

AI-Powered Career Coach Assistant

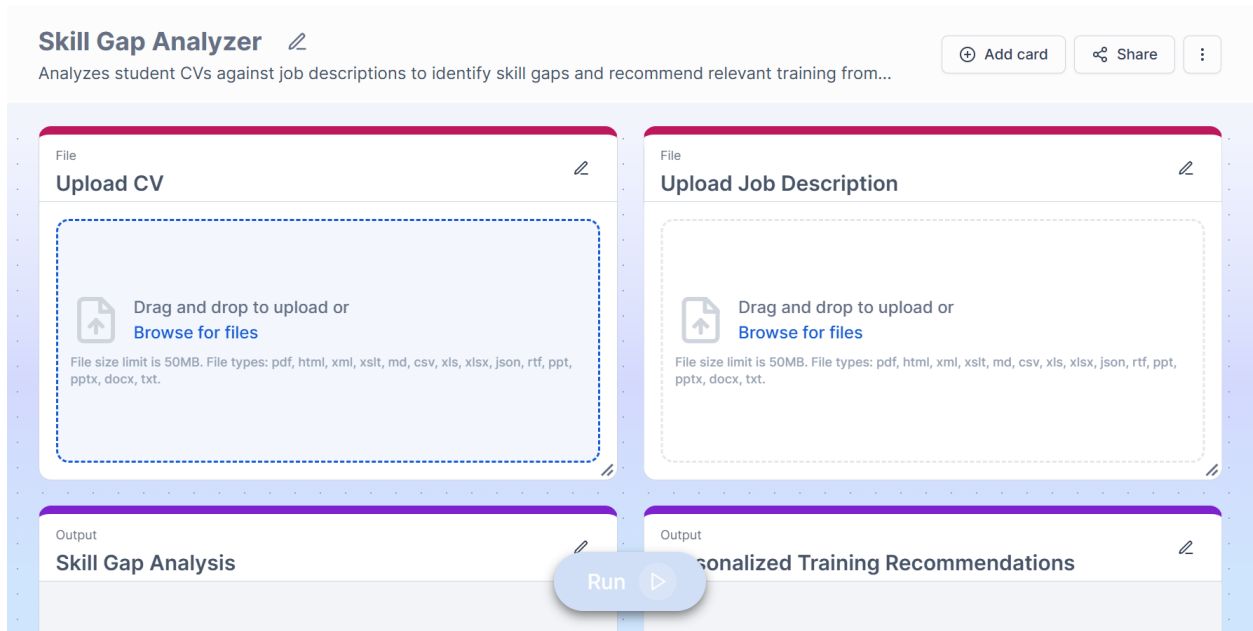
This document summarizes my successful completion of my AWS sponsored Business Intelligence Engineer second project, where I designed and implemented a generative-AI Career Coach Assistant using **Amazon Q Business**. The project required integrating multiple data sources, securing application access, and building intelligent interaction flows to support skill development and career readiness.

1. Create and Customize the Amazon Q Application

I built the core of the Career Coach Assistant by configuring the required input and output components:

Input Cards

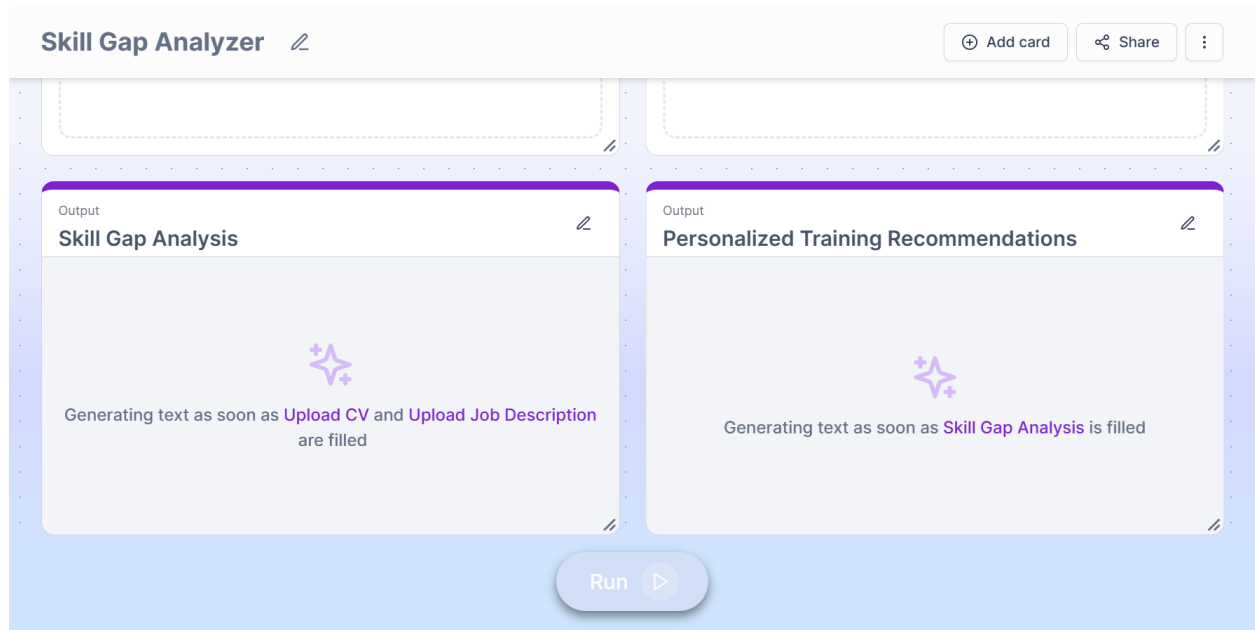
- **CV Upload Card**
- **Job Profile Upload Card**



These allow the user to upload documents for analysis.

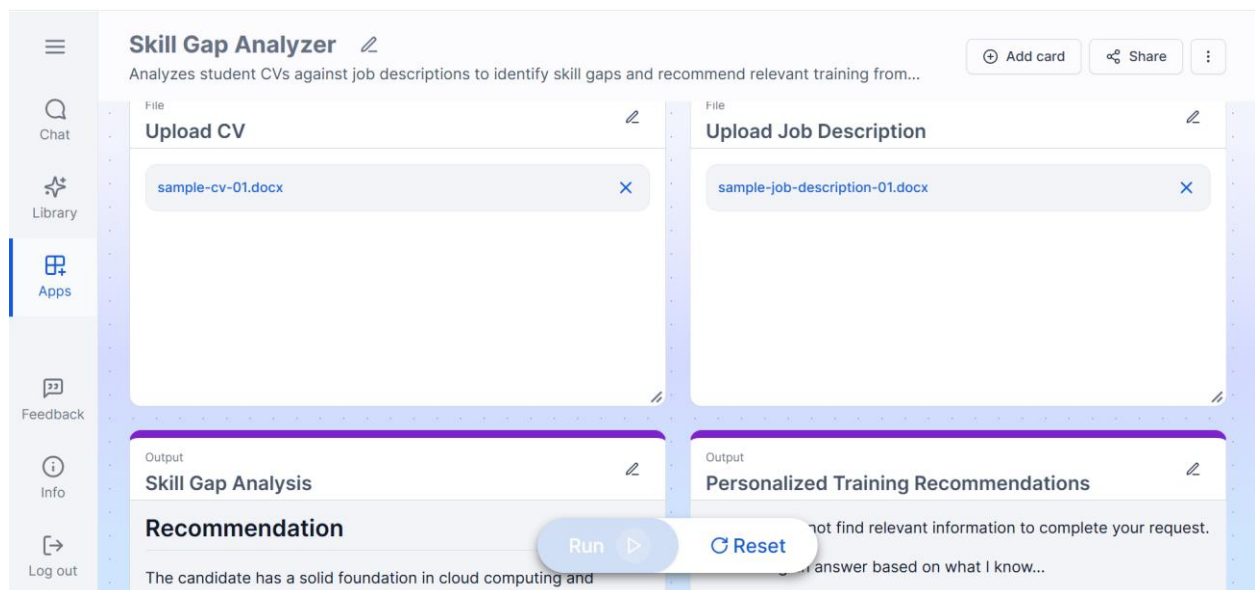
Output Cards

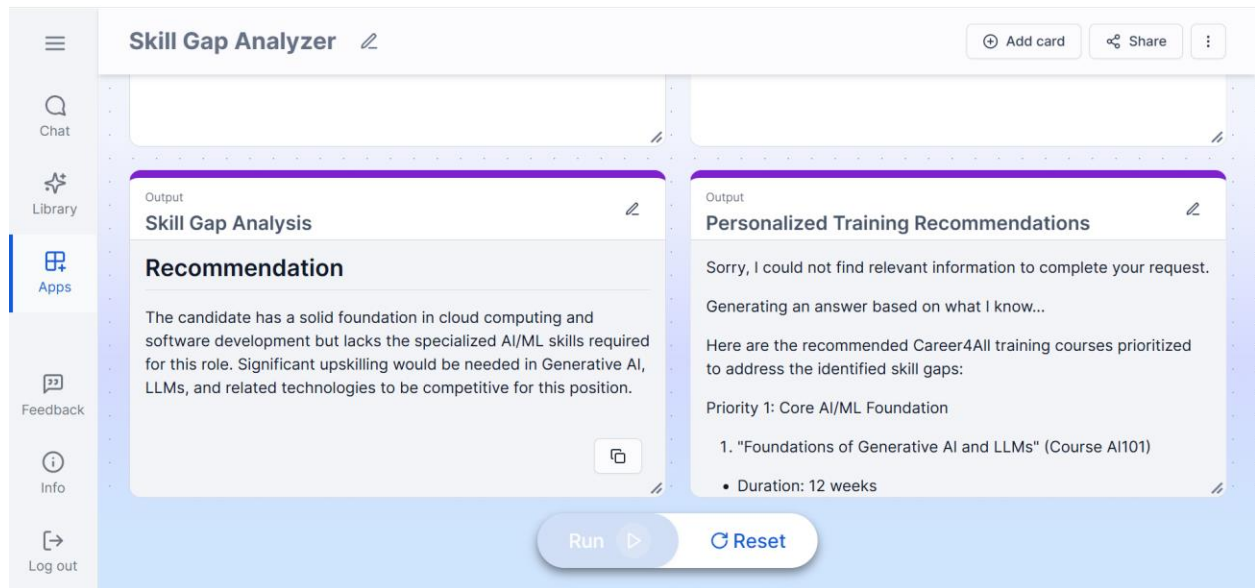
- **Skill Gap Analysis**
- **Training Recommendations**



I verified functionality by uploading sample CVs and job profiles and ensuring the assistant generated accurate results.

A screenshot of the working interface was provided to meet the rubric requirement.



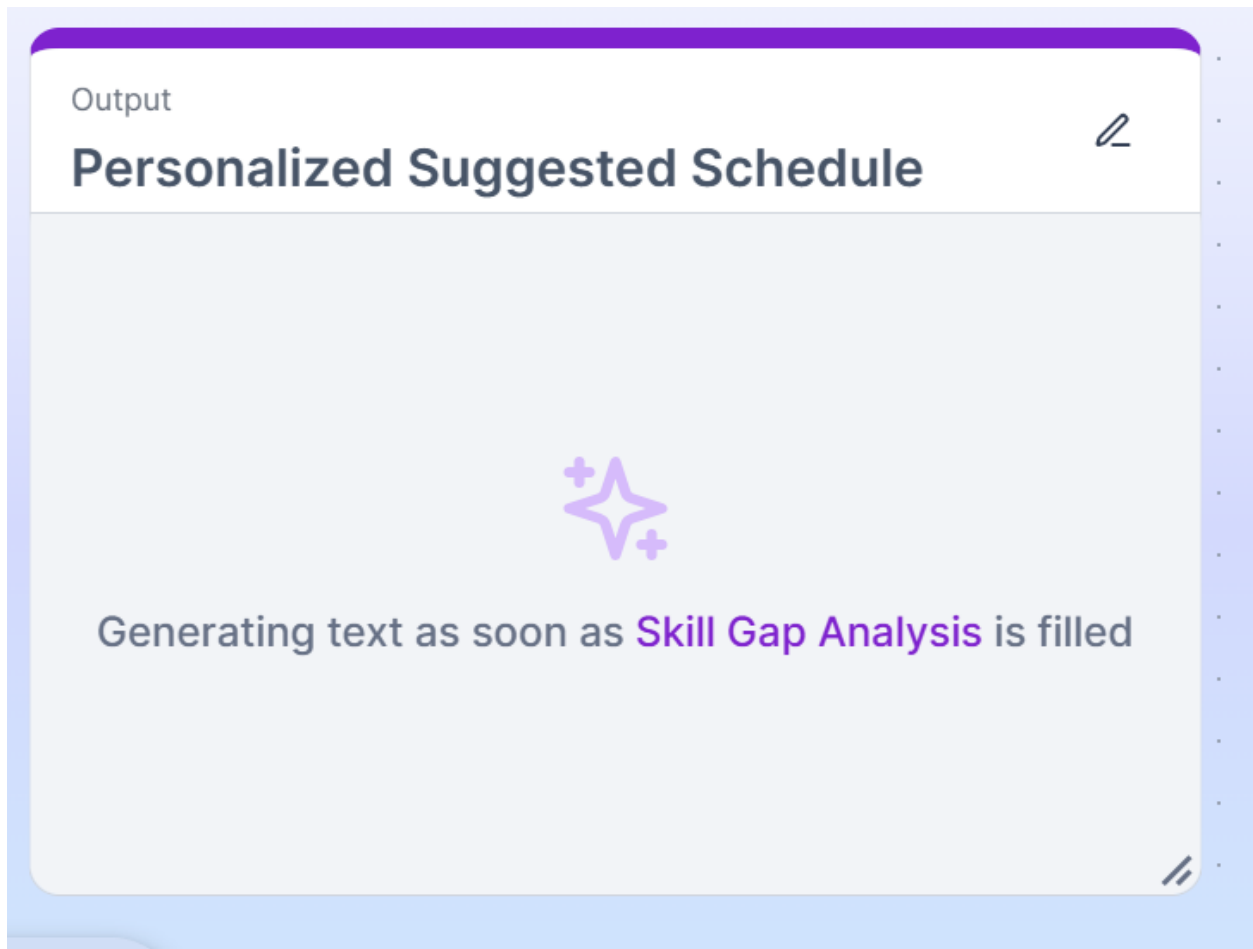


2. Advanced Interaction Components

To enhance interactivity and personalization, I added:

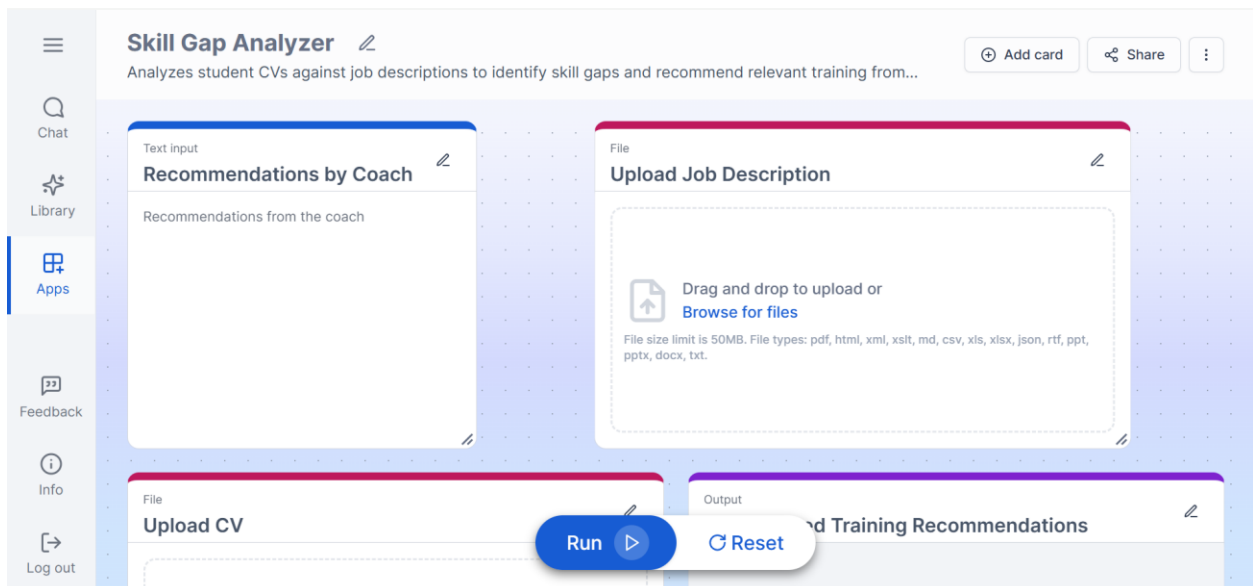
Suggested Schedule

A new **Output Card** that generates a personalized training schedule based on identified skill gaps.

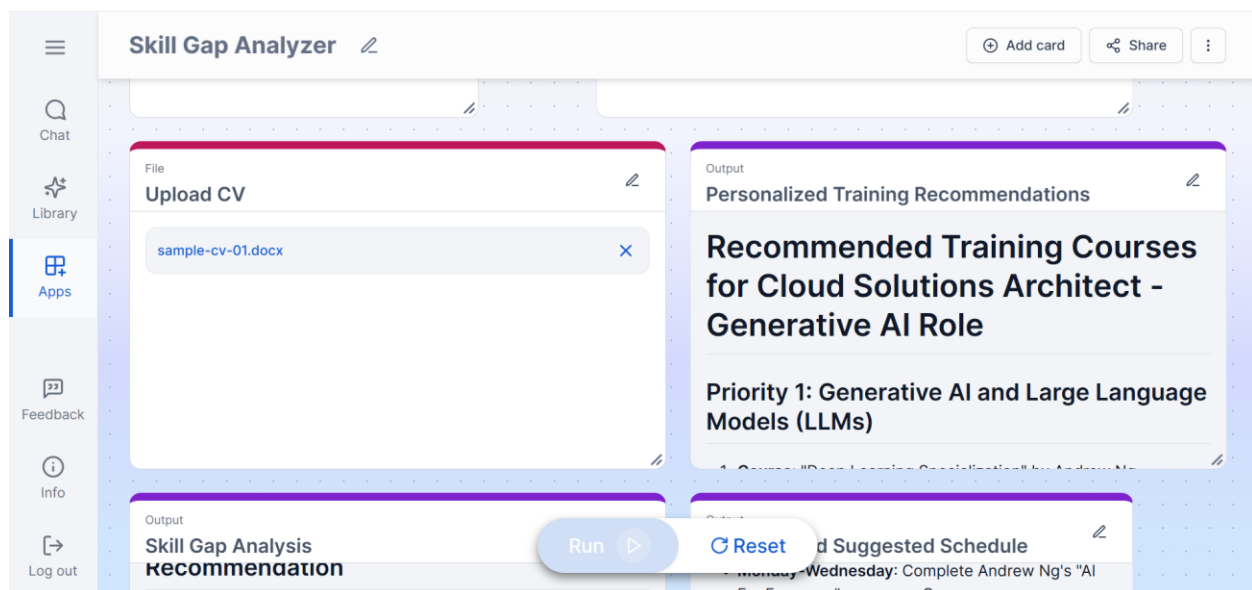
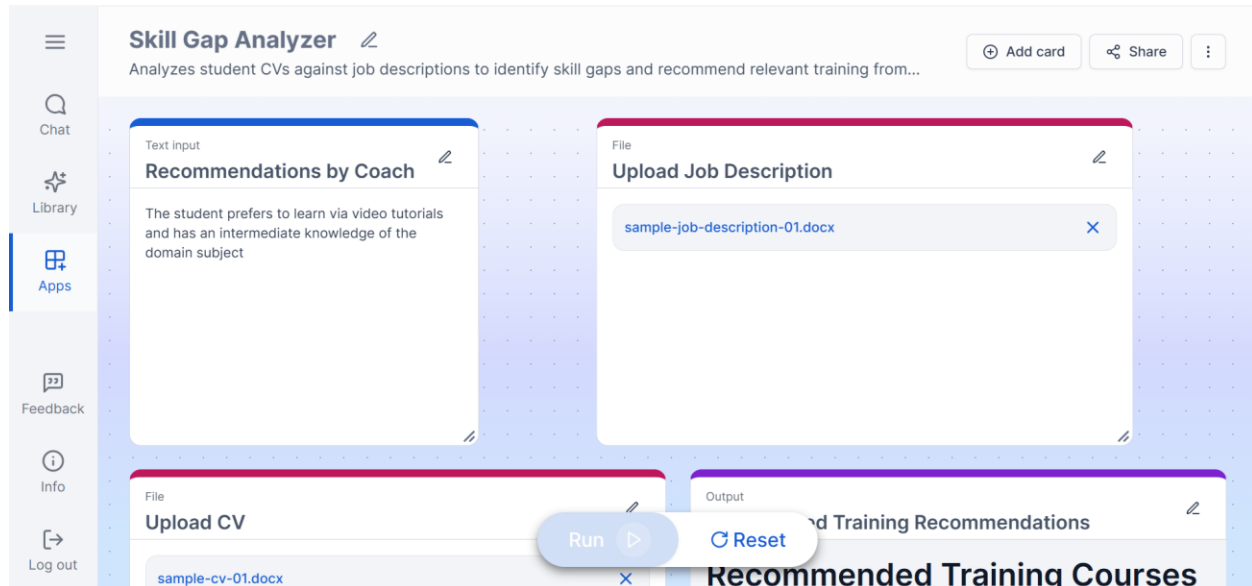


Coach Recommendation Input Card

An **Input Card** enabling users to request tailored guidance from assigned career coaches.



Both additions were tested, validated, and documented with updated interface screenshots.



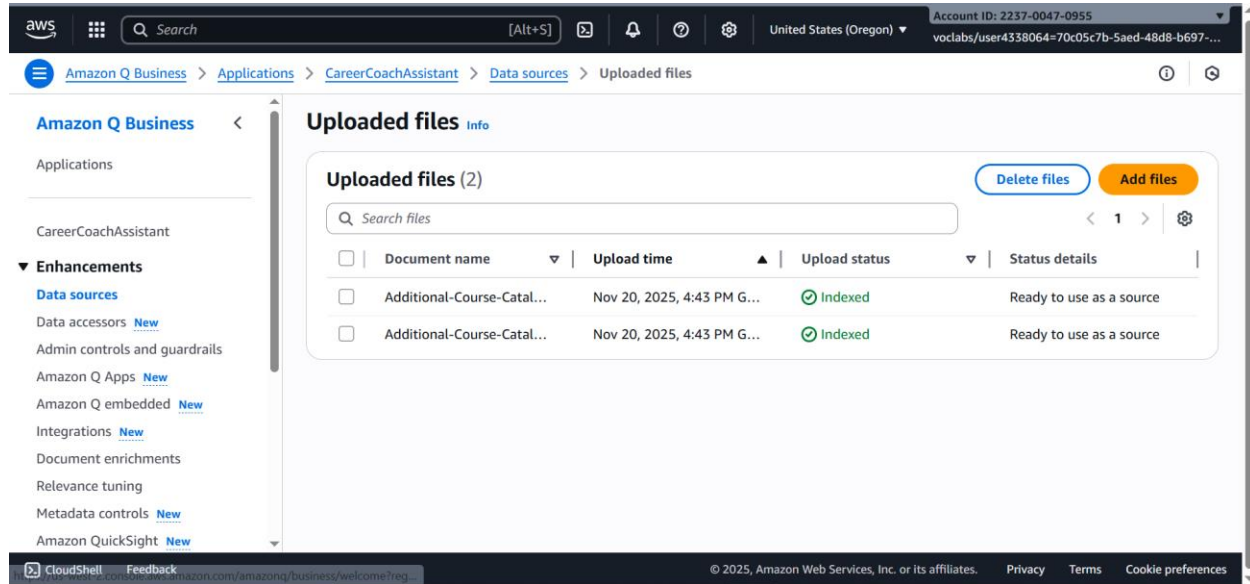
3. Upload Static PDF & Integrate Amazon S3

I connected two types of data sources to enrich the application:

Static PDF Data Source

- Uploaded a **PDF course catalog**

- Synced it successfully as a data source



Amazon S3 Training Catalog

- Created an S3 bucket and uploaded at least one training catalog file
- Added the bucket to Amazon Q as a data source
- Verified a successful sync

These data sources allow the application to pull the most up-to-date training information automatically.

Amazon S3

General purpose buckets

Directory buckets

Table buckets

Vector buckets

Access Grants

Access Points (General Purpose Buckets, FSx file systems)

Access Points (Directory Buckets)

Object Lambda Access Points

Multi-Region Access Points

Batch Operations

IAM Access Analyzer for S3

Block Public Access settings for this account

careercoachesbucket

info

ObjectsMetadataPropertiesPermissionsMetricsManagementAccess Points

Objects (5)

Copy S3 URICopy URLOpen L2DeleteActions

Create folderUpload

Find objects by prefix

Name	Type	Last modified	Size	Storage class
Additional-Course-Catalog-A.pdf	pdf	November 20, 2025, 19:33:50 (UTC+01:00)	128.2 KB	Standard
Additional-Course-Catalog-B.pdf	pdf	November 20, 2025, 19:34:09 (UTC+01:00)	780.3 KB	Standard

Objects are the fundamental entities stored in Amazon S3. You can use [Amazon S3 inventory](#) to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more](#)

Amazon Q Business

Applications

CareerCoachAssistant

Enhancements

Data sources

Data accessors

Admin controls and guardrails

Amazon Q Apps

Amazon Q embedded

Integrations

Document enrichments

Relevance tuning

Metadata controls

Amazon QuickSight

Index

Index name: CareerCoachIndex

Index provisioning: 1

Index ID: 5d218fc6-5382-481e-990a-c3bac8f3b7e9

Index status: Active

Document count: 9

Retriever ID: ee7923f8-600d-41e6-923b-572cab5e8ce0

Last modified time: September 30, 2025, 23:41 (UTC+01:00)

Storage used: 1.07 MiB

Retriever: Native retriever: Starter

Data sources (2)

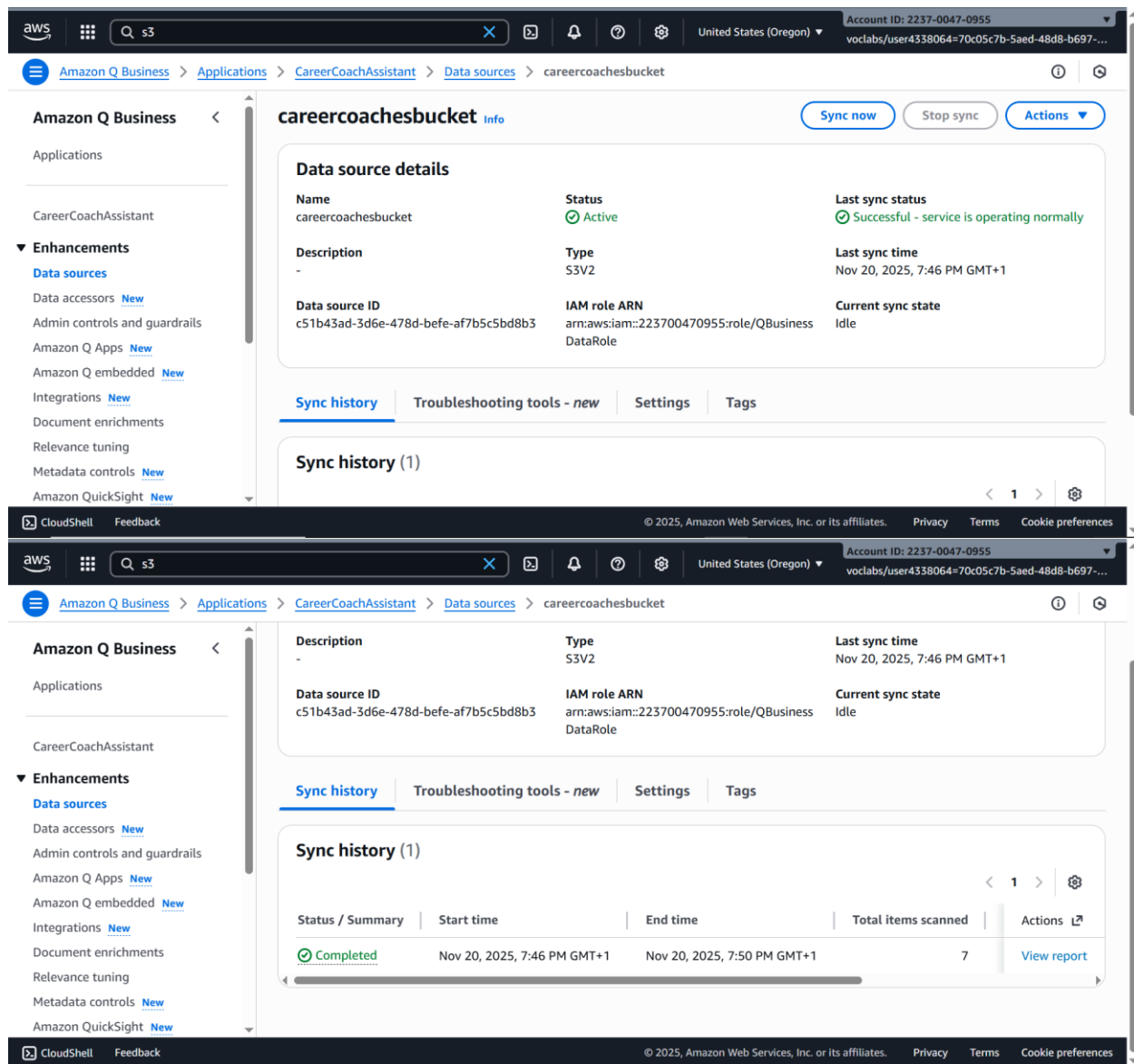
Sync nowStop syncActionsAdd data source

Search data sources

Name	Source	Data so...	Last sy...	Last sy...	Current...	Access ...
careercoac...	S3V2	Active	November...	Completed..	Idle	-
Uploaded ...	FILE UPLO...	-	-	-	-	-

CloudShellFeedback

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4. Configure Automatic Daily Sync

To ensure continuous freshness of the training data:

Daily Scheduled Sync

I configured Amazon Q to perform a **daily automatic sync** for the S3 data source. A screenshot confirming the next scheduled update was included in the submission.

The top screenshot shows the 'Sync run schedule' configuration page for the 'careercoachesbucket' data source. The 'Frequency' is set to 'Daily'. The 'Start time' is configured as 18:41 UTC, which corresponds to Local 07:41 PM (UTC+1). Buttons for 'Back' and 'Update' are visible at the bottom right of the configuration section.

The bottom screenshot shows the 'Sync history' page for the same data source. It displays a table with the following data:

Status / Summary	Start time	End time	Total items scanned	Actions
Completed	Nov 20, 2025, 7:46 PM GMT+1	Nov 20, 2025, 7:50 PM GMT+1	7	View report

Additional details from the console include the 'Data source ID' (c51b43ad-3d6e-478d-befe-af7b5c5bd8b3), 'IAM role ARN' (arn:aws:iam::223700470955:role/QBusinessDataRole), and 'Last sync time' (Nov 20, 2025, 7:46 PM GMT+1).

5. Secure the Application

Security and responsible access control were essential parts of the project:

Use of Required Group & Users

I used the provided **CareerCoaches** group with the required users:

- *career.coach.one*
- *career.coach.two*

Groups (1)
Users (2)

Groups (1) Info

Edit subscription Remove and unsubscribe Add groups and users

Add groups and assign subscriptions.

Q Find group

< 1 > ⚙

<input type="checkbox"/>	Name	Current subscription	Subscription status
<input type="checkbox"/>	CareerCoaches	Q Business Pro	Active

Groups (1)
Users (2)

Users (2) Info

Edit subscription Remove and unsubscribe Add groups and users

Add users and assign subscriptions.

Q Find user

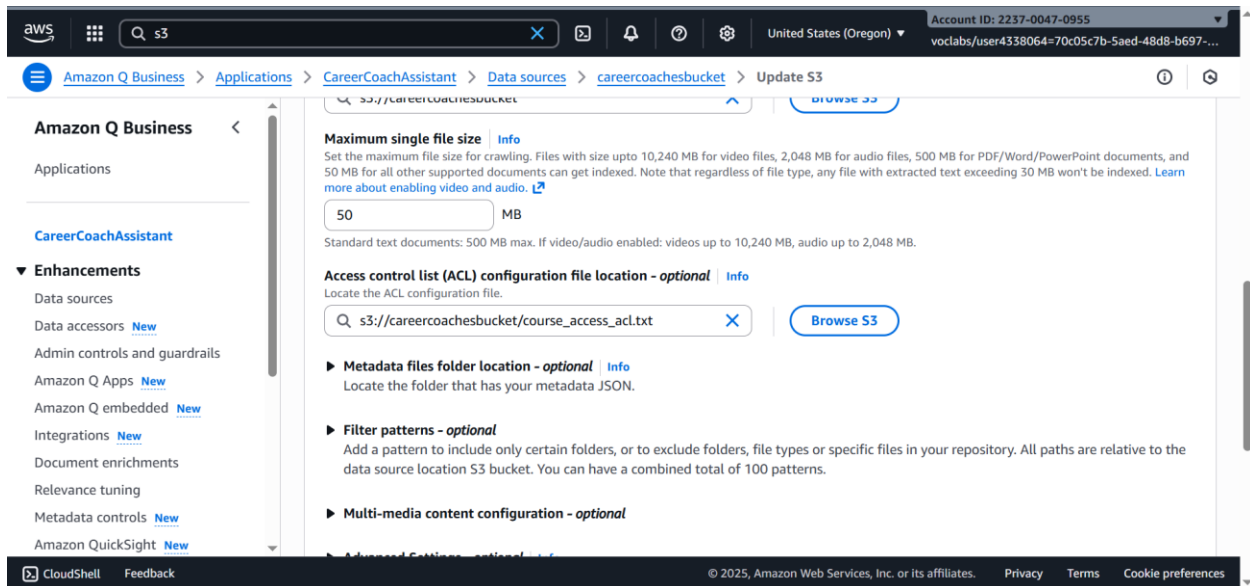
< 1 > ⚙

<input type="checkbox"/>	Name	User name	Current subscription	Subscription status
<input type="checkbox"/>	Career Coach One	career.coach.one	Q Business Pro	Active
<input type="checkbox"/>	Career Coach Two	career.coach.two	Q Business Pro	Active

ACL Access Control

Uploaded and applied an **ACL file** to the appropriate data source to enforce access permissions.

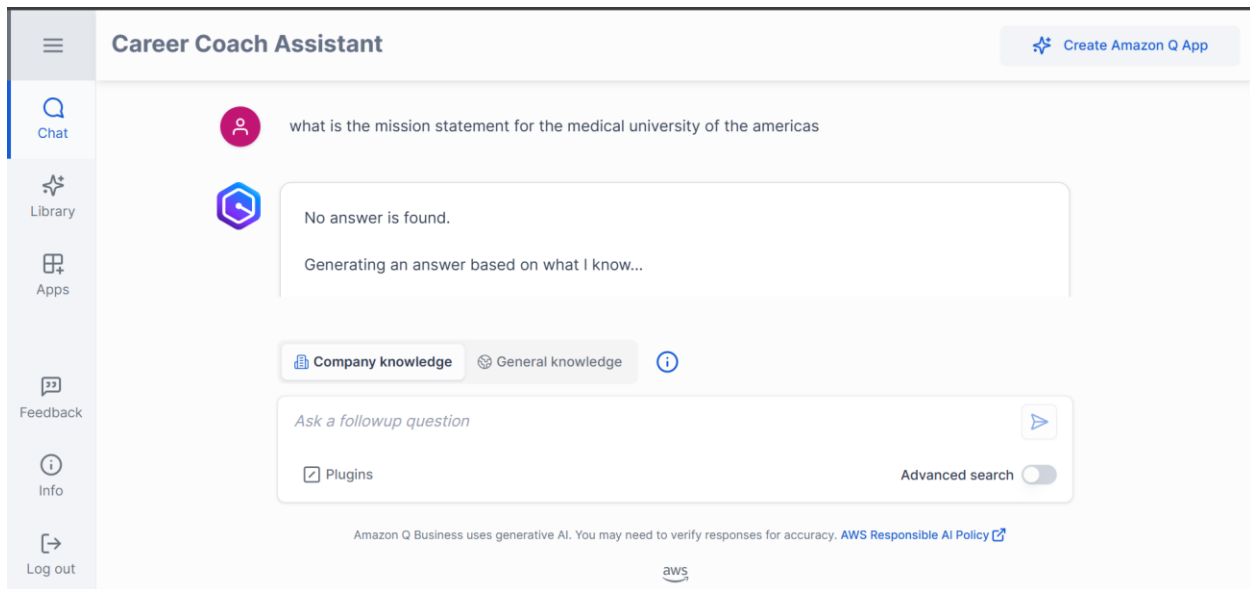
```
[
  {
    "keyPrefix": "s3://careercoachesbucket/Security/",
    "aclEntries": [
      {
        "Name": "CareerCoaches",
        "Type": "GROUP",
        "Access": "ALLOW"
      }
    ]
  },
  {
    "keyPrefix": "s3://careercoachesbucket/Medicine/",
    "aclEntries": [
      {
        "Name": "career.coach.one",
        "Type": "USER",
        "Access": "DENY"
      },
      {
        "Name": " career.coache.two ",
        "Type": "USER",
        "Access": "ALLOW"
      }
    ]
  }
]
```



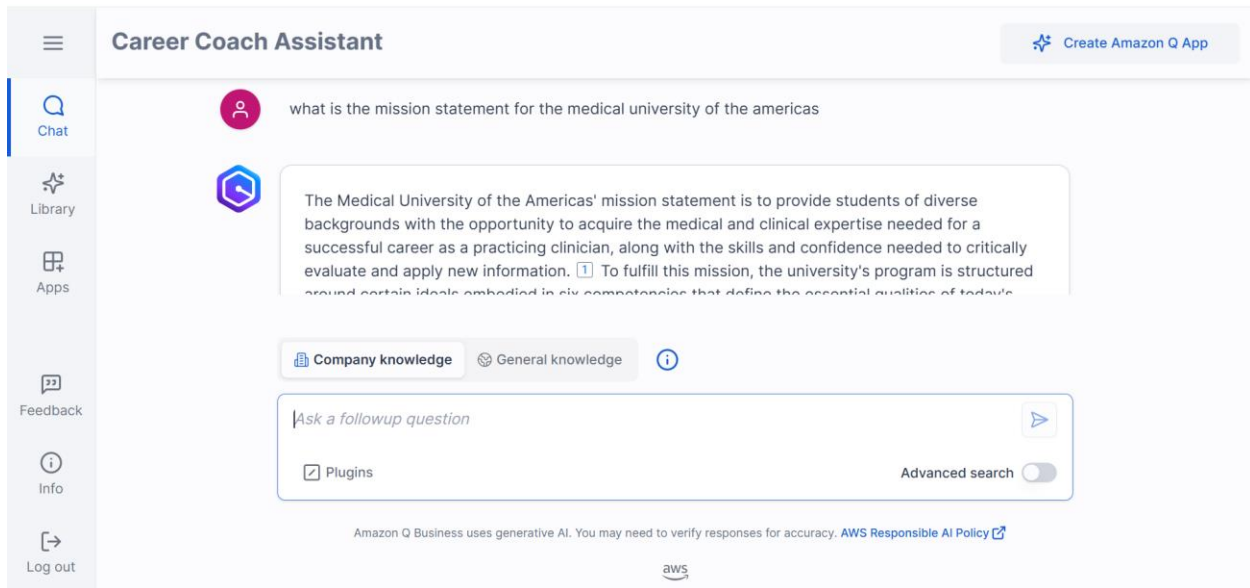
✓ Access Verification

Documented results showing:

- **Access Denied** for unauthorized coach



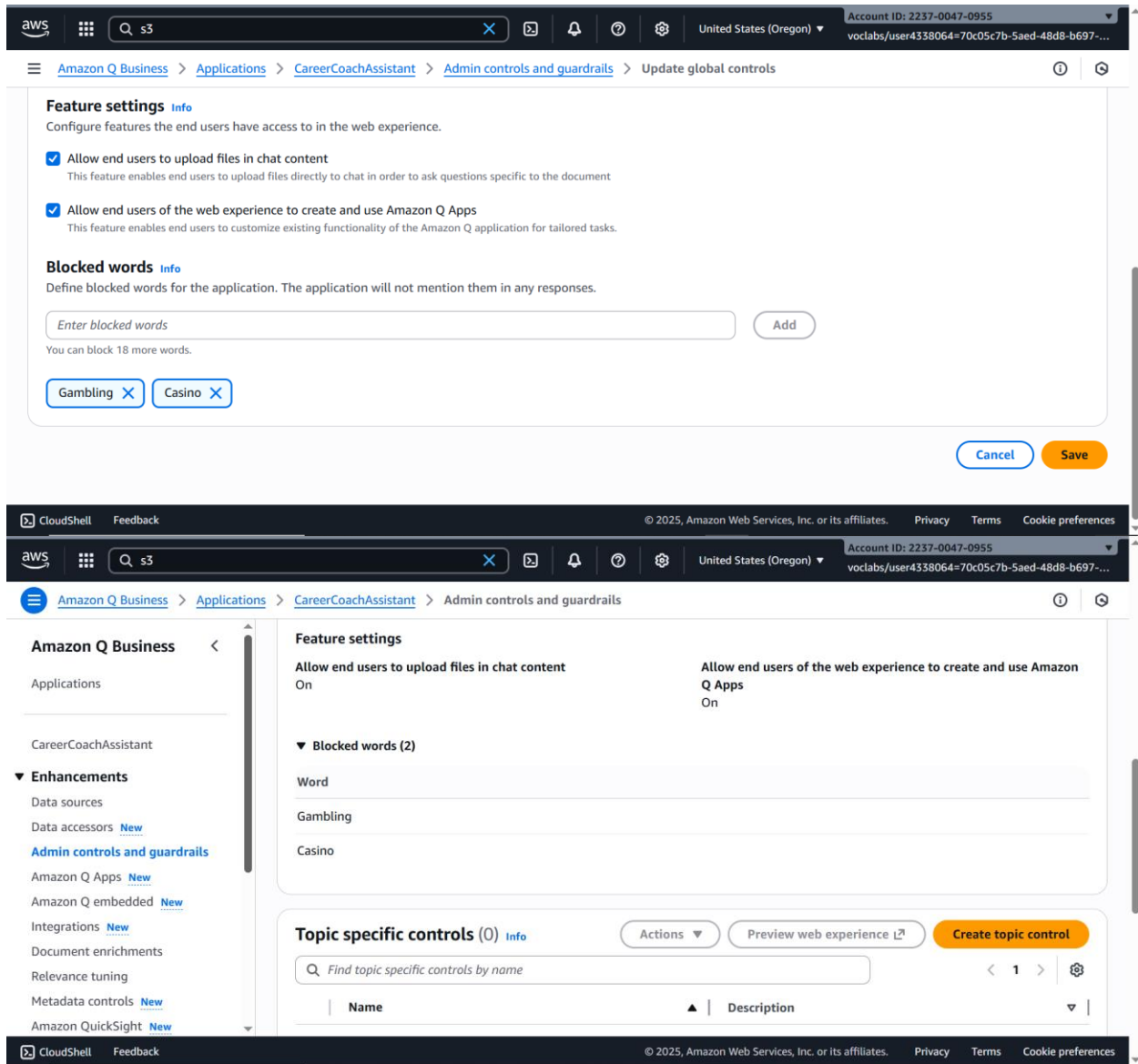
- **Access Granted** for authorized coach



Content Moderation

Configured a **Global Controls list** to block restricted keywords such as “*Gambling*” and “*Casino*”.

A screenshot of the keyword filtering configuration was included.

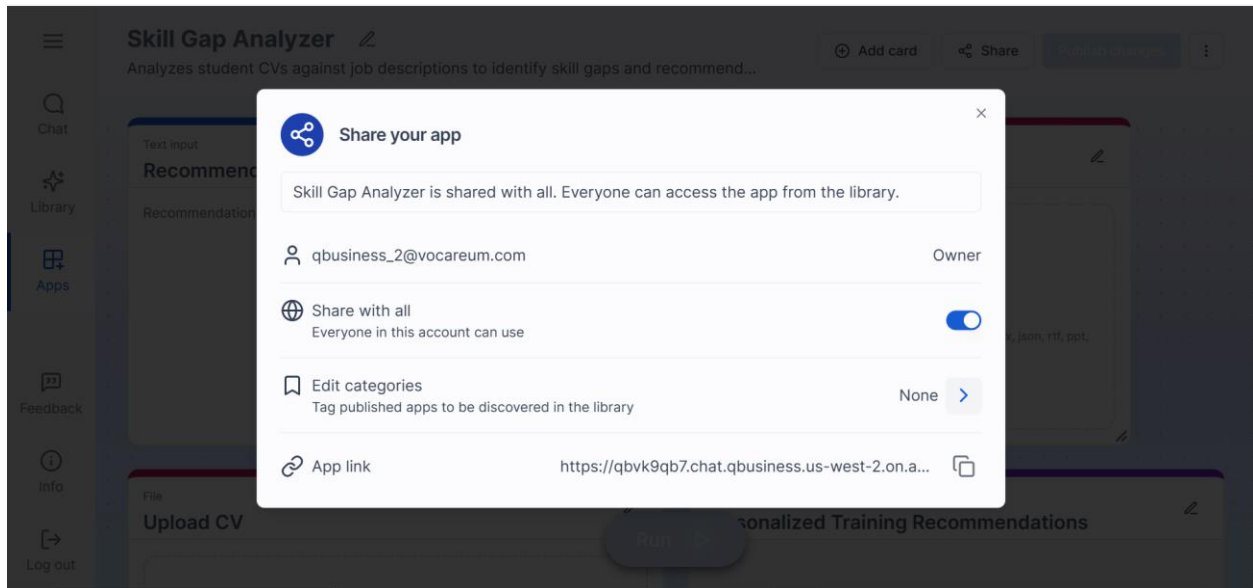


6. Publish and Share the Application

I finalized the app by preparing it for end users:

Sharing & Permissions

The application was shared with the required users and groups.



Custom Labels

Labels such as “Career Coaching” and “AI-Powered” were applied to organize and categorize the app.

aws

Search

[Alt+S]

United States (Oregon)

Account ID: 2237-0047-0955
voclabs/user4338064=70c05c7b-5aed-48d8-b697-...

[Amazon Q Business](#) > [Applications](#) > [CareerCoachAssistant](#) > [Amazon Q Apps](#) > Amazon Q Apps Settings

Edit custom labels

Custom labels

Below, you can create labels of your choosing which then can be added to the apps, allowing users to filter the library by clicking on a specific label for an organized search experience.

Label	Color	
AI powered	<div><input type="checkbox"/> Grey</div>	<div>Remove</div>
Career Coaching	<div><input type="checkbox"/> Pink</div>	<div>Remove</div>
Finance	<div><input type="checkbox"/> Fuchsia</div>	<div>Remove</div>
Operations	<div><input type="checkbox"/> Green</div>	<div>Remove</div>
HR	<div><input type="checkbox"/> Black</div>	<div>Remove</div>

AI powered

Career Coaching

HR

Skill Gap Analyzer

1 user | Published on November 20, 2025

Analyzes student CVs against job descriptions to identify skill gaps and recommend relevant training from Career4All's catalog

Open

Verified & Endorsed

The application was endorsed and marked as a **Verified Q App**, meeting the final requirement. Screenshots confirming its published state, labels, and verification status were included.

aws

Search

[Alt+S]

United States (Oregon)

Account ID: 2237-0047-0955
voclabs/user4338064=70c05c7b-5aed-48d8-b697-...

Amazon Q Business

Applications

CareerCoachAssistant

Amazon Q Apps

Amazon Q Business

Applications

CareerCoachAssistant

Enhancements

Data sources

Admin controls and guardrails

Amazon Q Apps New

Amazon Q embedded New

Integrations New

Amazon QuickSight New

Response customization New

Apps

Settings

Published Amazon Q Apps in library (1/2) Info

Remove from library

Update state

Update the state to Verified to endorse that they have been validated for quality.

Search Amazon Q Apps

< 1 >

Name

Description

Creation time

Creator

State

☒

Skill Gap Analyzer

Analyzes student CVs against job descr...

Nov 19, 2025, 11:13 PM GMT+1

Career Coach Two

Verified

Custo

mer

Comp

AI powered

Career Coaching

HR

Skill Gap Analyzer

1 user | Published on November 20, 2025

Analyzes student CVs against job descriptions to identify skill gaps and recommend relevant training from Career4All's catalog

Open

Final Summary

My completed project demonstrates proficiency in:

- Building AI-powered workflows using **Amazon Q Business**
- Integrating PDF and **Amazon S3** data sources
- Implementing secure access controls
- Designing interactive components and intelligent recommendations
- Managing syncing, moderation, and publishing of cloud-based applications

This project strengthened my skills in **data integration, cloud application development, and AI-driven business intelligence workflows**, aligning with the goals of the AWS–Udacity Business Intelligence Engineer scholarship.