

# **AI-powered Career Coach Assistant**

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## Project Overview

This project demonstrates the development of a generative AI-powered Q App using **Amazon Q Business**. The application analyzes uploaded CVs and job profiles to identify skill gaps and recommend personalized training paths. It integrates advanced interaction components, secure access controls, and dynamic data sources including Amazon S3 and static PDFs.

## Core Functionality

- **Skill Gap Analysis:** Input cards for CV and job profile uploads; output card displays skill gap results.

The image displays three interactive cards from a user interface, each with a close button (X) in the top right corner.

- File upload (Left Card):**
  - Title: Upload CV
  - Default file - optional: sample-cv-01.docx (with a delete X button and an upload icon button)
  - Info icon: Uploaded files will be accessible to users of published Q Apps
  - Checkbox: ☒ Allow override of default file
  - Buttons: Delete card, Save
- File upload (Middle Card):**
  - Title: Job profile uploads
  - Default file - optional: sample-job=... (with a delete X button and an upload icon button)
  - Info icon: Uploaded files will be accessible to users of published Q Apps
  - Checkbox: ☒ Allow override of default file
  - Buttons: Delete card, Save
- Text input (Right Card):**
  - Title: Career Coach Input
  - Placeholder - optional: placeholder
  - Default value - optional: Tech field — specifically Data Science. The learner has strong Python skills but limited experience with machine learning.
  - Buttons: Delete card, Save

### Output

Title

Skill Gap Analysis

Prompt

Type @ to reference a card

Write a prompt here:  
Based on the uploaded resume from **Upload CV** and the job description from **Job profile uploads**  
1. Identify the key skills already present in the resume.  
2. List the essential skills required for the target role.  
3. Highlight the skill gaps that need to be addressed.  
4. Prioritize these gaps based on their importance for the target role.  
Present the results in clear sections:  
- Existing Skills  
- Required Skills

Source

Attached files

Delete card

Save

- **Training Recommendations:** Output card suggests relevant training based on identified gaps.

CareerCoachAssistant

AI-powered assistant to automate resume review, skill gap analysis, and personalized training recommendations for learners at Career4All.

Add card

Share

Text input

Career Coach Input

Tech field — specifically Data Science.  
The learner has strong Python skills but limited experience with machine learning frameworks and cloud tools.  
Recommend focusing on practical, project-based learning in ML and cloud deployment.  
Include short courses or certifications (Coursera, edX, FutureLearn, etc.)

File

Job profile uploads

sample-job-description-01.docx

File

Upload CV

sample-cv-01.docx

Output

Skill Gap Analysis

Choose "Run" to run the app

Output

Schedule

Generating text as soon as  
Training Recommendations is filled

Output

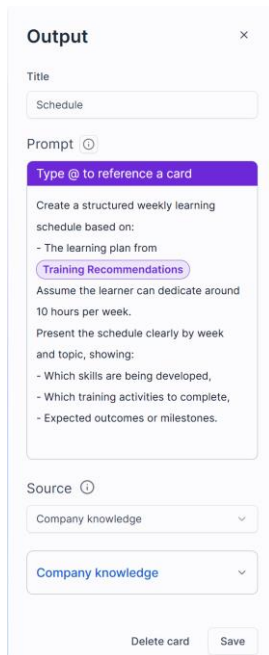
Training Recommendations

Generating text as soon as Skill Gap Analysis is filled

Run

## Advanced Interaction Components

- **Suggested Schedule Output Card:** Displays a personalized training timeline.



The screenshot shows a modal window titled "Output" with a close button (X) in the top right corner. Inside the modal, there is a "Title" section with a text input field containing the word "Schedule". Below this is a "Prompt" section with a help icon (i) and a purple header that says "Type @ to reference a card". The prompt text reads: "Create a structured weekly learning schedule based on: - The learning plan from Training Recommendations Assume the learner can dedicate around 10 hours per week. Present the schedule clearly by week and topic, showing: - Which skills are being developed, - Which training activities to complete, - Expected outcomes or milestones." The word "Training Recommendations" is highlighted with a purple pill-shaped background. Below the prompt is a "Source" section with a help icon (i) and two dropdown menus, both of which currently display "Company knowledge". At the bottom of the modal are two buttons: "Delete card" and "Save".

- **Coach Recommendation Input Card:** Allows users to request tailored advice from specific coaches.



## Data Source Integration

- **Static PDF Upload:** Course catalog uploaded and synced.
- **Amazon S3 Integration:** Training catalog file uploaded and synced.
- **Screenshots:** Confirm successful sync for both sources.

The screenshot displays the AWS CareerCoach\_DataSource interface. At the top, there's a navigation bar with 'Amazon Q Business', 'Applications', 'CareerCoachAssistant', and 'Data sources'. Below this, the 'CareerCoach\_DataSource' page is shown with buttons for 'Sync now', 'Stop sync', and 'Actions'. The 'Data source details' section includes fields for Name, Description, Data source ID, Status, Type, IAM role ARN, Last sync status, Last sync time, and Current sync state. The 'Sync history' section shows a table with columns for Status / Summary, Start time, End time, Total items scanned, Failed, Logs, and Actions. The table lists two successful syncs: one on Nov 02, 2025, and another on Nov 01, 2025.

Status / Summary	Start time	End time	Total items scanned	Failed	Logs	Actions
Completed	Nov 02, 2025, 5:56 AM GMT+3	Nov 02, 2025, 5:59 AM GMT+3	7	0	Service is operating normally	View report
Completed	Nov 01, 2025, 5:57 AM GMT+3	Nov 01, 2025, 6:00 AM GMT+3	5	0	Service is operating normally	View report

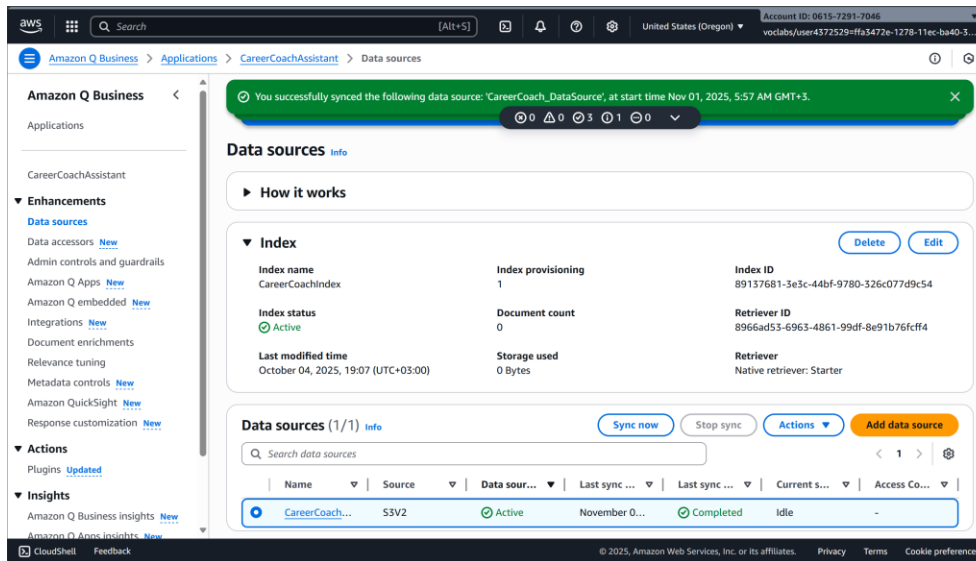
## Automatic Updates

- **Scheduled Sync:** Daily sync configured for S3 data source.

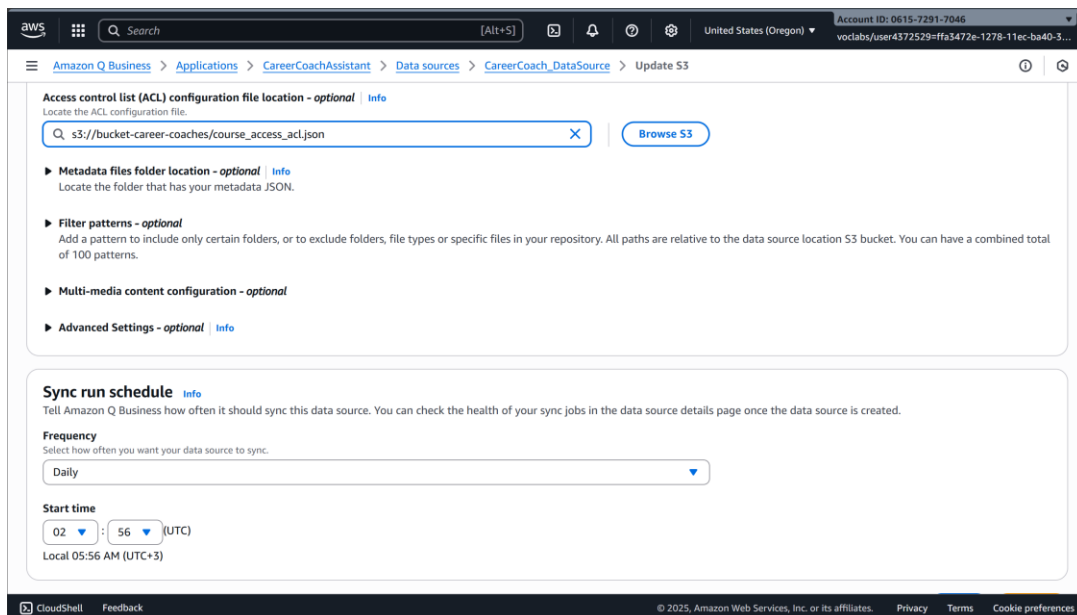
This screenshot is identical to the one above, showing the AWS CareerCoach\_DataSource interface with the same navigation, details, and sync history table.

Status / Summary	Start time	End time	Total items scanned	Failed	Logs	Actions
Completed	Nov 02, 2025, 5:56 AM GMT+3	Nov 02, 2025, 5:59 AM GMT+3	7	0	Service is operating normally	View report
Completed	Nov 01, 2025, 5:57 AM GMT+3	Nov 01, 2025, 6:00 AM GMT+3	5	0	Service is operating normally	View report

## Security and Moderation



- **Access Control:** ACL file uploaded for CareerCoaches group (users: career.coach.one, career.coach.two).



- **Content Moderation:** Global Controls list configured to block restricted keywords (e.g., Gambling, Casino).

aws

Search

[Alt+S]

United States (Oregon)

Account ID: 0615-7291-7046  
vocalabs/user4372529#ffa3472e-1278-11ec-ba40-3...

Amazon Q Business

Applications

CareerCoachAssistant

Admin controls and guardrails

Update global controls

To enable hallucination mitigation, you must first deactivate chat orchestration. [Learn more](#)

Chat orchestration settings - new

info

Configure how Amazon Q Business manages responses to end user queries.

Allow Amazon Q Business to automatically orchestrate chat queries across plugins and data sources

This feature enables end users to upload files directly to chat in order to ask questions specific to the document.

End users can always view and manually activate configured plugins from conversation settings in web app.

Feature settings

info

Configure features the end users have access to in the web experience.

Allow end users to upload files in chat content

This feature enables end users to upload files directly to chat in order to ask questions specific to the document.

Allow end users of the web experience to create and use Amazon Q Apps

This feature enables end users to customize existing functionality of the Amazon Q application for tailored tasks.

Blocked words

info

Define blocked words for the application. The application will not mention them in any responses.

Enter blocked words

Add

You can block 16 more words.

Gambling

Casino

Self-harm

Attack

Cancel

Save

CloudShell

Feedback

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Amazon Q Business

Applications

CareerCoachAssistant

Admin controls and guardrails

Amazon Q Business

Applications

CareerCoachAssistant

▼ Enhancements

Data sources

Data accessors [New](#)

Admin controls and guardrails

Amazon Q Apps [New](#)

Amazon Q embedded [New](#)

Integrations [New](#)

Document enrichments

Relevance tuning

Metadata controls [New](#)

Amazon QuickSight [New](#)

Response customization [New](#)

▼ Actions

Plugins [Updated](#)

▼ Insights

Amazon Q Business insights [New](#)

Amazon Q Apps insights [New](#)

Documentation

Global controls

info

Edit

Response settings

Allow end users to send queries directly to the LLM

On

Status [Active](#)

Allow Amazon Q to fall back to LLM knowledge

On

Enable response personalization

On

Enable hallucination mitigation - new

Off

Chat orchestration settings - new

Allow automatic routing to plugins and data sources

On

Feature settings

Allow end users to upload files in chat content

On

Allow end users of the web experience to create and use Amazon Q Apps

On

▼ Blocked words (4)

Word

Gambling

Casino

Self-harm

Attack

Topic specific controls (0)

info

Actions

Preview web experience

Create topic control

Find topic specific controls by name

1



# Enhancements

Account ID: 0615-7291-7046  
voclabs/user4372529=ffa3472e-1278-11ec-ba40-3...

United States (Oregon)

Search

[Alt+S]

CloudShell

Feedback

Previewing CareerCoachAssistant

View web experience

Career Coach Assistant

AI-powered career coaching assistant

Your career goals matter. Let's explore training options and resources that match your strengths and aspirations.

Try these starter questions:

Summarize meeting notes

Chat about your latest meeting

Summarize a document

Chat about an uploaded file

Analyze customer feedback

Categorize feedback and analyze sentiment

Enhance document quality

Proofread and improve your document

Customize web experience

Text

Theme

Title

Career Coach Assistant

Character count : 22/25

Subtitle

AI-powered career coaching assistant

Character count : 36/50

Welcome message

Your career goals matter. Let's explore training options and resources that match your strengths and aspirations.

Character count : 113/300

☒ Display sample prompts

This feature provides a list of sample prompts on the end user's conversation start screen. The sample prompts may not work if you limit responses to your enterprise data. [Learn more](#)

Cancel

Save

CloudShell

Feedback

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Account ID: 0615-7291-7046  
voclabs/user4372529=ffa3472e-1278-11ec-ba40-3...

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Summarize a document

Chat about an uploaded file

Analyze customer feedback

Categorize feedback and analyze sentiment

Enhance document quality

Proofread and improve your document

Customize web experience

Text

Theme

Managed theming

Provide color codes

Custom theming

Insert CSS

New conversation screen

Specify the color and font styling for the new conversation screen. Empty fields will stay as default settings.

Background color

#E9E9E9

Primary title color

#5A2F97

Font

Arial

Logo

Enter the S3 URI for the logo you want to display in the web experience. If you leave this field empty, the default logo will be used.

s3://bucket/prefix/object

CloudShell

Feedback

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