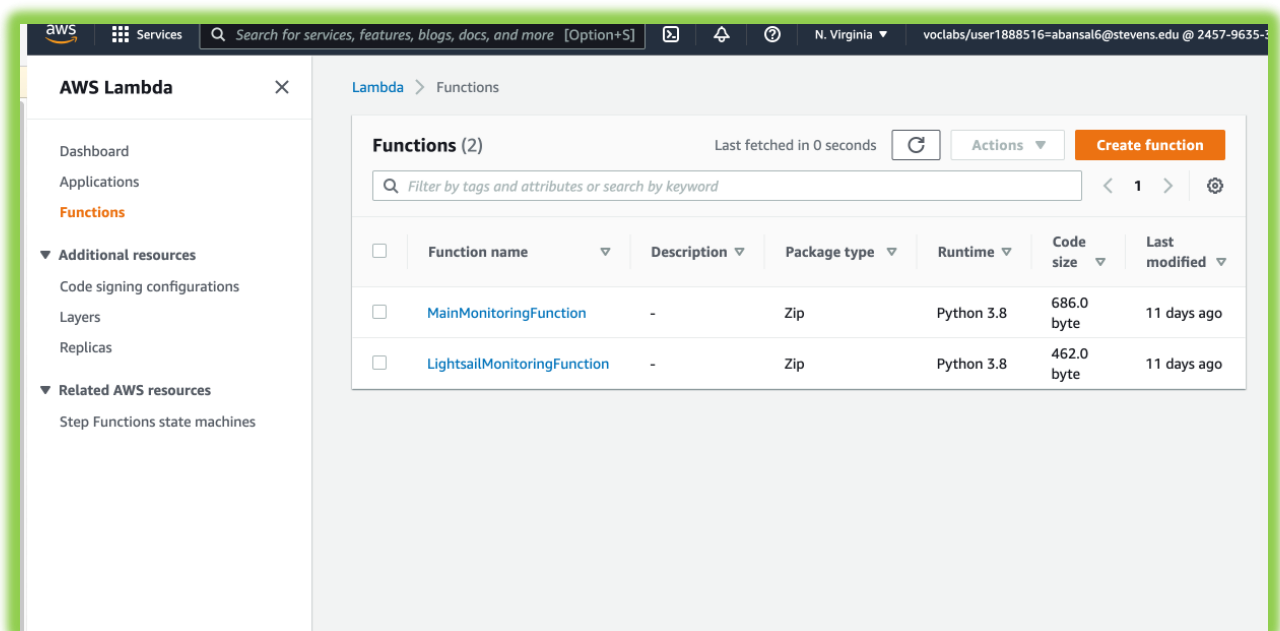
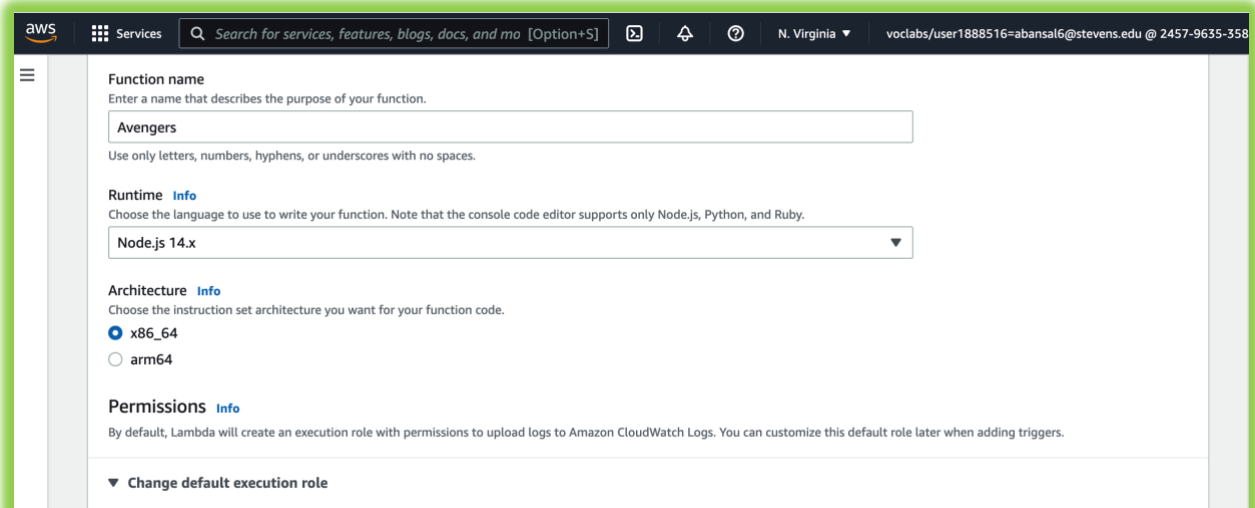


AWS:

I signed into my AWS account and searched for Lambda. Choose Create function in the Functions.



Under the create functions I entered the name of my function as Avengers and created a role for execution and named it as 'GetStartedLambdaProxyExecution'. Click on Create Function option.



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

Execution role

Choose a role that defines the permissions of your function. To create a custom role, go to the [IAM console](#).

☐ Create a new role with basic Lambda permissions
☐ Use an existing role
☒ Create a new role from AWS policy templates

① Role creation might take a few minutes. Please do not delete the role or edit the trust or permissions policies in this role.

Role name

Enter a name for your new role.

GetStartedLambdaProxyIntegration

Use only letters, numbers, hyphens, or underscores with no spaces.

Policy templates - optional [Info](#)

Choose one or more policy templates.

▼

► Advanced settings

Cancel Create function

On the next page, I entered the following code on the code editor and clicked on Deploy:

```
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": "Wakanda" },{
"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 Solider 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" },{*

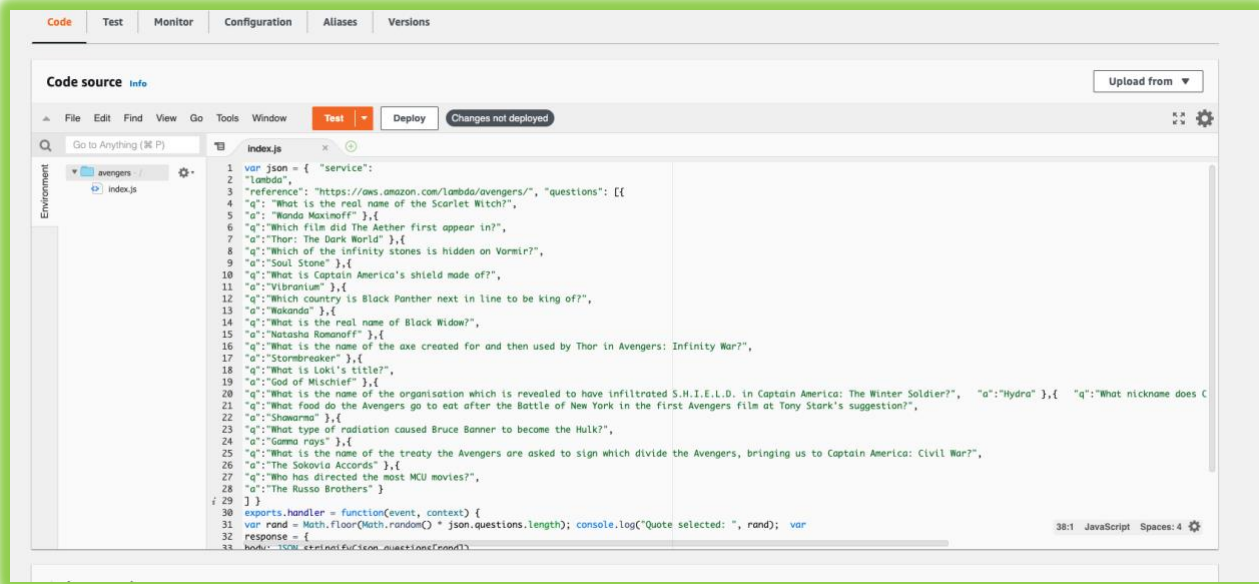
*"q": "What is the name of the treaty the Avengers are asked to sign which divide the
Avengers, bringing us
to Captain America: Civil War?",*

"a": "The Sokovia Accords" },{

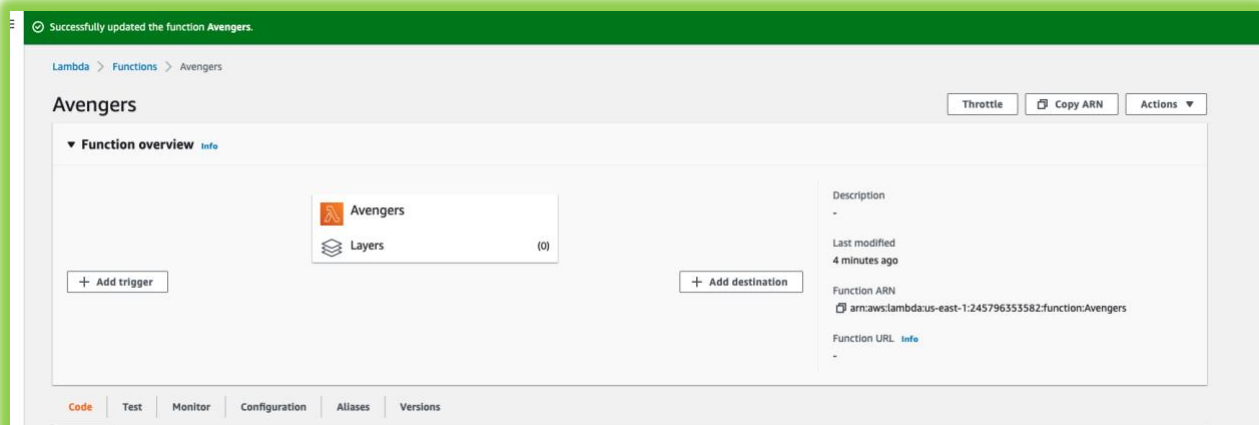
*"q": "Who has directed the most MCU movies?",
"a": "The Russo Brothers" }*

] }

```
exports.handler = function(event, context) {  
var rand = Math.floor(Math.random() * json.questions.length);  
console.log("Quote selected: ", rand); var  
response = {  
body: JSON.stringify(json.questions[rand])  
};  
console.log(response); context.succeed(response);  
};
```



After deploying, I get the message of successful deployment. I click on Add Trigger button under Function Overview.



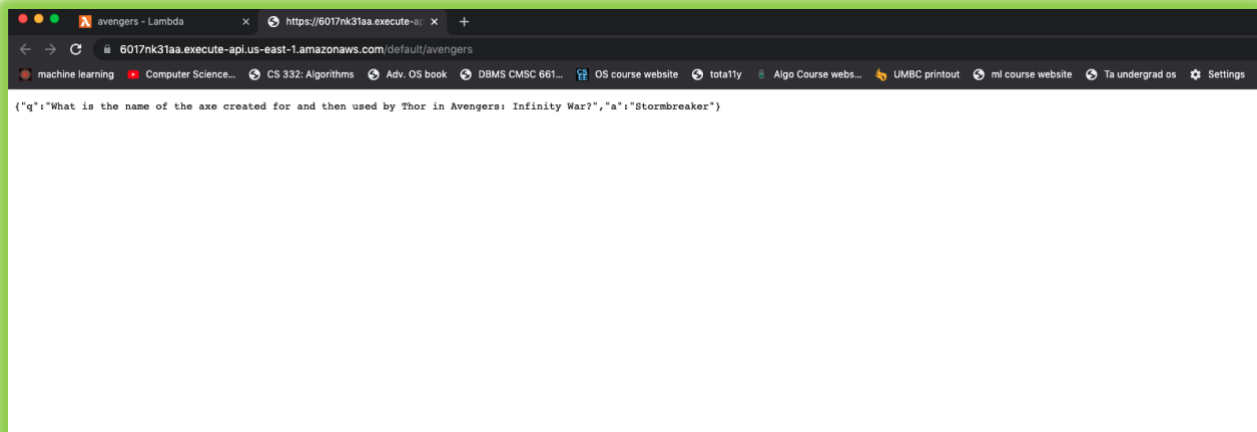
On this Add Trigger Page, I chose API Gateway and chose 'Create an API' option. Then under API type I chose 'REST API' and chose Security to be Open. I chose the additional settings as shown below and clicked on Add.

The screenshot shows the 'Add trigger' configuration page in the AWS Lambda console. The 'Trigger configuration' section is active, showing 'API Gateway' as the trigger type. Below this, there's a description of API Gateway and a link to 'Learn more'. The 'API' section has a dropdown menu set to 'Create an API'. The 'API type' section has two options: 'HTTP API' (unselected) and 'REST API' (selected). The 'Security' section has a dropdown menu set to 'Open'. The 'Additional settings' section is expanded, showing 'API name' set to 'avengers-API' and 'Deployment stage' set to 'default'. The 'Cross-origin resource sharing (CORS)' section is partially visible at the bottom.

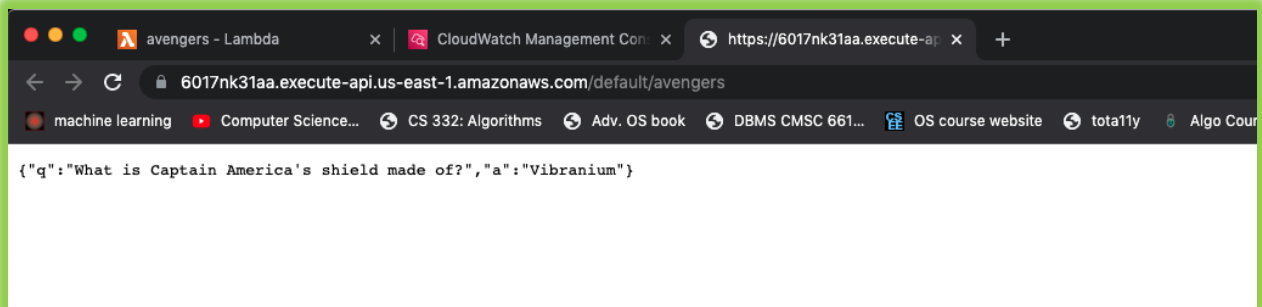
Under the configuration, I can see Trigger created with the end point as <https://6017nk31aa.execute-api.us-east-1.amazonaws.com/default/avengers>

The screenshot shows the 'Configuration' tab in the AWS Lambda console. The 'Triggers (1)' section is active, showing a list of triggers. The first trigger is 'API Gateway: avengers-API' with the API endpoint 'https://6017nk31aa.execute-api.us-east-1.amazonaws.com/default/avengers'. The 'Details' link is visible below the trigger name.

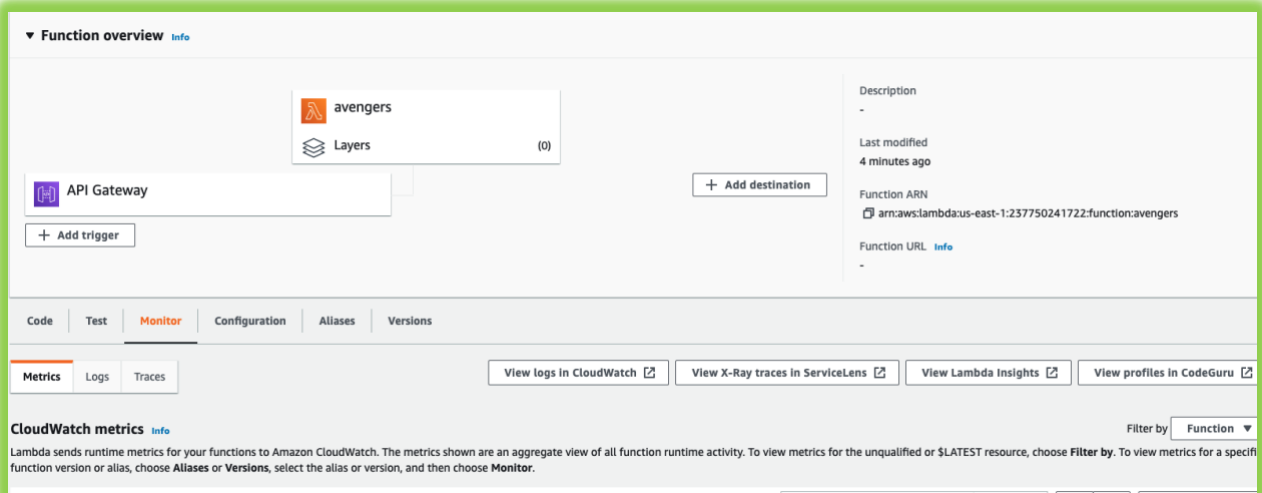
I clicked on the endpoint and opened it in the new tab. I can see the data as below.



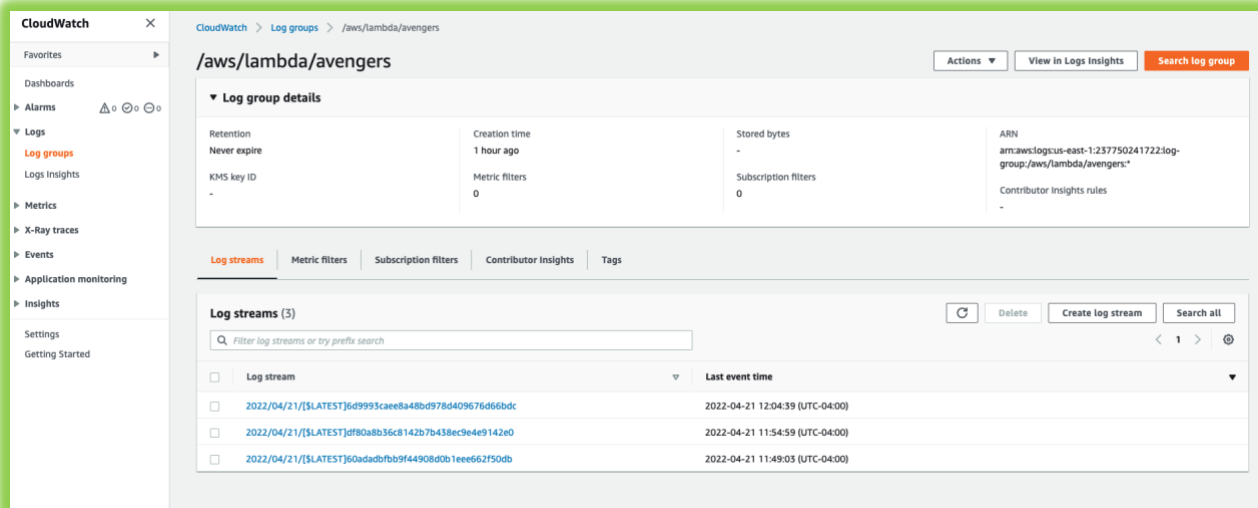
Since the code chooses random question answer pair so when I refreshed the url it showed me a new pair.



In my lambda function, under Monitor tab, I clicked on View logs in CloudWatch:

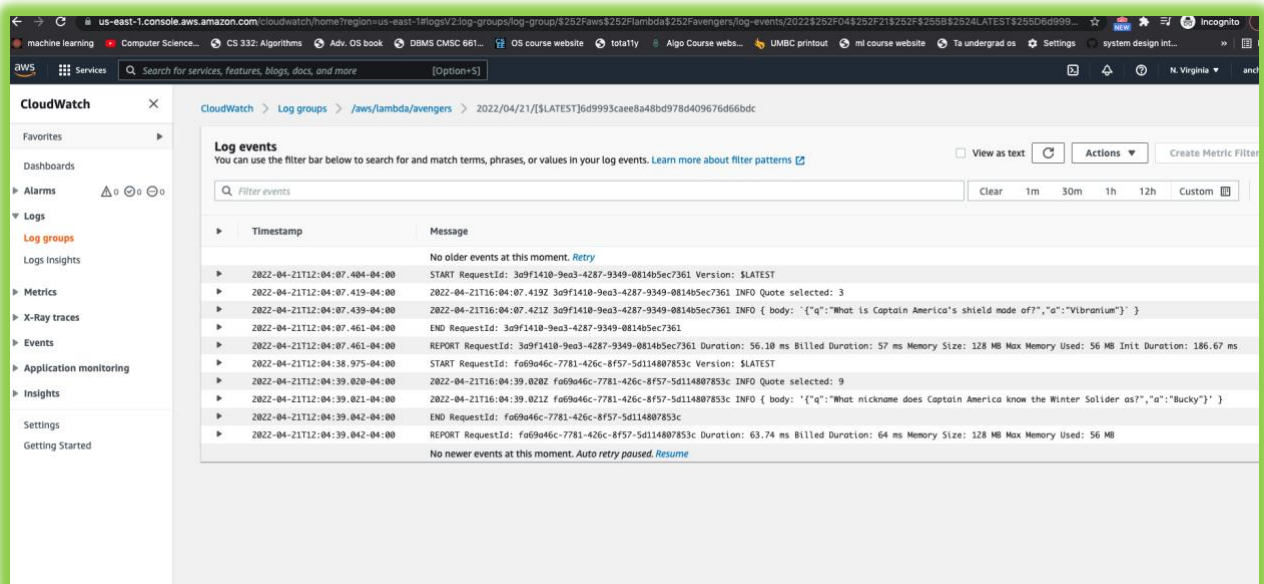


In the CloudWatch I found the following logs:

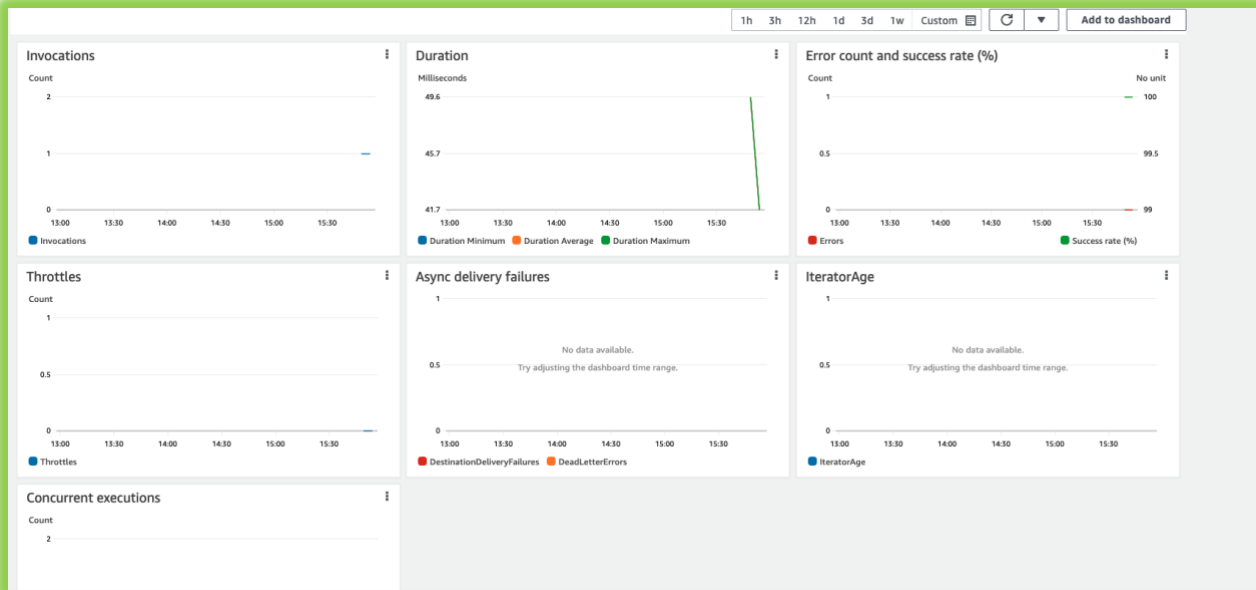


I clicked on the first log result and it displays the following results:

The logs display the message as well as the timestamp. It displays the start request, the response message, request id:

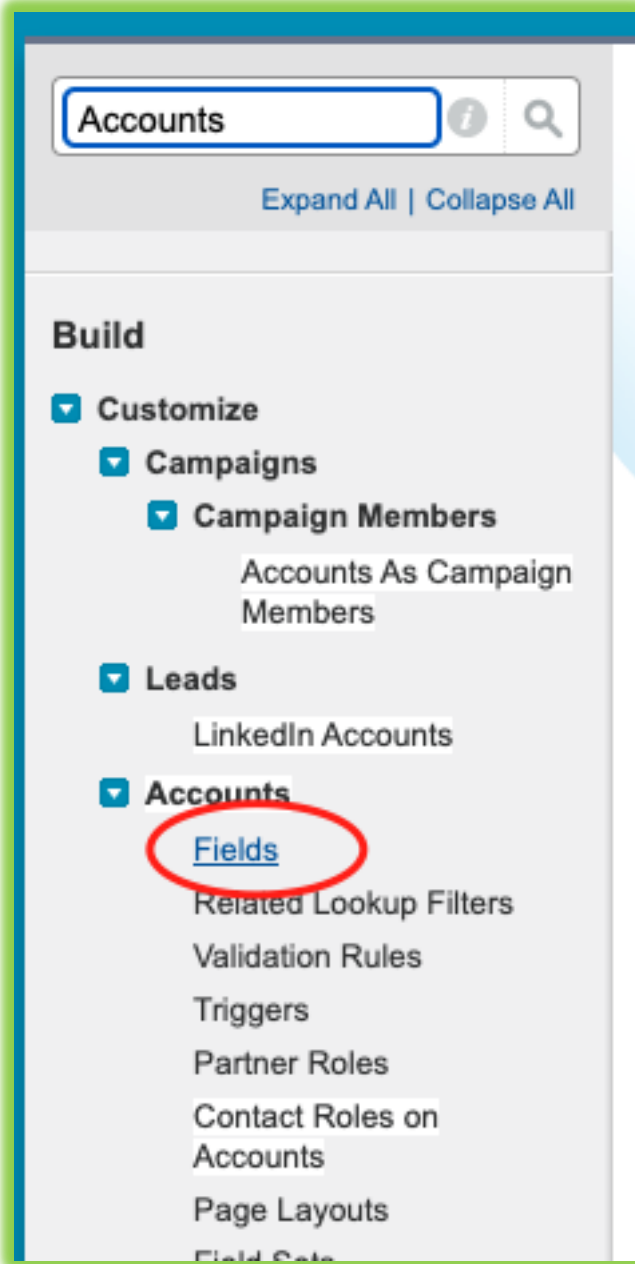


Under the monitor, I can view the metrics for my function as below:



Salesforce:**1) Creating custom field on Account Object:**


Find fields under accounts in quick find tab and click on it.



Below shows Account Custom Fields & Relationships and click on New

Account Custom Fields & Relationships							Account Custom Fields & Relationships Help
		New	Field Dependencies				
Action	Field Label	API Name	Data Type	Indexed	Controlling Field	Modified By	
Edit Del Replace	Active	Active__c	Picklist			Anchal Bansal 4/13/2022, 11:51 AM	
Edit Del Replace	Customer Priority	CustomerPriority__c	Picklist			Anchal Bansal 4/13/2022, 11:51 AM	
Edit Del	Number of Locations	NumberOfLocations__c	Number(3, 0)			Anchal Bansal 4/13/2022, 11:51 AM	
Edit Del Replace	SLA	SLA__c	Picklist			Anchal Bansal 4/13/2022, 11:51 AM	
Edit Del	SLA Expiration Date	SLAExpirationDate__c	Date			Anchal Bansal 4/13/2022, 11:51 AM	
Edit Del	SLA Serial Number	SLASerialNumber__c	Text(10)			Anchal Bansal 4/13/2022, 11:51 AM	
Edit Del Replace	Upsell Opportunity	UpsellOpportunity__c	Picklist			Anchal Bansal 4/13/2022, 11:51 AM	

On the next page, I select field type as Checkbox and click on Next:



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Outlook Integration and Sync

Gmail Integration and Sync

Email Administration

Google Apps

Analytics

Data.com Administration

Build

Customize

Tab Names and Labels

Home

Activities

Campaigns

Leads

Step 1. Choose the field type

Next

Cancel

Specify the type of information that the custom field will contain.

Data Type

☐ None Selected

Select one of the data types below.

☐ Auto Number

A system-generated sequence number that uses a display format you define. The number is automatically incremented for each new record.

☐ Formula

A read-only field that derives its value from a formula expression you define. The formula field is updated when any of the source fields change.

☐ Roll-Up Summary

A read-only field that displays the sum, minimum, or maximum value of a field in a related list or the record count of all records listed in a related list.

☐ Lookup Relationship

Creates a relationship that links this object to another object. The relationship field allows users to click on a lookup icon to select a value from a popup list. The other object is the source of the values in the list.

☐ External Lookup Relationship

Creates a relationship that links this object to an external object whose data is stored outside the Salesforce org.

☒ Checkbox

Allows users to select a True (checked) or False (unchecked) value.

☐ Currency

Allows users to enter a dollar or other currency amount and automatically formats the field as a currency amount. This can be useful if you export data to Excel or another spreadsheet.

☐ Date

Allows users to enter a date or pick a date from a popup calendar.

☐ Date/Time

Allows users to enter a date and time, or pick a date from a popup calendar. When users click a date in the pop-up, that date and the current time are entered into the Date/Time field.

☐ Email

Allows users to enter an email address, which is validated to ensure proper format. If this field is specified for a contact or lead, users can choose the address when clicking Send an Email. Note that custom email addresses cannot be used for mass emails.

☐ Geolocation

Allows users to define locations. Includes latitude and longitude components, and can be used to calculate distance.

☐ Number

Allows users to enter any number. Leading zeros are removed.

☐ Percent

Allows users to enter a percentage number, for example, "10" and automatically adds the percent sign to the number.

☐ Phone

Allows users to enter any phone number. Automatically formats it as a phone number.

☐ Picklist

Allows users to select a value from a list you define.

☐ Picklist (Multi-Select)

Allows users to select multiple values from a list you define.

☐ Text

Allows users to enter any combination of letters and numbers.

☐ Text Area

Allows users to enter up to 255 characters on separate lines.

☐ Text Area (Long)

Allows users to enter up to 131,072 characters on separate lines.

☐ Text Area (Rich)

Allows users to enter formatted text, add images and links. Up to 131,072 characters on separate lines.

☐ Text (Encrypted) 3

Allows users to enter any combination of letters and numbers and store them in encrypted form.

☐ Time

Allows users to enter a local time. For example, "2:40 PM", "14:40", and "14:40:50.600" are all valid times for this field.

☐ URL

Allows users to enter any valid website address. When users click on the field, the URL will open in a separate browser window.

On the next page I enter the Field Label as Field Update, default value as Unchecked and Field Name as Field_Update and click on Next.

Quick Find / Search... Expand All Collapse All

Account
New Custom Field

Step 2 of 3: Enter the details

Field Label: Field Update

Default Value: ☒ Checked ☐ Unchecked

Field Name: Field_Update

Description:

Help Text:

Auto add to custom report type: ☒ Add this field to existing custom report types that contain this entity

Previous Next Cancel

On next page, I check the Visible option and click on next.

Step 3 of 3: Establish field-level security

Field Label: Field Update
Data Type: Checkbox
Field Name: Field_Update
Description:

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.

Field-Level Security for Profile	<input checked="" type="checkbox"/> Visible	<input type="checkbox"/> Read-Only
Analytics Cloud Integration User	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Analytics Cloud Security User	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Authenticated Website	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Authenticated Website	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Contract Manager	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Cross Org Data Proxy User	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Custom: Marketing Profile	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Custom: Sales Profile	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Custom: Support Profile	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Customer Community Login User	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Customer Community Plus Login User	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Customer Community Plus User	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Customer Community User	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Customer Portal Manager Custom	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Customer Portal Manager Standard	<input checked="" type="checkbox"/>	<input type="checkbox"/>
External Apps Login User	<input checked="" type="checkbox"/>	<input type="checkbox"/>
External Identity User	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Force.com - App Subscription User	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Force.com - Free User	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Gold Partner User	<input checked="" type="checkbox"/>	<input type="checkbox"/>
High Volume Customer Portal	<input checked="" type="checkbox"/>	<input type="checkbox"/>
High Volume Customer Portal User	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Identity User	<input checked="" type="checkbox"/>	<input type="checkbox"/>

On the next Page, I choose all the checkboxes for Add to Page layouts. Click on Save.

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Account
New Custom Field

Step 4. Add to page layouts

Field Label: Field Update
Data Type: Checkbox
Field Name: Field_Update
Description:

Select the page layouts that should include this field. The field will be added as the last field in the first 2-column section of these page layouts. The field will not appear on any pages if you do not select a layout.

To change the location of this field on the page, you will need to customize the page layout.

Add Field	Page Layout Name
<input checked="" type="checkbox"/>	Account (Marketing) Layout
<input checked="" type="checkbox"/>	Account (Sales) Layout
<input checked="" type="checkbox"/>	Account (Support) Layout
<input checked="" type="checkbox"/>	Account Layout

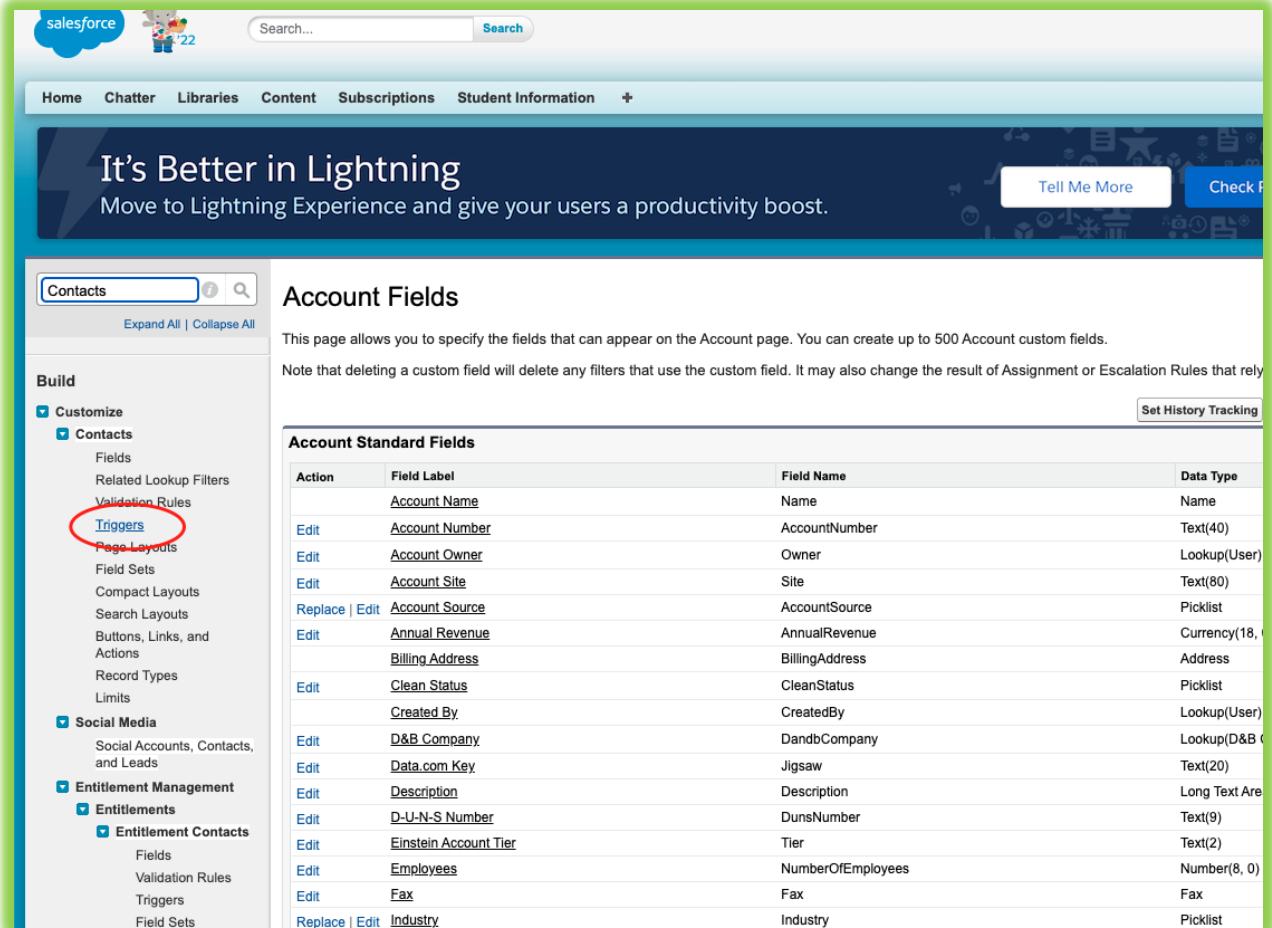
When finished, click Save & New to create more custom fields, or click Save if you are done.

After saving, the newly created custom field can be seen as below:

Action	Field Label	API Name	Data Type	Indexed	Controlling Field	Modified By
Edit Del Replace	Active	Active__c	Picklist			Anchal Bansal: 4/13/2022, 11:51 AM
Edit Del Replace	Customer Priority	CustomerPriority__c	Picklist			Anchal Bansal: 4/13/2022, 11:51 AM
Edit Del	Field Update	Field_Update__c	Checkbox			Anchal Bansal: 4/20/2022, 6:35 PM
Edit Del	Number of Locations	NumberofLocations__c	Number(3, 0)			Anchal Bansal: 4/13/2022, 11:51 AM
Edit Del Replace	SLA	SLA__c	Picklist			Anchal Bansal: 4/13/2022, 11:51 AM
Edit Del	SLA Expiration Date	SLAExpirationDate__c	Date			Anchal Bansal: 4/13/2022, 11:51 AM
Edit Del	SLA Serial Number	SLASerialNumber__c	Text(10)			Anchal Bansal: 4/13/2022, 11:51 AM
Edit Del Replace	Upsell Opportunity	UpsellOpportunity__c	Picklist			Anchal Bansal: 4/13/2022, 11:51 AM

2) Creating Apex Trigger on Contact Object:

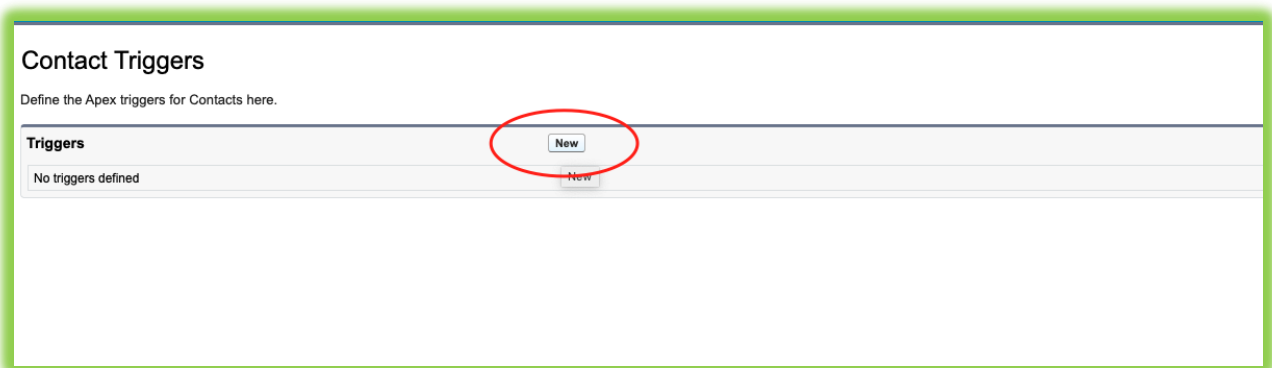
In the Quick Find bar, I searched for Contacts and under Contacts, I clicked on Triggers:



The screenshot shows the Salesforce 'Account Fields' page. The left sidebar contains a 'Build' menu with the following items: Customize (checked), Contacts (checked), Fields, Related Lookup Filters, Validation Rules, **Triggers** (circled in red), Page Layouts, Field Sets, Compact Layouts, Search Layouts, Buttons, Links, and Actions, Record Types, Limits, Social Media (checked), Social Accounts, Contacts, and Leads, Entitlement Management (checked), Entitlements (checked), Entitlement Contacts (checked), Fields, Validation Rules, Triggers, and Field Sets. The main content area is titled 'Account Fields' and includes a description: '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 field.' A 'Set History Tracking' button is located in the top right corner. Below the description is a table titled 'Account Standard Fields'.

Action	Field Label	Field Name	Data Type
	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, 4)
	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
Edit	D-U-N-S Number	DunsNumber	Text(9)
Edit	Einstein Account Tier	Tier	Text(2)
Edit	Employees	NumberOfEmployees	Number(8, 0)
Edit	Fax	Fax	Fax
Replace Edit	Industry	Industry	Picklist

Now on the triggers page, I click on New



On this page, I enter the following code in console and click on Save:

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;
    }
}
```

}

Apex Trigger

Apex Trigger Edit

Save

Quick Save

Cancel

Apex Trigger Version Settings




Is Active ☒


```
1 trigger updateAccount on Contact (after insert, after update) {  
2   Set <String> accID = New Set <String> ();  
3   For (Contact con: Trigger.new) {  
4     if (con.AccountId != Null) {  
5       accID.add (con.AccountId);  
6     }  
7   }  
8   if (accID.size () > 0) {  
9     List <Account> upAccList = new List <Account> ();  
10    For (Account ac:  
11      [SELECT Id, Field_Update__c  
12        FROM Account  
13         WHERE id in: AccID  
14         AND Field_Update__c != True]) {  
15      ac.Field_Update__c = true;  
16      UpAccList.add (ac);  
17    }  
18    if (upAccList.size () > 0)  
19      update upAccList;  
20  }  
21 }  
22  
23
```

Position: Ln 6, Ch 13

Total: Ln 23, Ch 722

After clicking on Save, I can see the trigger details as below and Status as Active:

Quick Find / Search...    [Expand All](#) | [Collapse All](#)

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- Privacy Center
- Security Controls
- Domain Management
- Communication Templates
- Translation Workbench
- Data Management
- Mobile Administration

Apex Trigger **updateAccount** [Edit](#) [Delete](#) [Download](#) [Show Dependencies](#)

[Back to List Triggers](#)

Apex Trigger Detail

Name	updateAccount	sObject Type	Contact
Code Coverage	0% (0/14)	Status	Active
Created By	Anchal Bansal	Last Modified By	Anchal Bansal
Created	4/20/2022, 6:39 PM	Last Modified	4/20/2022, 6:39 PM
Namespace Prefix			

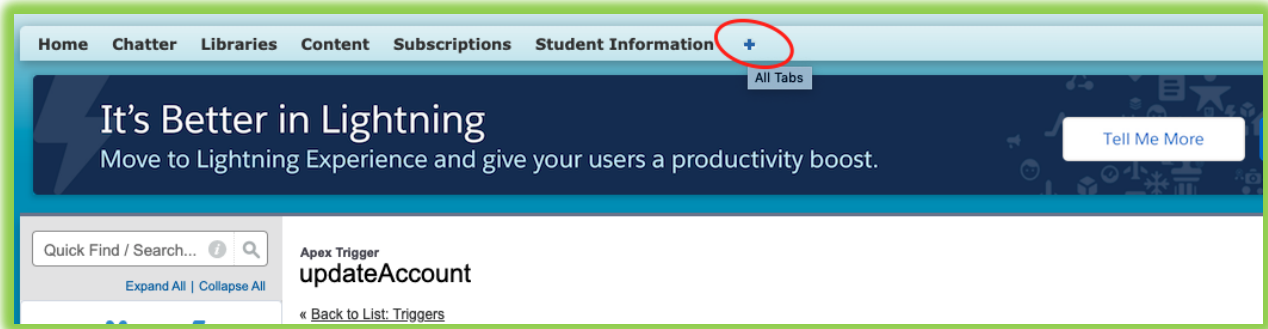
Apex Trigger **Version Settings** **Trace Flags**

```
1 trigger updateAccount on Contact (after insert, after update) {  
2   Set <String> accID = New Set <String> ();  
3   For (Contact con: Trigger.new) {  
4     if (con.AccountId != Null) {  
5       accID.add (con.AccountId);  
6     }  
7   }  
8   if (accID.size () > 0) {  
9     List <Account> upAccList = new List <Account> ();  
10    For (Account ac:  
11      [SELECT Id, Field_Update__c  
12        FROM Account  
13         WHERE id in: AccID  
14         AND Field_Update__c != True]) {  
15      ac.Field_Update__c = true;  
16      UpAccList.add (ac);  
17    }  
18    if (upAccList.size () > 0)  
19      update upAccList;  
20  }  
21 }
```

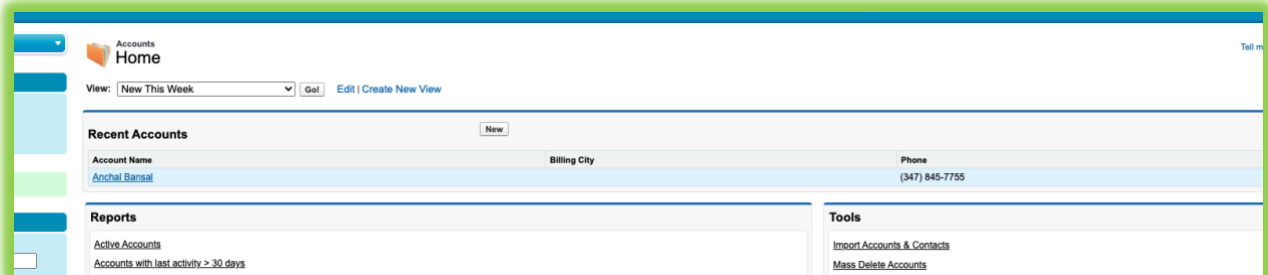
[Edit](#) [Delete](#) [Download](#) [Show Dependencies](#)

3) Creating a Contact Record:

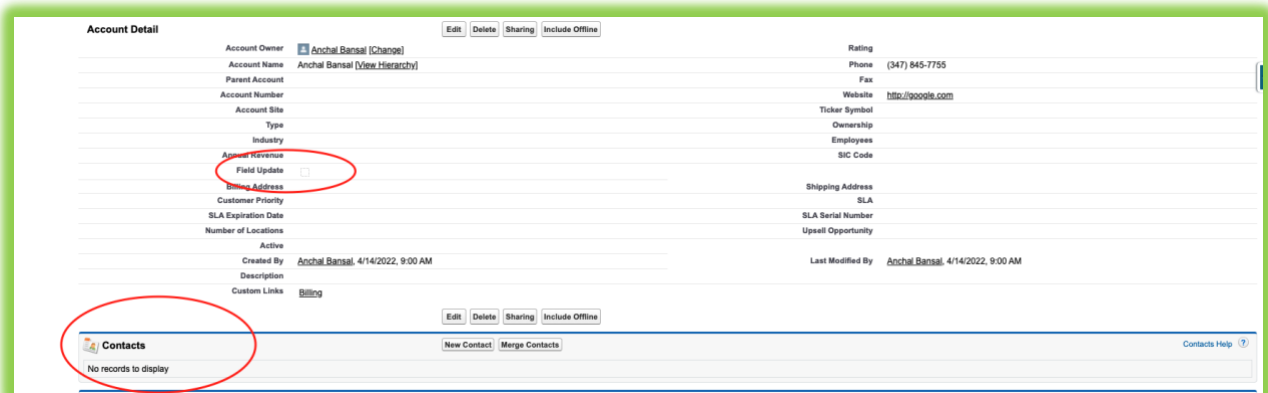
Click on the '+' button and click on Accounts:



Under the accounts, I can see my account which I created previously with my name.



On clicking my account, I can see Field Update field and Contact object with no records as highlighted below. I click on New Contact in the Contacts:



On clicking on New, I update my contact information as below and Save:

Contact Edit [Save] [Save & New] [Cancel]

Contact Information ! = Required Information

Contact Owner	Anchal Bansal	Phone	(347) 845-7755
Salutation	--None--	Home Phone	(347) 845-7755
First Name	Anchal	Mobile	(347) 845-7755
Last Name	Bansal	Other Phone	(347) 845-7755
Account Name	Anchal Bansal	Fax	
Title	Student	Email	abansal@stevens.edu
Department	Computer Science	Assistant	
Birthdate	3/14/2022	Asst. Phone	
Reports To			
Lead Source	--None--		

After creating my Contact, I go back to my account and view the details and I can the Field Update as Checked, and My Contact information added in Contacts as shown below:

Create New... | **Anchal Bansal** | Customize Page | Edit Layout | Printable View | Help for this Page

Recent Items

- Anchal Bansal
- Anchal Bansal
- Anchal Bansal
- Anchal Bansal

Recycle Bin

Account Detail

Account Owner: Anchal Bansal [Change]

Account Name: Anchal Bansal [View Hierarchy]

Parent Account: [None]

Account Number: [None]

Account Site: [None]

Type: [None]

Industry: [None]

Field Update: ☒

Shipping Address: [None]

Customer Priority: [None]

SLA Expiration Date: [None]

Number of Locations: [None]

Active: [None]

Created By: Anchal Bansal, 4/14/2022, 9:00 AM

Description: [None]

Custom Links: Billing

Rating: [None]

Phone: (347) 845-7755

Fax: [None]

Website: http://google.com

Ticker Symbol: [None]

Ownership: [None]

Employees: [None]

SIC Code: [None]

Shipping Address: [None]

SLA: [None]

SLA Serial Number: [None]

Upsell Opportunity: [None]

Last Modified By: Anchal Bansal, 4/20/2022, 6:44 PM

Contacts

Action	Contact Name	Title	Email	Phone
Edit Del	Anchal Bansal	Student	abansal@stevens.edu	(347) 845-7755