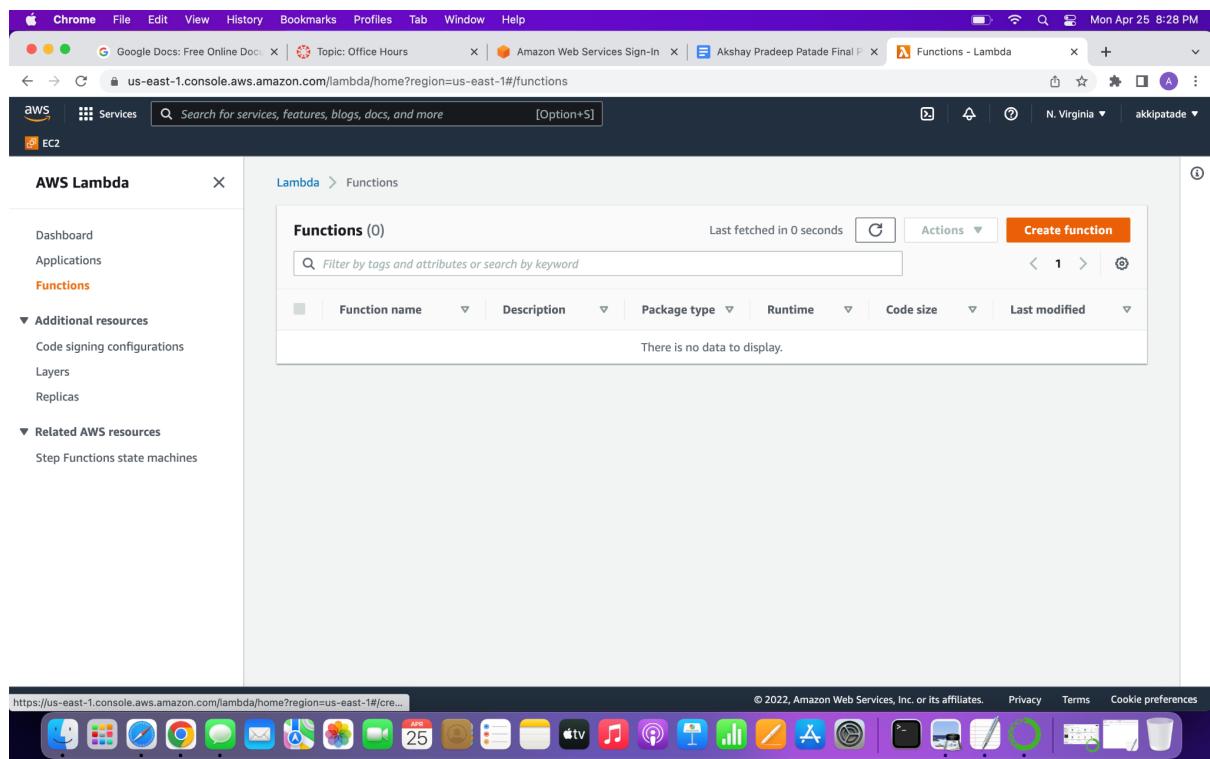
PART A: AWS

Creating a Lambda function named Avengers.

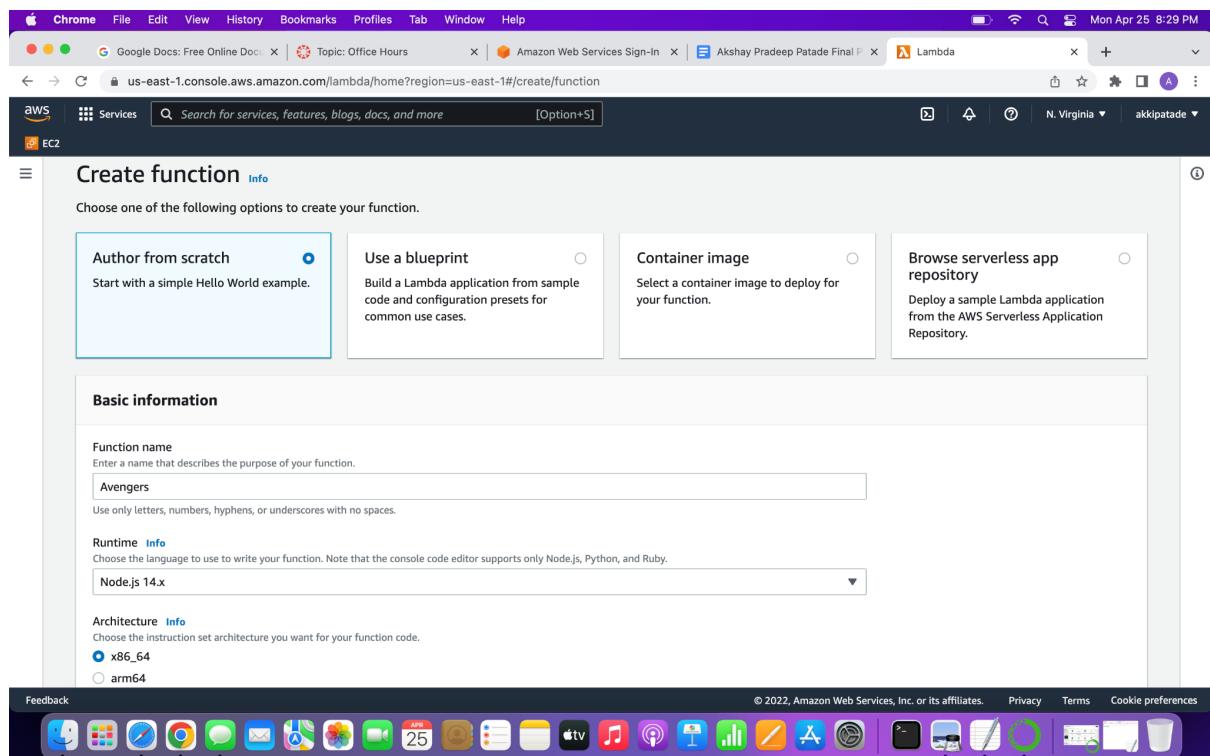
Go to AWS Management Console and search for AWS Lambda.

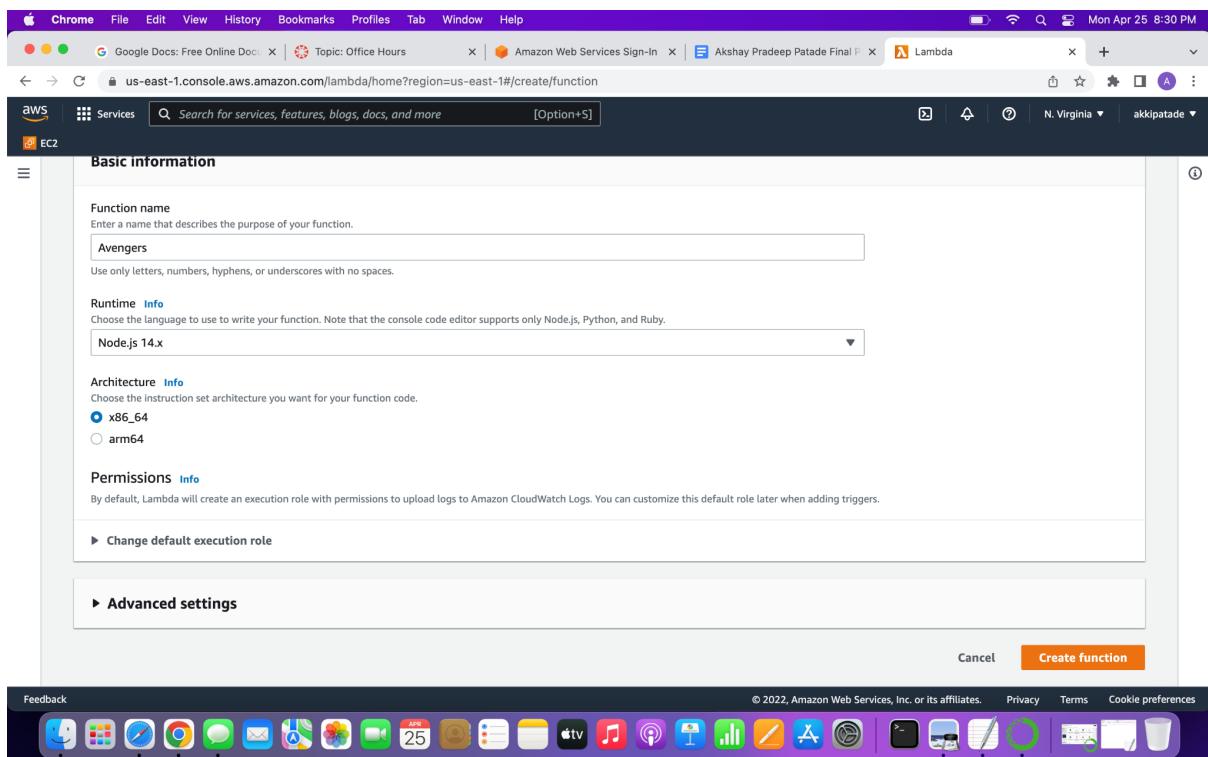


Click on create function button



Fill the below details and press create function button





Function name
Enter a name that describes the purpose of your function.
Avengers
Use only letters, numbers, hyphens, or underscores with no spaces.

Runtime info
Choose the language to use write your function. Note that the console code editor supports only Node.js, Python, and Ruby.
Node.js 14.x

Architecture info
Choose the instruction set architecture you want for your function code.
 x86_64
 arm64

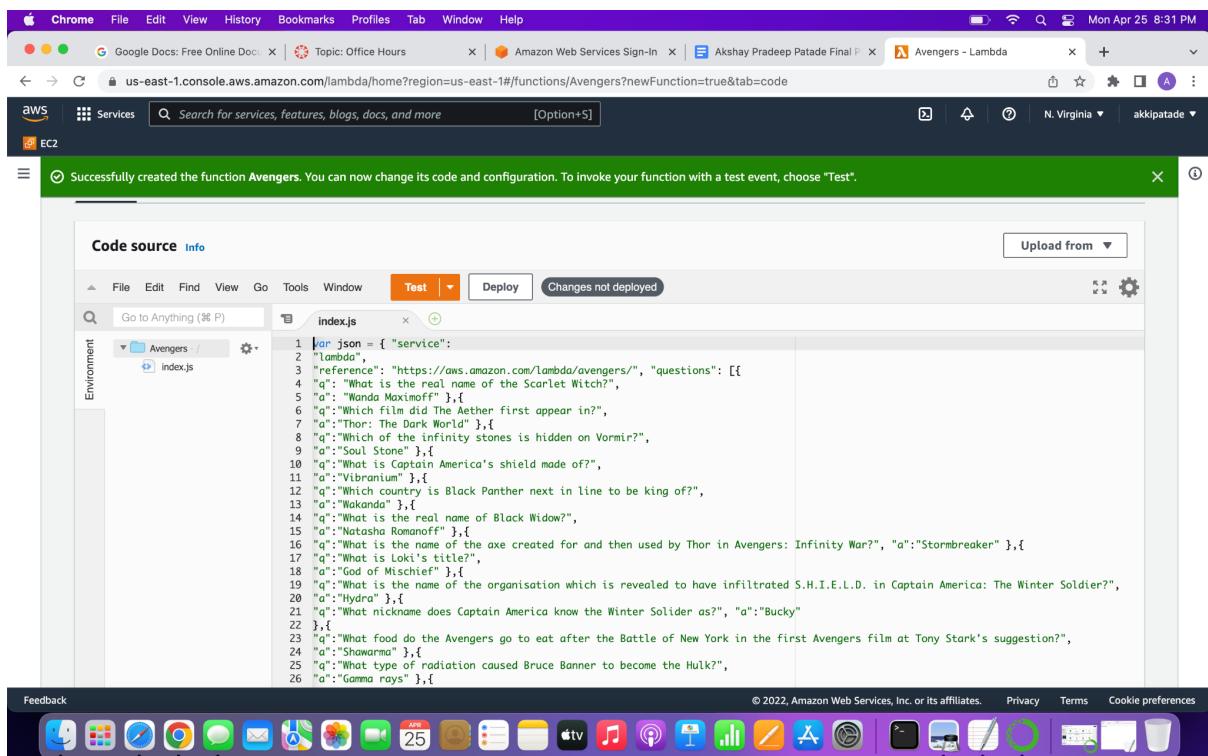
Permissions info
By default, Lambda will create an execution role with permissions to upload logs to Amazon CloudWatch Logs. You can customize this default role later when adding triggers.

▶ Change default execution role

▶ Advanced settings

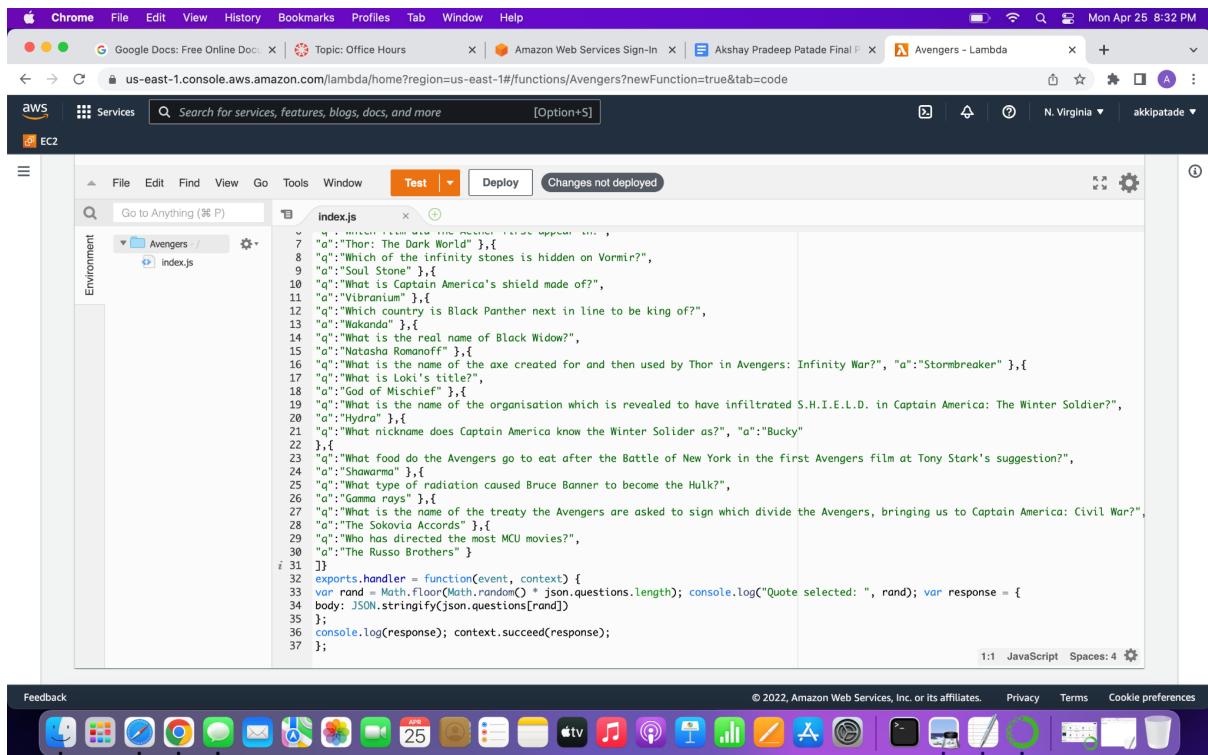
Cancel **Create function**

Once the function is created copy and paste the code in the code source window.

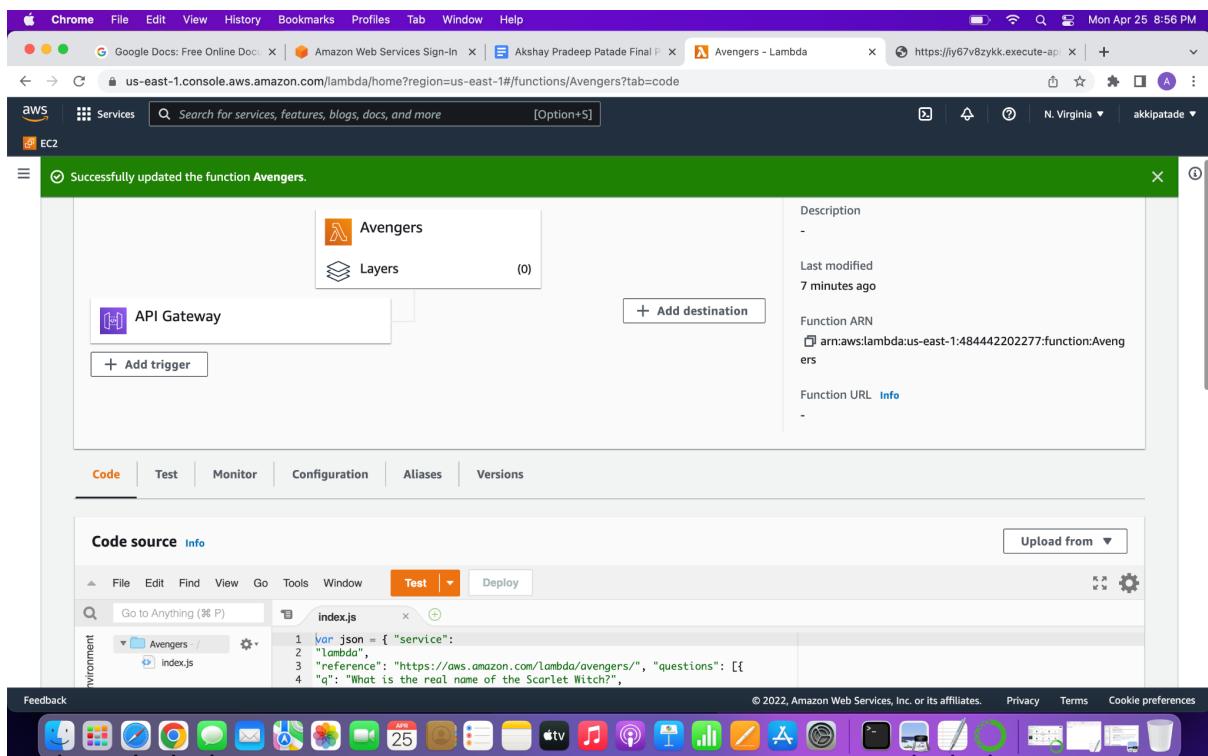


```
var json = { "service": "lambda", "reference": "https://aws.amazon.com/lambda/avengers/", "questions": [ { "q": "What is the real name of the Scarlet Witch?", "a": "Wanda Maximoff"}, { "q": "Which film did The Aether first appear in?", "a": "Thor: The Dark World"}, { "q": "Which of the Infinity stones is hidden on Vormir?", "a": "Soul Stone"}, { "q": "What is Captain America's shield made of?", "a": "Vibranium"}, { "q": "Which country is Black Panther next in line to be king of?", "a": "Nigeria"}, { "q": "What is the real name of Black Widow?", "a": "Natasha Romanoff"}, { "q": "What is the name of the axe created for and then used by Thor in Avengers: Infinity War?", "a": "Stormbreaker"}, { "q": "What is Loki's title?", "a": "God of Mischief"}, { "q": "What is the name of the organisation which is revealed to have infiltrated S.H.I.E.L.D. in Captain America: The Winter Soldier?", "a": "Hydra"}, { "q": "What nickname does Captain America know the Winter Soldier as?", "a": "Bucky"}, { "q": "What food do the Avengers go to eat after the Battle of New York in the first Avengers film at Tony Stark's suggestion?", "a": "Shawarma"}, { "q": "What type of radiation caused Bruce Banner to become the Hulk?", "a": "Gamma rays"} ] }
```

Feedback © 2022, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

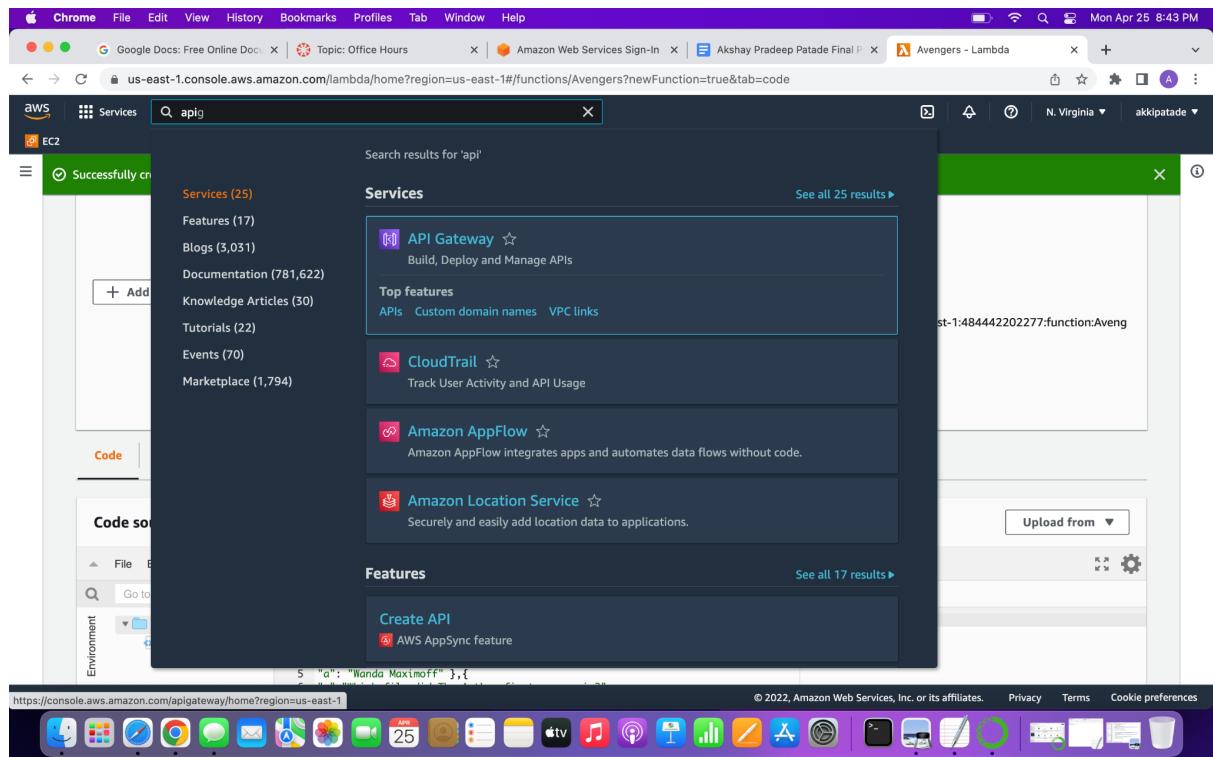


Once the code is pasted in the code source window, hit the deploy button .

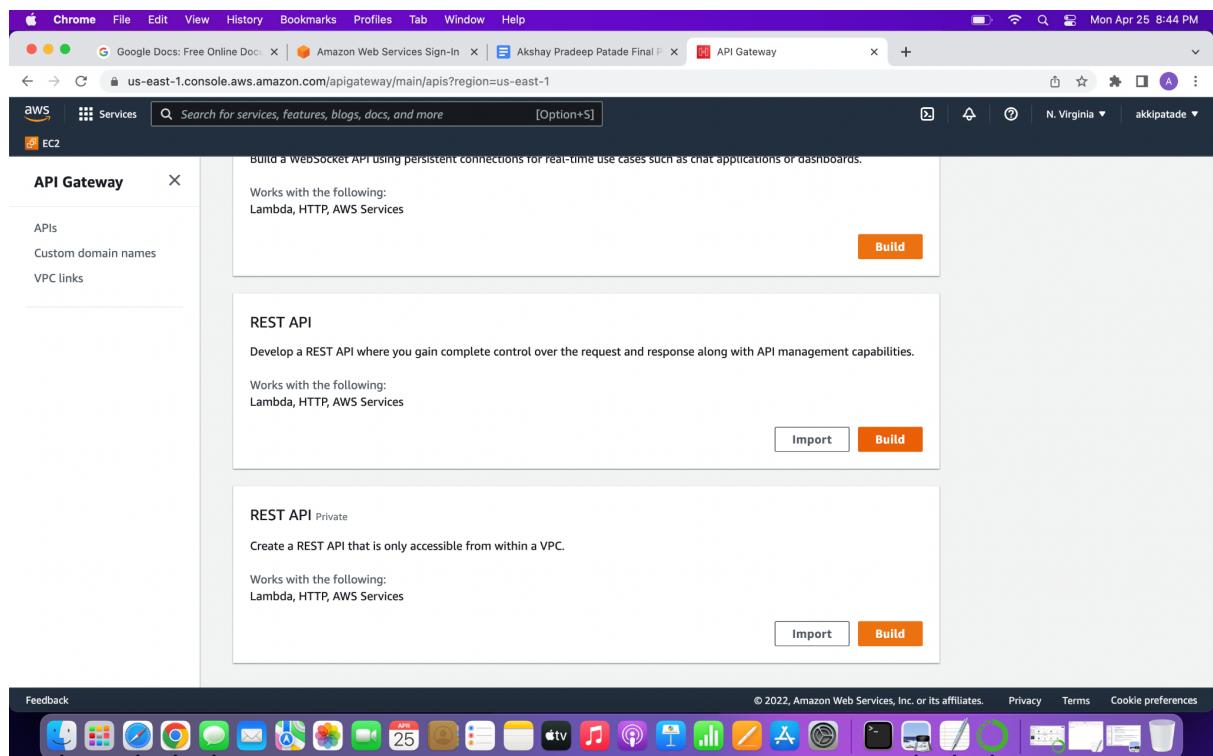


Now it's time to create an Amazon API Gateway.

Search for API gateway in the AWS Management Console.



Here we will select REST API which is not private.



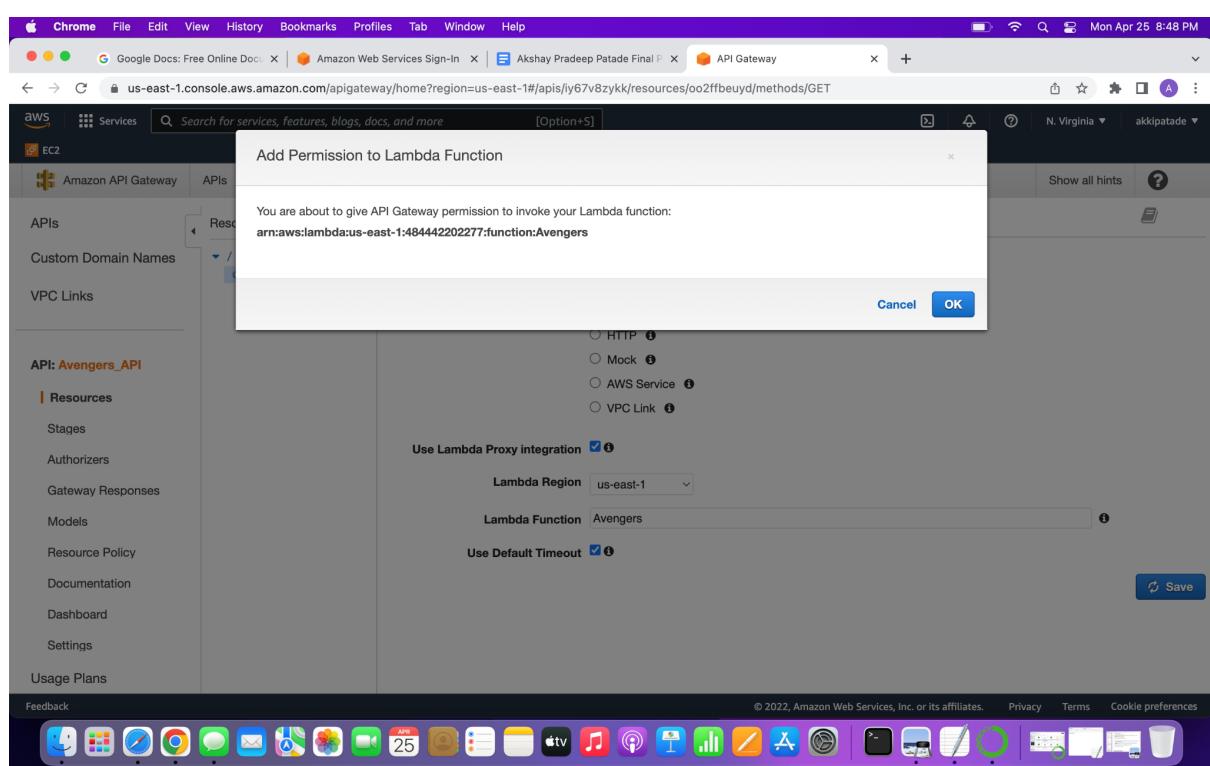
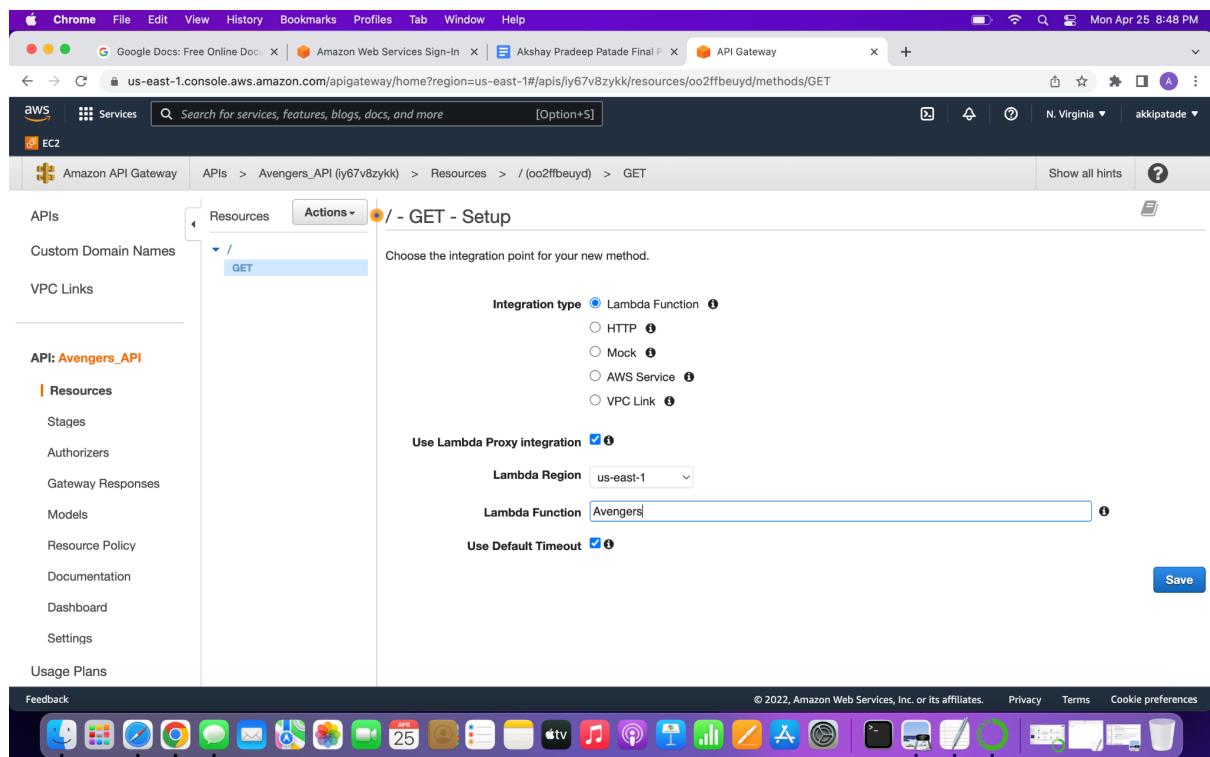
Fill in the below details and hit the Create API button.

The screenshot shows the 'Create new API' page in the AWS API Gateway console. At the top, there's a header with tabs for 'Services' (selected), 'EC2', and 'Amazon API Gateway'. A search bar says 'Search for services, features, blogs, docs, and more [Option+S]'. On the right, it shows 'N. Virginia' and 'akkipatade'. Below the header, the URL is 'us-east-1.console.aws.amazon.com/apigateway/home?region=us-east-1#/apis/create'. The main content area has sections for 'Choose the protocol' (REST selected), 'Create new API' (New API selected), and 'Settings'. In 'Settings', fields include 'API name*' (Avengers_API), 'Description' (Questions and answers related to Avengers), and 'Endpoint Type' (Regional). A note says 'Choose a friendly name and description for your API.' At the bottom right is a 'Create API' button.

Next, we will be Creating a GET method in the API. Click on the Actions dropdown button and select create method.

The screenshot shows the 'Actions' dropdown menu in the AWS API Gateway console. The menu is open over a resource path '/(oo2ffbeuyd)'. It has two sections: 'RESOURCE ACTIONS' (Create Method, Create Resource, Enable CORS, Edit Resource Documentation) and 'API ACTIONS' (Deploy API, Import API, Edit API Documentation, Delete API). The 'Delete API' option is highlighted in red. The left sidebar shows the API structure: APIs, Custom Domain Names, VPC Links, API: Avengers_API (Resources selected), Stages, Authorizers, Gateway Responses, Models, Resource Policy, Documentation, Dashboard, Settings, and Usage Plans. The bottom navigation bar includes links for Feedback, Privacy, Terms, and Cookie preferences.

Fill in the below details and hit the Save button.



Once our API is created, it's time to deploy the API name. Click on the Actions drop-down button and select Deploy API.

The screenshot shows the AWS API Gateway console. On the left, the sidebar lists the API and its resources. In the center, the 'Actions' dropdown for the 'GET /' method is open, showing options like 'Edit Method Documentation', 'Delete Method', 'Create Method', and 'Deploy API'. Below the actions are 'Method Request' and 'Integration Request' sections. The 'Integration Request' section shows 'Type: LAMBDA_PROXY'. To the right, a vertical sidebar is labeled 'Lambda Avengers'.

Fill in the below details and hit the deploy button.

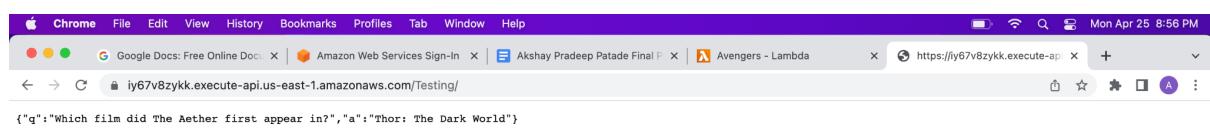
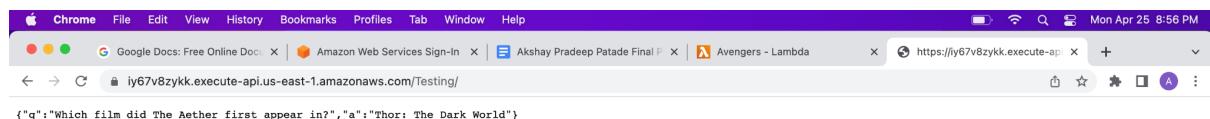
The screenshot shows the 'Deploy API' dialog box overlaid on the API gateway interface. The dialog box asks for a 'Deployment stage' (set to 'New Stage'), a 'Stage name' ('Testing'), a 'Stage description' ('Testing stage'), and a 'Deployment description'. At the bottom right of the dialog box is a blue 'Deploy' button.

Now, it's time to test whether our API gateway is invoking the Lambda function or not. Copy the URL highlighted below and paste it in the web browser and hit enter.

The screenshot shows the AWS API Gateway testing interface. On the left, a sidebar lists the API, Stages, Resources, Authorizers, Gateway Responses, Models, Resource Policy, Documentation, Dashboard, and Settings. The 'Stages' section is currently selected, showing the 'Testing' stage. The main area displays the 'Testing - GET - /' configuration. It includes an 'Invoke URL' field with the value <https://iy67v8zykk.execute-api.us-east-1.amazonaws.com/Testing/>. Below this, there's a note: 'Use this page to override the **Testing** stage settings for the GET to / method.' Underneath, there are two radio button options: 'Settings' (selected) and 'Override for this method'. A 'Save Changes' button is located at the bottom right. The top navigation bar shows tabs for Google Docs, Amazon Web Services Sign-In, Akshay Pradeep Patade Final, and API Gateway. The status bar indicates it's Monday, April 25, 8:54 PM, in N. Virginia.

This screenshot shows a standard Chrome browser window. The address bar has the URL <https://iy67v8zykk.execute-api.us-east-1.amazonaws.com/Testing/>. The search bar below it contains the query 'https://iy67v8zykk.execute-api.us-east-1.amazonaws.com/Testing/ - Google Search'. The top menu bar includes File, Edit, View, History, Bookmarks, Profiles, Tab, Window, Help, and a search bar. The status bar at the bottom shows the date and time as Monday, April 25, 8:54 PM.

This screenshot shows the Google homepage in a Chrome browser. The title bar says 'Google' and the address bar shows the URL <https://iy67v8zykk.execute-api.us-east-1.amazonaws.com/Testing/>. The search bar has the placeholder 'Search Google or type a URL'. Below the search bar are several links: 'Module 01.pdf', '(2) YouTube', 'Sign in to Out...', 'reddit', '(1) WhatsApp', 'Feed', '<https://workd...>', 'Competitive ...', 'Practice', and 'Add shortcut'. The bottom of the screen shows the Mac OS X dock with various application icons like Mail, Safari, and Finder. The status bar at the bottom right says 'Customize Chrome'.



We are getting the question and answer in the window. Our code is successfully working.

Now go to Cloud watch and check the logs.

The screenshot shows the AWS CloudWatch Management Console home page. The left sidebar includes links for Favorites, Dashboards, Alarms, Log groups (selected), Logs Insights, Metrics, X-Ray traces, Events, Application monitoring, Insights, Settings, and Getting Started. The main content area features a blue header bar with the text "Introducing Amazon CloudWatch Metrics Insights - A fast, flexible, SQL based query engine that enables you analyze, group and aggregate your operational metrics at scale in real time." Below this is the "CloudWatch Overview" section, which includes a search bar, time range selector (1h, 3h, 12h, 1d, 1w, Custom), and a "Filter by resource group" dropdown. The "info" tab is selected. The "Get started with CloudWatch" section contains four cards: "Create alarms" (Set alarms on any of your metrics to receive notification when your metric crosses your specified threshold), "Create a default dashboard" (Create and name any CloudWatch dashboard CloudWatch-Default to display it here), "View logs" (Monitor using your existing system, application and custom log files), and "View events" (Write rules to indicate which events are of interest to your application and what automated action to take). Below this is a "Get started with Application Insights" section with a "Configure Application Insights" button. The bottom of the page includes a "Feedback" bar with various icons and standard footer links.

Click on log groups and select the [/aws/lambda/Avengers](#)

The screenshot shows the "Log groups" page within the AWS CloudWatch Management Console. The left sidebar is identical to the previous screenshot. The main content area displays a table titled "Log groups (1)". It shows one log group entry: "/aws/lambda/Avengers" with a retention period of "Never expire". The table includes columns for "Log group", "Retention", "Metric filters", "Contributor Insights", and "Subscription filters". There are "Actions" and "Create log group" buttons at the top right of the table. The bottom of the page includes a "Feedback" bar with various icons and standard footer links.

The screenshot shows a Chrome browser window with multiple tabs open. The active tab is the AWS CloudWatch Management Console, specifically the Log groups section for the /aws/lambda/Avengers function. The sidebar on the left is collapsed, showing 'Log groups' as the selected category. The main content area displays a table of log events with columns for 'Timestamp' and 'Message'. The messages show various API requests and their responses, including one where a quote was selected and another where a random question and answer were returned. The bottom of the screen shows the Mac OS Dock with various application icons.

Conclusion:

We first create an AWS lambda function which we used to return the random question and answer to the user.

In order to get and send the response to the user, we have to create an API gateway which in this case we create Amazon API Gateway. This API gateway accepts the request from the user's browser (HTTP GET request) and directs this request to the AWS Lambda. The AWS lambda accepts this request and sends the random question and the answers in the JSON format to the API Gateway. Finally, the API Gateway sends the Response to the user's browser.

PART B: SALESFORCE

1. Creating Custom field on Accounts Object

Search for the Accounts in the search bar and click on the fields button.

Scroll down below to Account Custom Fields & Relationships and click on the new button

We will create a new account field now.

The screenshot shows the Salesforce Lightning Experience interface. The top navigation bar includes links for Home, Chatter, Libraries, Content, Subscriptions, Student Information, and a search bar. A banner at the top says "It's Better in Lightning" and "Move to Lightning Experience and give your users a productivity boost." Below the banner, the main content area is titled "Account New Custom Field". The first step, "Step 1. Choose the field type", is displayed. It asks to specify the type of information the custom field will contain. Under "Data Type", there are five options: "None Selected" (selected), "Auto Number", "Formula", "Roll-Up Summary", "Lookup Relationship", "External Lookup Relationship", and "Checkbox". The "Checkbox" option is described as allowing users to select a True (checked) or False (unchecked) value. The right side of the screen shows a sidebar with the "Lightning Experience Transition Assistant" and a "Salesforce Mobile Quick Start" section.

Fill in the below details.

The screenshot shows the continuation of the Salesforce Lightning Experience setup process. The top navigation bar and banner are identical to the previous screenshot. The main content area is now titled "Step 2. Enter the details". It contains fields for "Field Label" (set to "Field Update"), "Default Value" (set to "Checked"), "Field Name" (set to "Field_Update"), "Description" (empty), and "Help Text" (empty). There is also a checkbox for "Auto add to custom report type" which is checked, and another checkbox for "Add this field to existing custom report types that contain this entity" which is also checked. Navigation buttons for "Previous", "Next", and "Cancel" are visible at the bottom of the form.

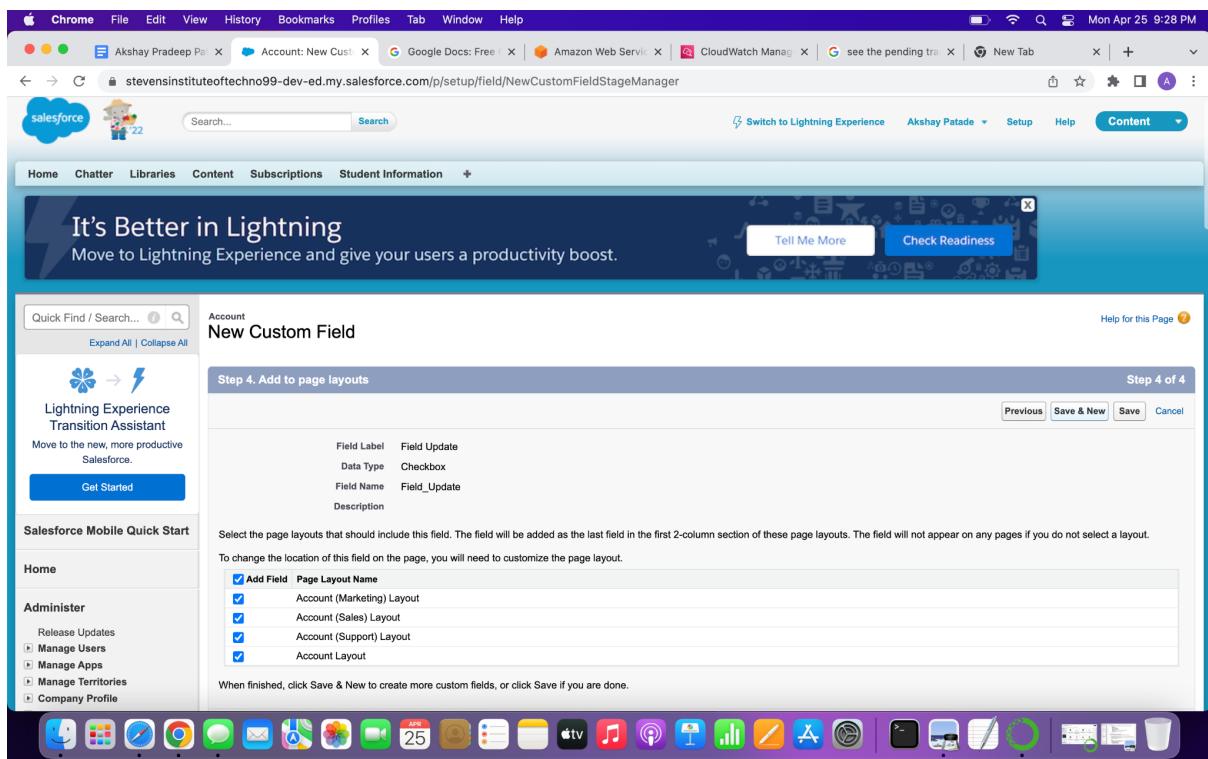
Click on the visible checkbox and click on next.

The screenshot shows a Mac desktop with a browser window open to the Salesforce setup page. The title bar reads "Mon Apr 25 9:27 PM". The browser tabs include "Akshay Pradeep Pai", "Account: New Cust", "Google Docs: Free", "Amazon Web Service", "CloudWatch Manager", "see the pending tra", and "New Tab". The main content area is titled "It's Better in Lightning" with a sub-header "Move to Lightning Experience and give your users a productivity boost." A "Check Readiness" button is visible. The central form is titled "Account New Custom Field" and is on "Step 2 of 4". It asks for "Field Label" (set to "Field Update"), "Default Value" (radio button selected for "Unchecked"), "Field Name" (set to "Field_Update"), and "Description" (empty). There is also a "Help Text" section. A checkbox "Add this field to existing custom report types that contain this entity" is checked. Navigation buttons "Previous", "Next", and "Cancel" are at the bottom right.

Click on next

The screenshot shows the same Mac desktop and browser setup as the previous image. The main content area is titled "Account New Custom Field" and is on "Step 3 of 4". It displays the field details again: "Field Label" (Field Update), "Data Type" (Checkbox), "Field Name" (Field_Update), and "Description" (empty). Below this, it says "Select the profiles to which you want to grant edit access to this field via field-level security. The field will be hidden from all profiles if you do not add it to field-level security." A table titled "Field-Level Security for Profile" lists profiles: Analytics Cloud Integration User, Analytics Cloud Security User, Authenticated Website, Authenticated Website, Contract Manager, and Cross Org Data Proxy User. For each profile, there are checkboxes for "Visible" (checked) and "Read-Only" (unchecked). Navigation buttons "Previous", "Next", and "Cancel" are at the bottom right.

Click on the Save button.



2. Creating Apex trigger on Contact Object

Search for contacts and click on Triggers

It's Better in Lightning
Move to Lightning Experience and give your users a productivity boost.

Account Fields

This page allows you to specify the fields that can appear on the Account page. You can create up to 500 Account custom fields.

Note that deleting a custom field will delete any filters that use the custom field. It may also change the result of Assignment or Escalation Rules that rely on the custom field data.

Action	Field Label	Field Name	Data Type	Controlling Field	Indexed
Edit	Account Name	Name	Name		✓
Edit	Account Number	AccountNumber	Text(40)		
Edit	Account Owner	Owner	Lookup(User)		✓
Edit	Account Site	Site	Text(80)		
Replace Edit	Account Source	AccountSource	Picklist		
Edit	Annual Revenue	AnnualRevenue	Currency(18, 0)		
	Billing Address	BillingAddress	Address		
Edit	Clean Status	CleanStatus	Picklist		✓
	Created By	CreatedBy	Lookup(User)		
Edit	D&B Company	DandbCompany	Lookup(D&B Company)		✓
Edit	Data.com Key	Jigsaw	Text(20)		
Edit	Description	Description	Long Text Area(32000)		
Edit	D-U-N-S Number	DunsNumber	Text(9)		
Edit	Einstein Account Tier	Tier	Text(2)		
Edit	Employees	NumberOfEmployees	Number(8, 0)		
	Fax	Fax	Fax		

Click on the new button.

It's Better in Lightning
Move to Lightning Experience and give your users a productivity boost.

Contact Triggers

Define the Apex triggers for Contacts here.

Triggers	New
No triggers defined	

Paste the code in the source window.

The screenshot shows a Mac desktop with a Chrome browser window open to the Salesforce setup page. The URL in the address bar is stevensinstituteoftechno99-dev-ed.my.salesforce.com/setup/build/editApexTrigger.apexp?retURL=%2Fp%2Fsetup%2Flayout%2FApexTriggerList&entity=Contact. The page title is "Apex Trigger". The main content area shows the Apex trigger code:

```

trigger updateAccount on Contact (after insert, after update) {
    Set<String> accID = New Set<String> ();
    For (Contact con: Trigger.new) { if (con.AccountId != Null) {
        accID.add (con.AccountId);
    }
    If (accID.size () > 0) {
        List<Account> upAccList = new List<Account> (); For (Account ac:
        [SELECT Id, Field_Update__c FROM Account
        WHERE id in: AccID
        AND Field_Update__c != True]) { ac.Field_Update__c = true;
        UpAccList.add (ac); }
        If (upAccList.size ()> 0) update upAccList;
    }
}

```

Click on the save button

The screenshot shows the same Mac desktop and browser setup as the previous one, but now the trigger has been saved. The "updateAccount" trigger is listed in the "Triggers" section of the Apex Trigger Detail page. The status is shown as "Active". The trigger code is identical to the one in the previous screenshot.

Name	Code Coverage	Status	sObject Type	Contact
updateAccount	0% (0/10)	Active		
Created By	Akshay Patade, 4/25/2022, 6:35 PM	Last Modified By	Akshay Patade, 4/25/2022, 6:35 PM	
Namespace Prefix				

3. Creating a Contact record

Hit the '+' symbol and press Accounts.

Chrome File Edit View History Bookmarks Profiles Tab Window Help

Mon Apr 25 9:39 PM

stevensinstituteoftechno99-dev-ed.my.salesforce.com/home/showAllTabs.jsp

Salesforce Search... Search Switch to Lightning Experience Akshay Patade Setup Help Content

Home Chatter Libraries Content Subscriptions Student Information

Create New... All Tabs Help for this Page

Recent Items

- Akshay Patade
- Akshay Patade
- Akshay Patade

Recycle Bin

View: All Tabs Add Tabs to Your Default Display Customize My Tabs

Accounts Individuals
Alternative Payment Methods Invoices
Analytics Leads
App Launcher Legal Entities
Asset Actions Libraries
Asset Action Sources List Emails
Assets Location Groups
Asset State Periods Locations
Async Operation Logs Macros
Authorization Form Operating Hours
Authorization Form Consent Opportunities
Authorization Form Data Use Orders
Authorization Form Text Party Consent
Business Brands Payment Authorization Adjustments
Payment Authorizations

https://stevensinstituteoftechno99-dev-ed.my.salesforce.com/001/o rel



Chrome File Edit View History Bookmarks Profiles Tab Window Help

Mon Apr 25 9:47 PM

stevensinstituteoftechno99-dev-ed.my.salesforce.com/0018b00001xSTBH

Create New... Akshay Patade Customize Page | Edit Layout | Printable View | Help for this Page

Recent Items

- Akshay Patade
- Akshay Patade
- Akshay Patade

Recycle Bin

Hide Feed Click to add topics:

Post File New Task More

Share + Follow

Followers No followers.

Akshay Patade changed Account Name from Akshay to Akshay Patade.

Comment · Like · April 19, 2022 at 12:25 PM

Back to List: Triggers

Contacts [0] | Opportunities [0] | Cases [0] | Open Activities [0] | Activity History [0] | Notes & Attachments [0] | Partners [0]

Account Detail

Edit Delete Sharing Include Offline	
Account Owner	Akshay Patade (Change)
Account Name	Akshay Patade [View Hierarchy]
Parent Account	
Account Number	
Account Site	Type
Industry	Employees
Annual Revenue	SIC Code
Field Update	Shipping Address
Billing Address	SLA
Customer Priority	SLA Serial Number
SLA Expiration Date	Upsell Opportunity
Number of Locations	
Active	



A screenshot of a Salesforce account detail page in a Chrome browser window. The URL is stevensinstituteoftechno99-dev-ed.my.salesforce.com/0018b00001xSTBH. The page shows various account fields like Account Number, Type, and Billing Address. Below the main form, there are sections for Contacts, Opportunities, Cases, Open Activities, and Activity History, each with a 'New' button. The bottom of the screen shows the Mac OS X dock with various application icons.

Now we will click on new contact button and update the your contact information and then we will hit the save button.

A screenshot of the same Salesforce account detail page in Chrome, showing the 'Contacts' section. A 'New Contact' button has been clicked, and a new contact record is being created. The 'Billing' tab is selected. The bottom of the screen shows the Mac OS X dock with various application icons.

MacBook Pro (13-inch, M1, 2021) - Chrome

Mon Apr 25 9:51 PM

Akshay Pradeep Pai | Account: Akshay P | Google Docs: Free | Amazon Web Services | CloudWatch Manager | see the pending tra | New Tab

stevensinstitutetechno99-dev-ed.my.salesforce.com/0018b00001xSTBH

Create New... | Recent Items | Recycle Bin

Akshay Patade

Hide Feed | Click to add topics: | Post | File | New Task | More | Write something... | Share | Follow | Followers | No followers.

Akshay Patade changed Account Name from Akshay to Akshay Patade. | Comment | Like | April 19, 2022 at 12:25 PM

« Back to List: Triggers | Contacts [1] | Opportunities [0] | Cases [0] | Open Activities [0] | Activity History [0] | Notes & Attachments [0] | Partners [0]

Account Detail | Edit | Delete | Sharing | Include Offline

Account Owner	Akshay Patade [Change]	Rating
Account Name	Akshay Patade [View Hierarchy]	Phone
Parent Account		Fax
Account Number		Website
Account Site		Ticker Symbol
Type		Ownership
Industry		Employees
Annual Revenue		SIC Code
Field Update	✓	
Billing Address		Shipping Address
Customer Priority		SLA
SLA Expiration Date		SLA Serial Number
Number of Locations		Upsell Opportunity
Active		

MacBook Pro (13-inch, M1, 2021) - Chrome

Mon Apr 25 9:51 PM

Recent Items | Recycle Bin

Akshay Patade

Hide Feed | Click to add topics: | Post | File | New Task | More | Write something... | Share | Follow | Followers | No followers.

Akshay Patade changed Account Name from Akshay to Akshay Patade. | Comment | Like | April 19, 2022 at 12:25 PM

« Back to List: Triggers | Contacts [1] | Opportunities [0] | Cases [0] | Open Activities [0] | Activity History [0] | Notes & Attachments [0] | Partners [0]

Account Detail | Edit | Delete | Sharing | Include Offline

Account Owner	Akshay Patade [Change]	Rating
Account Name	Akshay Patade [View Hierarchy]	Phone
Parent Account		Fax
Account Number		Website
Account Site		Ticker Symbol
Type		Ownership
Industry		Employees
Annual Revenue		SIC Code
Field Update	✓	
Billing Address		Shipping Address
Customer Priority		SLA
SLA Expiration Date		SLA Serial Number
Number of Locations		Upsell Opportunity
Active		

The screenshot shows a Salesforce application window with the following details:

- Header:** Chrome browser, Mon Apr 25 9:51:PM, multiple tabs open including "CloudWatch Manager" and "New Tab".
- Page URL:** stevensinstitutetechno99-dev-ed.my.salesforce.com/0018b00001xSTBH
- Object Details:** A detailed view of a record, likely a Company or Account. Fields shown include Industry, Annual Revenue, Field Update (with a checked checkbox), Billing Address, Customer Priority, SLA Expiration Date, Number of Locations, Active status, Created By (Akshay Patade, 4/19/2022, 12:25 PM), Description, Custom Links (Billing), Employees, SIC Code, Shipping Address, SLA, SLA Serial Number, Upsell Opportunity, Last Modified By (Akshay Patade, 4/25/2022, 6:50 PM), and a toolbar with Edit, Delete, Sharing, and Include Offline buttons.
- Contacts:** A list of contacts with columns for Action, Contact Name, Title, Email, and Phone. One record is listed: Sherlock Holmes, Email: 1234567891.
- Opportunities:** A list with a New Opportunity button. It displays "No records to display".
- Cases:** A list with a New Case button. It displays "No records to display".
- Open Activities:** A list with New Task and New Event buttons. It displays "No records to display".
- Activity History:** A list with Log a Call, Mail Merge, and Send an Email buttons. It displays "No records to display".
- Notes & Attachments:** A list with New Note and Attach File buttons. It displays "No records to display".