Developer Manual

For setting up AWS Lambda, Microsoft Video Indexer, Box, and VSCode

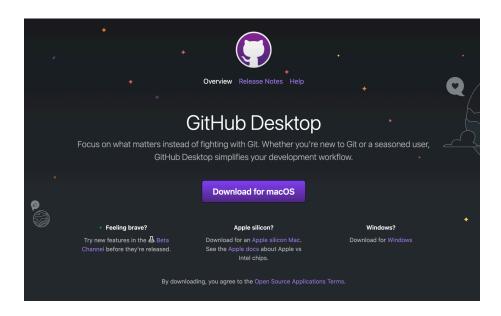
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Prerequisites

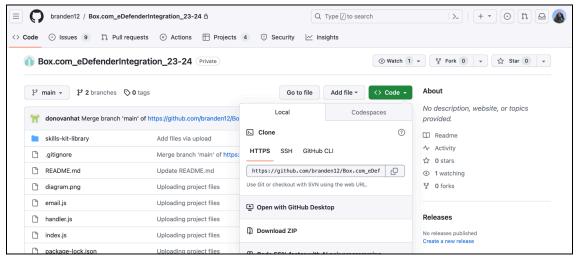
GitHub Desktop: Downloading + Setting up your account

Download Github Desktop and set up your account.

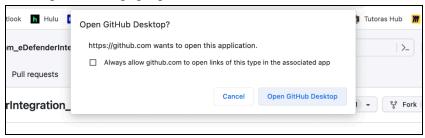


Github Desktop: Creating a Github Branch and working from it

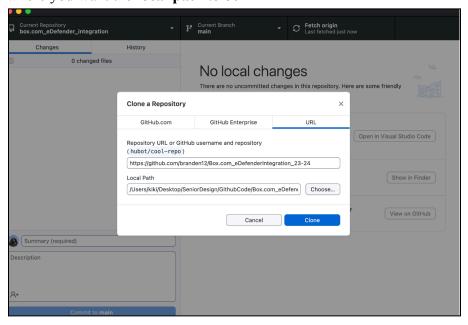
1. Click the green ' Code' button and select 'Open with Github Desktop'



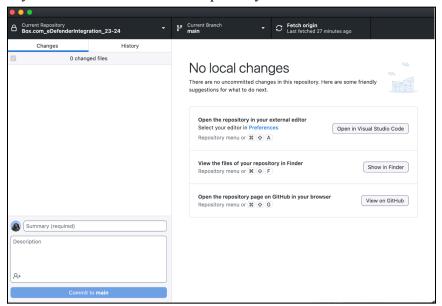
2. Open Github Desktop from the pop-up



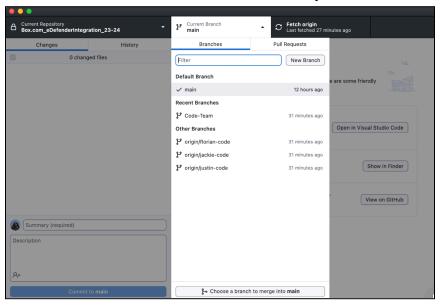
3. Configure where you want the local path to be



4. When it opens you should see the correct Repository name and the current branch you are in



5. If needed, click on 'Current Branch' and move to the branch you're meant to be on



5. You're done! Now you can open wherever your recently saved local files are and it should automatically make changes here when you edit your files in VSCode!



(!) Github Desktop: Origin, Committing, Pushing

If you've never worked with Github Desktop before, these are the most important things to know

- 1. 'Fetch Origin' updates any changes made to the branch you're currently on (if any are available)
- 2. 'Commit' sort of works like saving your file, these changes are not yet reflected on the Github branch you're working on
- 3. 'Push' assures that the changes you make reflect upon the code up on Github

VSCODE: Configuring VSCode

- 1. Open the files on VSCode (wherever you just stored them)
- 2. Open a terminal and make sure you're in the correct workspace ('cd' if you have to)
- 3. Run 'npm install'



VSCODE: Installing NodeJS (in the case that you don't have it installed)

Check if node is installed with the command 'Node --version'

- 1. https://nodejs.org/en/download
- 2. Follow all the steps
- 3. Open a terminal on your computer and type 'Node --version' to check if installed

VSCODE: Installing EsLint, Prettier, JavaScript and TypeScript Nightly

Go to 'Extensions' in VSCode

- Install EsLint
- Install Prettier
- Install JavaScript and TypeScript Nightly

VSCODE: Installing Serverless

https://www.serverless.com/framework/docs/getting-started

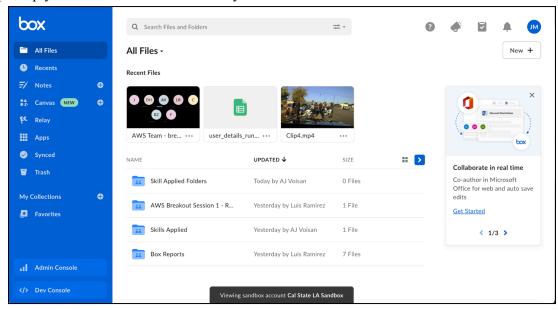
- 1. Open a terminal in VSCode
- 2. Type 'npm i -g serverless' to install serverless
- 3. If you get an 'access denied' message type 'sudo npm i -g serverless'

Box.com

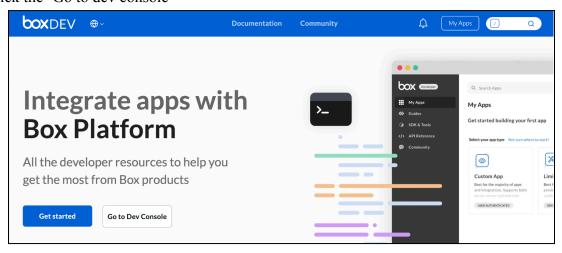
Setting up the Dev Console (from admin account)

In case you don't see both the Dev Console and Admin console.

1. Open up your Box account. If it already has both admin and dev consoles. You're done!



- 2. If you only see the admin console but not the dev console. Go to this link. https://developer.box.com/
- 3. Click the 'Go to dev console'

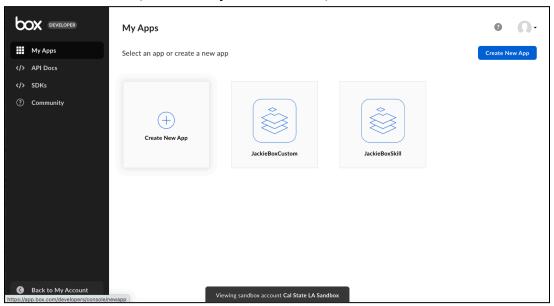


4. And now click 'Go back to my account'. You should see both the admin and dev consoles.

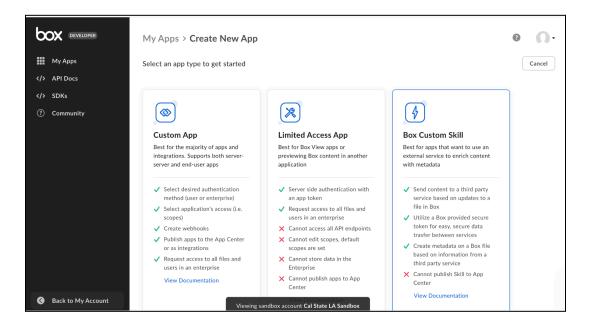
Configuring a new Box Skill

https://developer.box.com/guides/applications/custom-skills/setup/

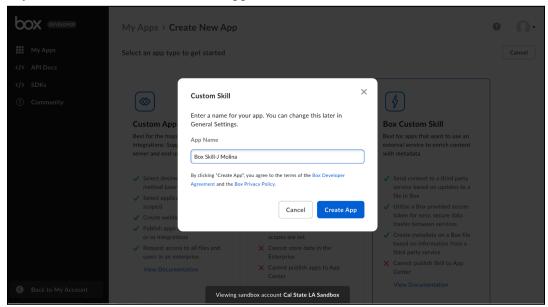
1. Open the 'Dev Console' (should take you to a new tab)



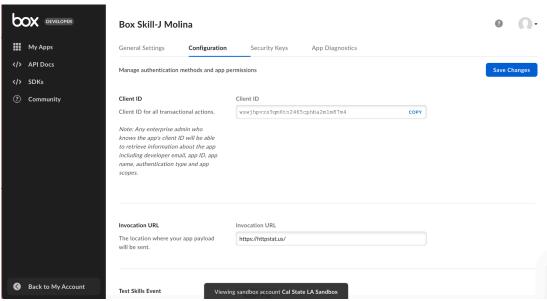
2. Click 'Create New App' and select Box Custom Skill



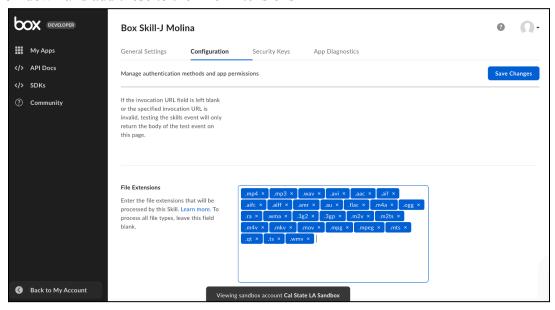
3. Name your Custom Skill and 'Create App'



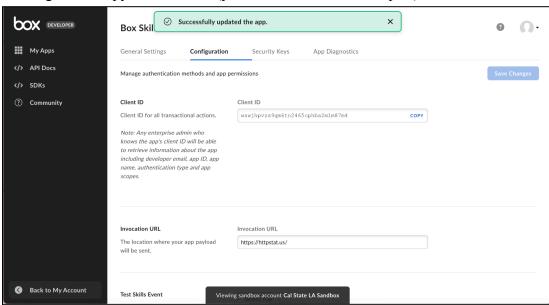
4. Go to the configurations tab in your skill app and add a temporary Invocation URL



5. Scroll down and add these to the File Extensions



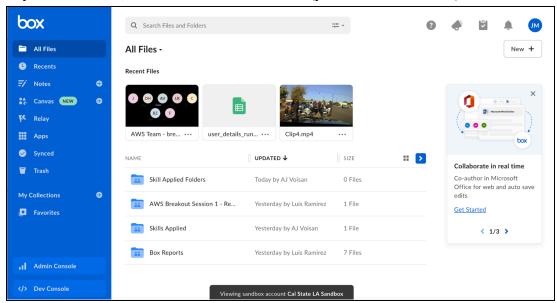
6. Save changes and copy the ClientID (you need this for the next part).



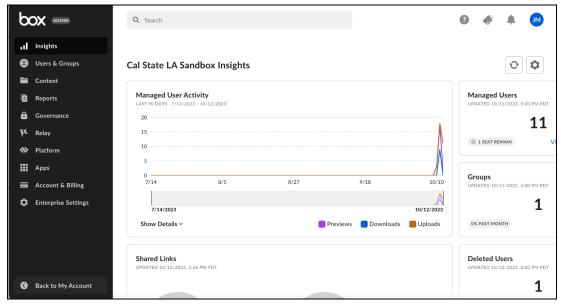
You've created a Custom Box Skill!

Deploying your Box Skill to the Custom Apps Manager

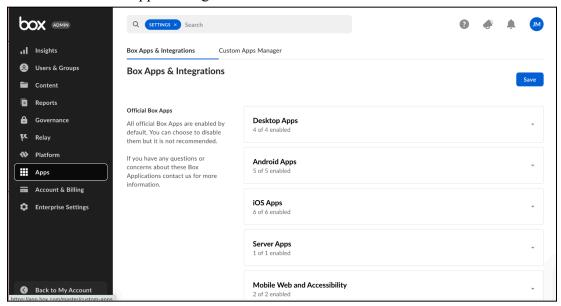
1. From your dashboard, click on the Admin console (you will be redirected)



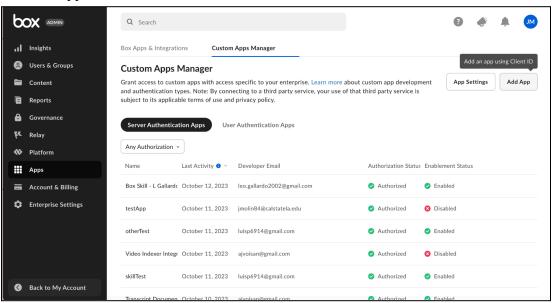
2. On your Admin console, navigate to the 'Apps' tab



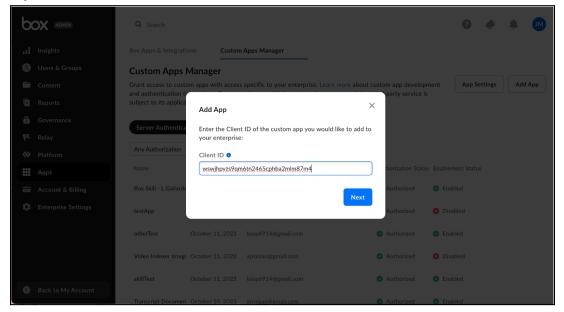
3. Click on the 'Custom Apps Manager' tab



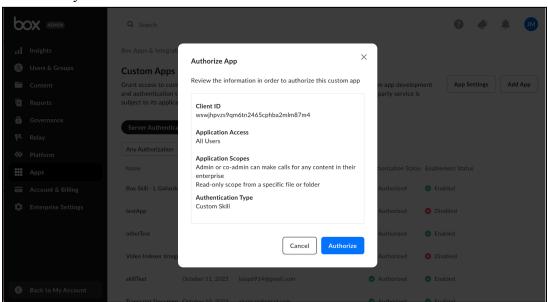
4. Click 'Add App'



5. Paste your Client ID and click Next

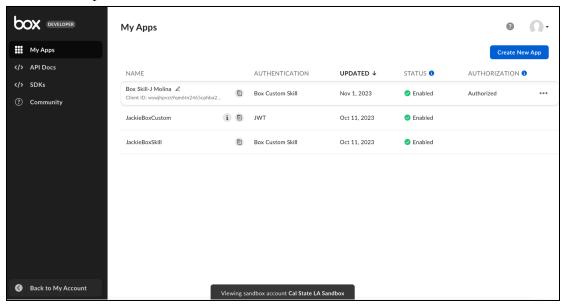


6. Authorize and you're done!

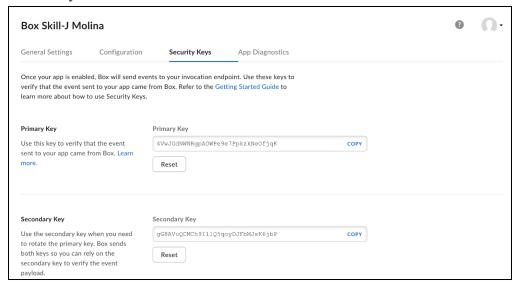


Finding Box Keys (Primary and Secondary)

1.Go to the Developer Portal and Click on Your Skill



2.Go to the Security Tab



You've found your Security Keys!

Adding 'config.json' to your VSCode

(You need this file or else your entire program won't run).

- 1. Create a new file and name it 'config.json'
- 2. The information inside of the config file will be given to you. Make sure you copy and paste all information given to you into your config.json file.

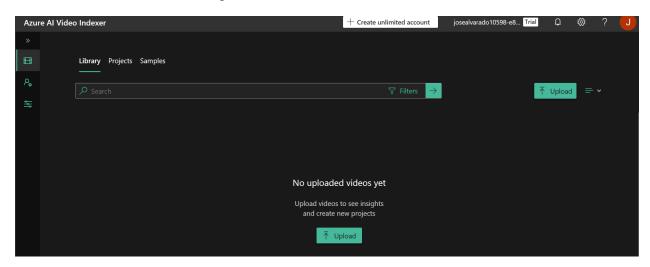
You've added your config file!

Video Indexer

Azure Video Indexer Guide

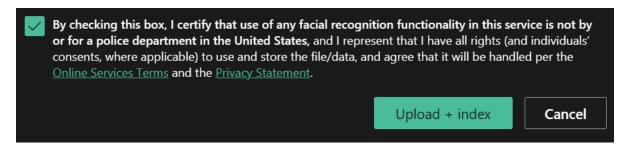
1. Create a Video Indexer Account

- i. Go to Microsoft Azure Al Video Indexer Unlock Video Insights, and sign up with your designated email
- ii. Your indexer portal should look like this after

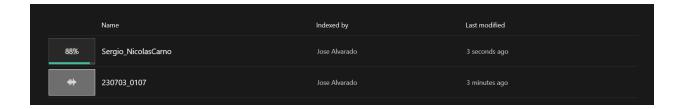


2. Uploading videos Directly to Azure Indexer

- i. Click on and look for the file that you want to upload.
 - i. If you're having trouble uploading you might want to drag the file onto the screen
- ii. Click on the checkbox and "Upload + index"



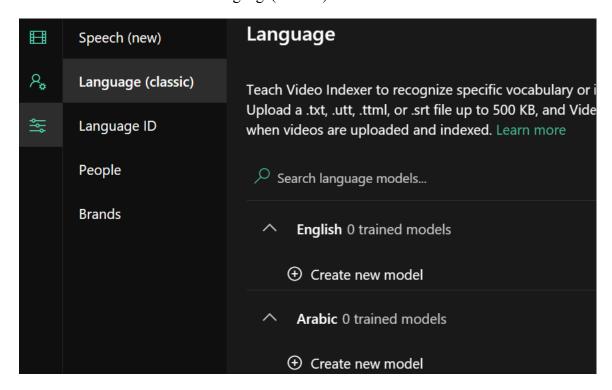
iii. It should now be uploading to your Indexer Library



3. Creating a Model



- i. On the left tab click on Model customization
- ii. Then click on Language(Classic)

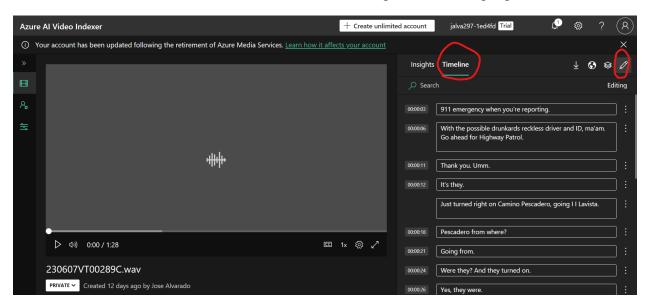


iii. Under the English model click on have now created a model



4. Training a Model

- i. There are two ways to train a model.
 - i. Make changes to a video and then train the model
 - ii. Upload a file with your changes to the model
- ii. Go to your Indexer library and click on a video and you should see a video playing along with the insights
- iii. To edit, click on timeline and the editing icon on the top right

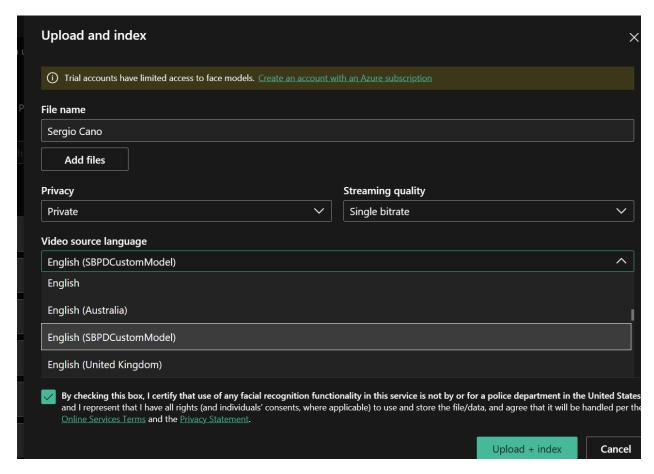


- iv. This will allow you to make any changes to the captions in the video that will be used to train the model.
- v. If you made changes you will have to go back to your model and click on the "Train" icon that appears next to the model



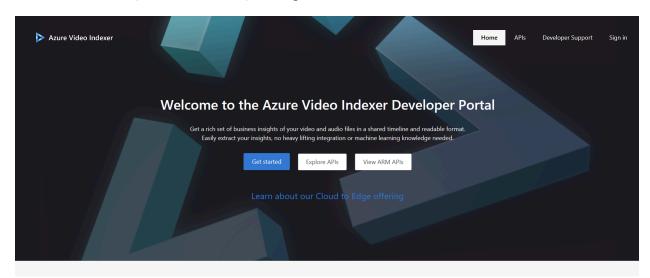
5. Using your model when uploading a video

i. To use your model while uploading a video, simply choose it under the "Video Source language" before uploading.

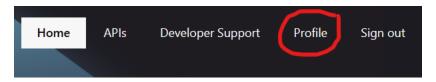


6. Retrieving Subscription Keys

i. Go to <u>Home - Microsoft Azure API Management - developer portal</u> (videoindexer.ai) and sign in



ii. Once you sign in a new tab 'Profile' should appear. Click 'Profile'.



iii. This should take you to a new page that shows you two subscription keys. 'Primary key' and 'secondary key'.

Account details

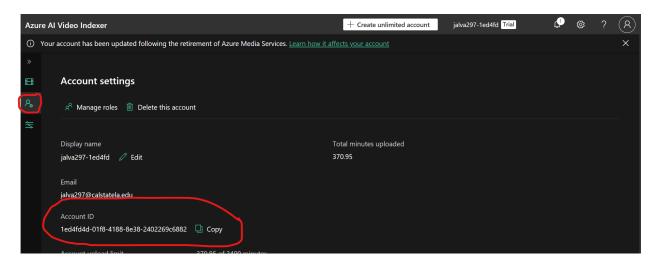


Subscriptions

Subscription details			Product	State	Action
Name	Product Authorization subscription	Rename	Authorization	Active	Cancel
Started on	10/27/2023				
Primary key	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	Show Regenerate			
Secondary key	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	Show Regenerate			

7. Retrieving VI Account ID

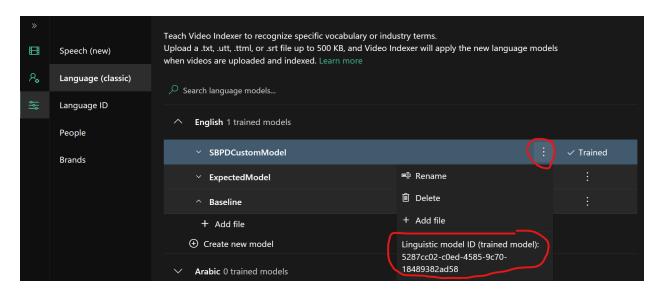
i. Choose account details from your VI portal



ii. You should be given an option to copy your VI account ID

8. Retrieving the Linguistic Model ID

- i. Go into your custom models
- ii. Click on the icon in the Model whose linguistic Id your want to retrieve

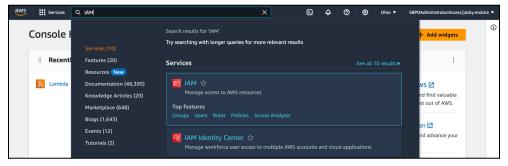


iii. Linguistic Id should be visible afterwards

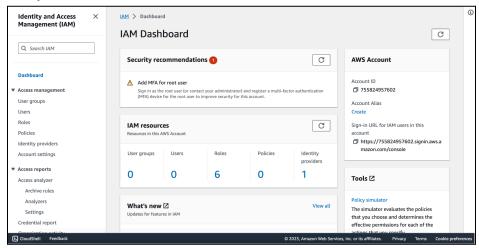
AWS

Creating an IAM User

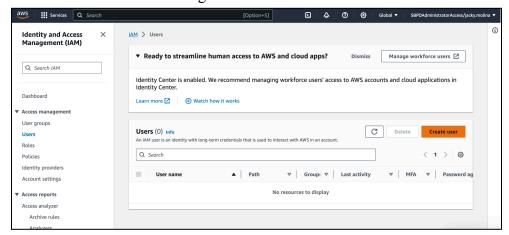
1. Search up the IAM Service



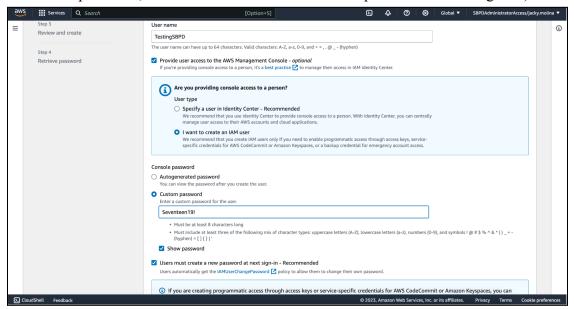
2. This will take you to the IAM dashboard



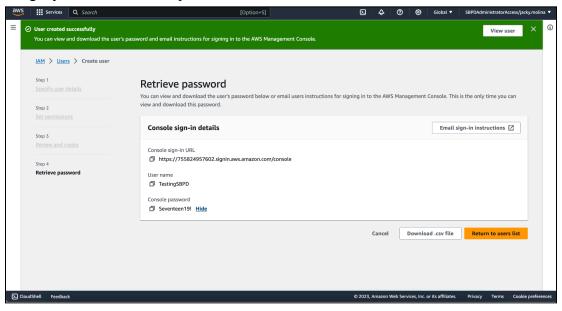
3. Select the Users tab from the left navigation menu



4.Select 'Create User' (a.fill out user name, b.select 'I want to create an IAM user', c.create custom password, d.select 'Users must create a new password at next sign in')



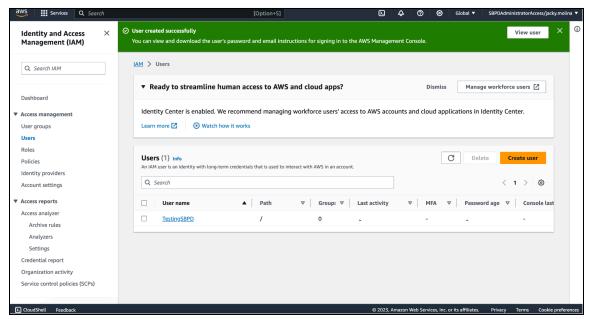
5. You'll get your username and password



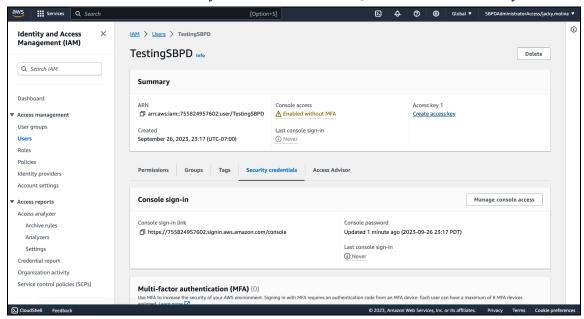
You've created an IAM user!

Creating an Access Key

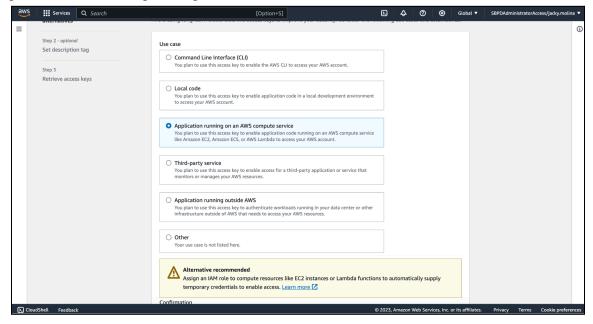
1. Go to 'Users' in IAM console



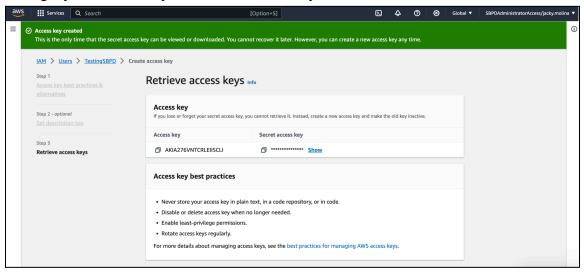
2. Select the user and it should take you to a user dashboard, click 'create access key'



- 3. Select 'Application running on an AWS computer service'
- 4. Optional: Add a description tag



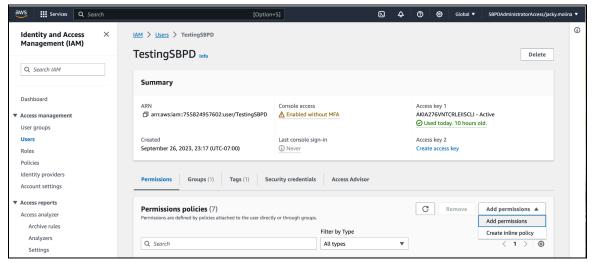
5. You'll get your Access key and Secret Access key



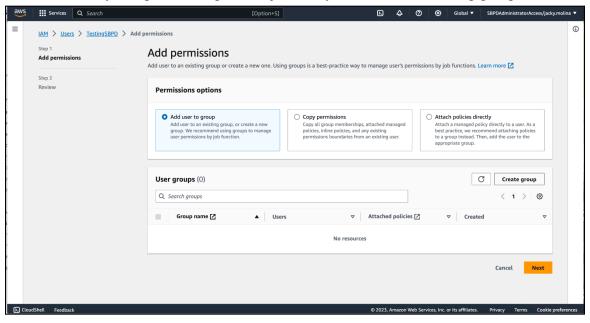
Access Key and Secret Access Key created!

Setting Permissions and Adding User to a Group

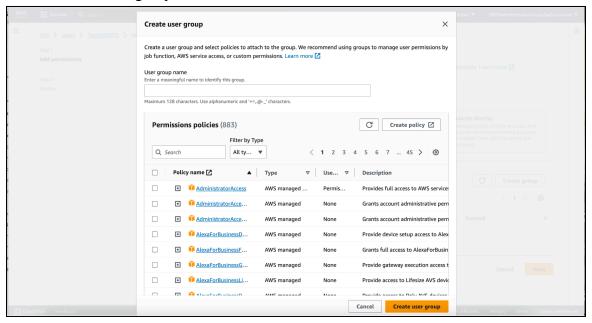
1.Go to Users, select your user, and then select 'add permissions'



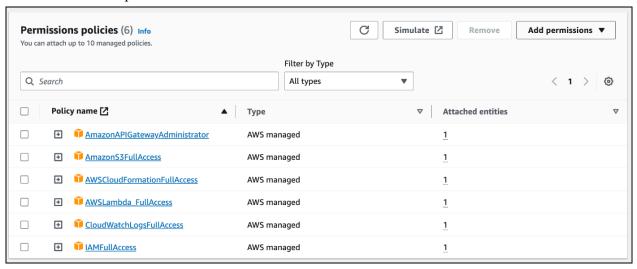
- 2. Click 'Add user to Group' and then click 'Create Group'
- *If someone already completed this process, just add your user to an existing group.



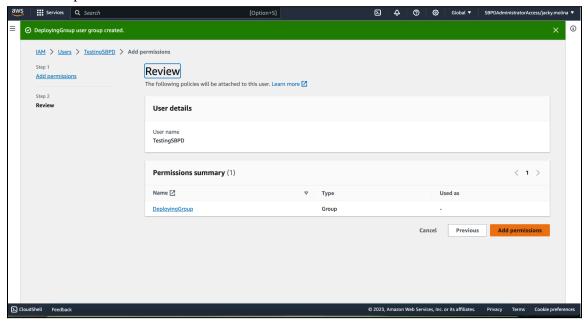
3. Add a name for your group and then select all the permissions you need (see step 4) After click 'create user group'



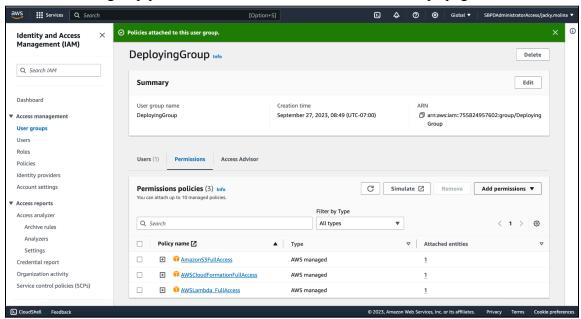
4. Add all of these permissions



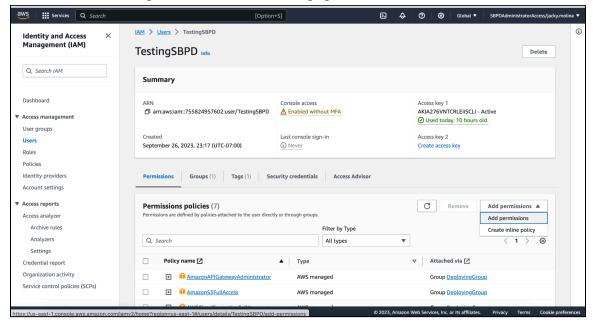
5. Click 'Add permissions'



6. You can view all group permissions and add more in the User Groups page



7. You can view all User permissions in the Users page



You're done setting permissions!

Deploying to AWS with Serverless (for the first time)

- 1.Open a terminal in your VSCode make sure you are in the correct folder (cd if you have to)
- 2.(this is what you're going to be typing)

`serverless config credentials -o -provider aws -key 'YOUR_AWS_KEY' -secret 'YOUR AWS SECRET'`

Or try: (if top does not work)

serverless config credentials -o --provider aws -k 'YOUR_AWS_KEY' --secret 'YOUR AWS SECRET'

```
kiki@moony box.com_eDefender_integration-main % serverless config credentials -o --provider aw s --key 'YOUR_AWS_KEY' --secret 'YOUR_AWS_SECRET'
```

Example: this was mine

```
kiki@moony box.com_eDefender_integration-main % serverless config credentials -o --provider aw s --key AKIA276VNTCRLEIISCLI --secret Fb6Y8fyKhw+uRMQFKOh+AeZ5Idqp4crxD4bmRLpq
```

3. You should see this run and a message that says 'Profile "default" has been configured'

4. Go to the .yaml file and change the 'name' to 'box-video-skills-[your-name]' (This will help identifying which function and bucket are yours on aws)

5. Run 'sls deploy' or 'serverless deploy' (This is what you should see happening)

```
kiki@moony box.com_eDefender_integration-main % sls deploy
Running "serverless" from node_modules

Deploying box-video-skill-promise to stage dev (us-east-1)

# Packaging (6s)
```

(SideNote1: if at any point you get a permissions error, just add that permission to your user/group and then run 'sls deploy' again)

(SideNote2: if at any point you get an error that says '...ROLLBACK_COMPLETE state and cannot be updated', run 'sls remove' and then 'sls deploy')

Finding APIGateway

5. This should be the final result you see (SAVE THE 'endpoint' LINK SOMEWHERE BECAUSE YOU'LL NEED IT AND YOU ONLY GET IT **ONCE PER DEPLOYMENT**)

```
Deploying box-video-skill-promise to stage dev (us-east-1)

Service deployed to stack box-video-skill-promise-dev (110s)

endpoint: ANY - https://tg1pak7d6c.execute-api.us-east-1.amazonaws.com/dev/functions:
   hello: box-video-skill-promise-dev-hello (13 MB)

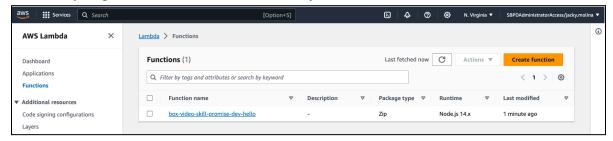
1 deprecation found: run 'serverless doctor' for more details

Monitor Express APIs by route with the Serverless Console: run "serverless --console"

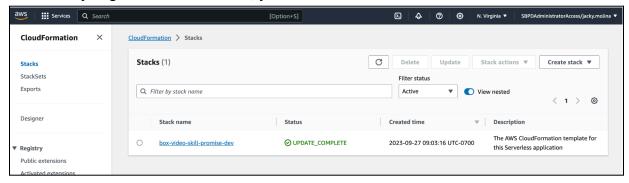
kiki@moony box.com_eDefender_integration-main %
```

This Link is your APIGateway needed as an Environment Variable!

CHECK: If you go to the AWS Lambda service, you should see this:



CHECK: If you go to CloudFormation, you should see this



You've deployed your code to AWS using serverless!

Environment Variables Key

(A good idea would be to create a .json file with all your non-changing variables so you don't have to look for them every single time you deploy)

APIGATEWAY	'sls deploy' link (changes with every deployment)
S3_BUCKET	YOUR S3 bucket name (changes with every deployment)
VI_ACCOUNT_ID	Video Indexer Account ID
VI_AUTH_KEY_1	Video Indexer Developer Primary Key
VI_AUTH_KEY_2	Video Indexer Developer Secondary Key
BOX_PRIMARY_KEY	Box Primary Key
BOX_SECONDARY_KEY	Box Secondary Key

^{*} S3_BUCKET is the **NAME** of your S3 bucket that was generated with your APIGateway link (Found in AWS S3 service)

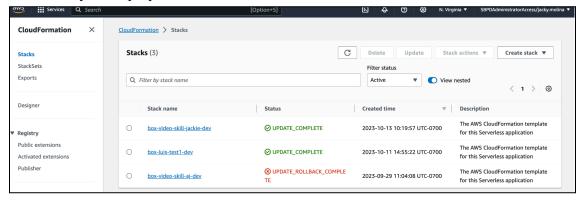
^{**} To find the other environment variables, look under the 'Finding' sections in this manual

Configuring BOX, S3, and LAMBDA

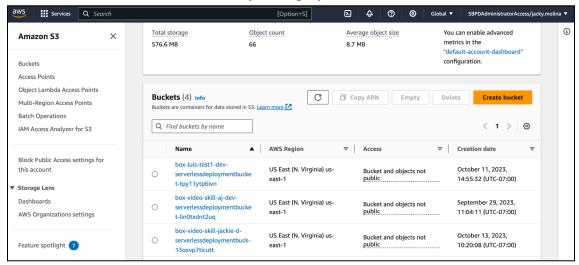
Making sure your lambda function and S3 bucket was created

1. Go to 'CloudFormation' and click on 'Stacks'

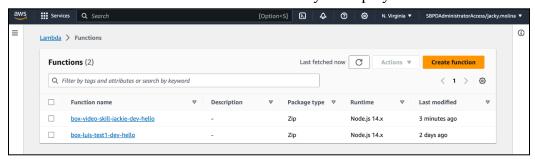
Check to see if your deployment name is there



2. Go to S3 dashboard and check to see if your deployment name is there



3. Go to the Lambda and click Functions and check for your deployment name

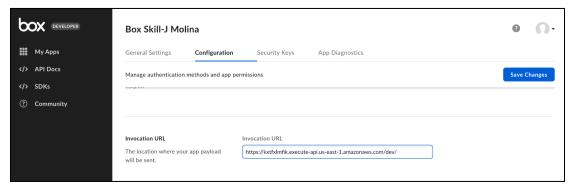


You deployed your function correctly!

Configuring Box

Will need to be done with every deployment because the AWS link changes

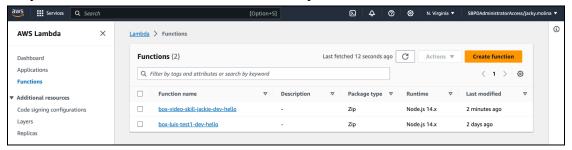
1. Go to your developer Box account, click on your Skill and add the AWS link into the 'Invocation URL'



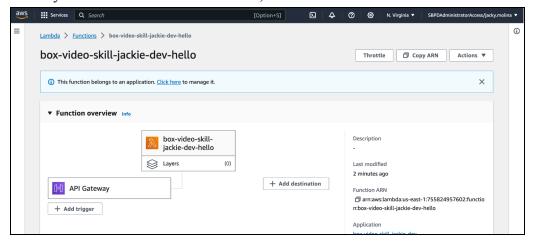
You're done with this step!

Configuring Lambda

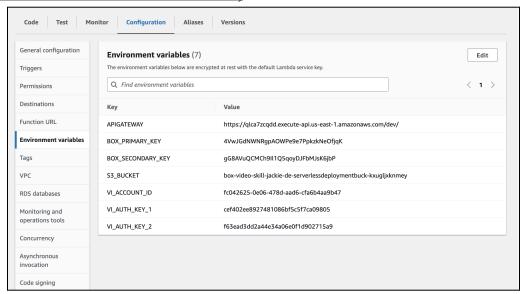
1. Go to your AWS Lambda Functions and click on your function



2. This is what your dashboard should look like, scroll down



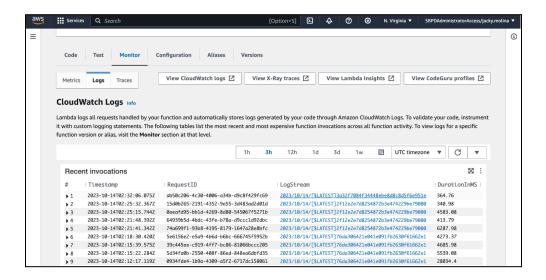
3. Click on the Configuration tab, click edit, and add ALL environment variables (see **ENVIRONMENT VARIABLES KEY**)



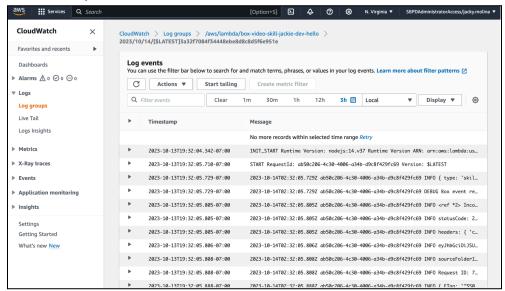
Post-Deployment Information

How to test your AWS Lambda Function?

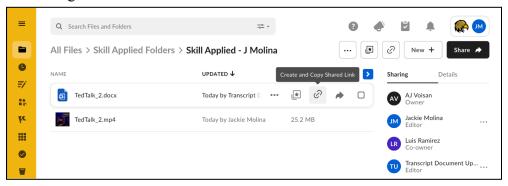
- 1. Go to your Box folder and upload a file (mp4 would be the easiest) Try to do a short video to cut down on processing time
- 2. Go to AWS Lambda and click the Monitoring tab
 Find the Timestamp that is closest to the time you uploaded the video (it might take a couple
 minutes for it to appear) and click on the LogStream link.



Here you can see if any errors occur.



3. After about 5-10 minutes, go back to Box and refresh. You should see a Docx file and your video with new insights.



What do I do if I change the code?

- 1. Delete S3 Bucket (empty it if you have to)
- 2. Delete CloudFormation stack
- 3. Redeploy through Serverless
- 4. Change the Box Dev Invocation link to the new AWS Link
- 5. On AWS Lambda re-enter all your environment variables

You should be ready to test the environment again!