

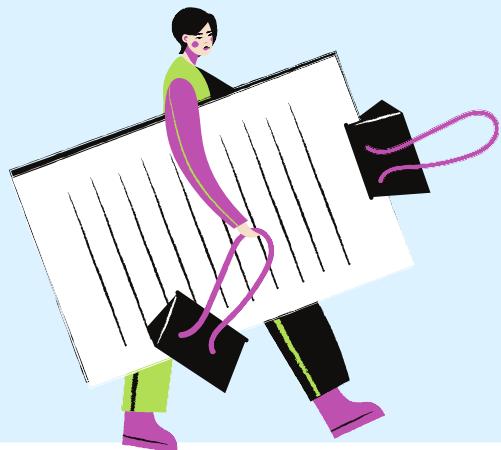


amazon
QuickSight

UDACITY

Future AWS

Business Intelligence Engineer



Automating Career Coaching

Career4All,



Prepared by
Hanan Bagadeem

Introduction

The Career4All project aims to assist Career Coaches in automating the career coaching process to improve efficiency, scalability, and accuracy. Using Amazon Q Business, the application leverages AI to analyze candidate CVs, job descriptions, and coach recommendations to provide smart insights such as skill gap analysis, training recommendations, and personalized schedules.

The goal of this project is to create a functional, secure, and interactive system that enhances the professional development process while maintaining ethical and data protection standards.

Section 1 – Setup Amazon Q Business

CareerCoachAssistant Q Business application

This screenshot shows the 'Groups' section of the Amazon Q Business application. On the left, a sidebar lists 'Users', 'Groups', and 'Settings'. Under 'Application assignments', there is a 'Groups' section with a single entry: 'CareerCoaches'. The main area displays 'General information' for this group, including tabs for 'Profile', 'Groups (1)', 'Applications', and 'Active sessions (0)'. The 'Groups (1)' tab is selected, showing 'Group memberships (1)'. A search bar allows users to search for groups by name. The table lists one group membership: 'CareerCoaches' with a description 'Group for career coaching staff'. Buttons for 'Remove from group' and 'Add user to groups' are visible at the top right of the membership list.

CareerCoaches group in IAM Identity Center

This screenshot shows the 'Groups' section of the IAM Identity Center. The sidebar includes 'Dashboard', 'Users', 'Groups', 'Settings', 'Applications', and 'Related consoles'. The 'Groups' section is active, showing a 'General Information' card for the 'CareerCoaches' group. Below this, a 'Users' tab is selected, showing 'Users in this group (2)'. A search bar allows users to find users in the group. The table lists two users: 'career.coach.one' and 'career.coach.two'. Both users are marked as 'Enabled' and have their respective emails listed: 'qbusiness@vocareum.com' and 'qbusiness_2@vocareum.com'. Buttons for 'Remove users from group' and 'Add users to group' are located at the top right of the user list.

Section 2 – Create Application

Input Cards

Files Inputs:

- **Upload CV:** Allows the user to upload the candidate's CV
- **Upload Job Profile/Description:** Enables the user to provide the target job description file for comparison.

Text Inputs:

- **Learner Availability**
- **coach Notes**

File
Upload Learner's CV

Drag and drop to upload or
Browse for files

File size limit is 50MB. File types: pdf, html, xml, xslt, md, csv, xls, xlsx, json, rtf, ppt, pptx, docx, txt.

Text input
Learner's Availability

Please describe the learner's weekly availability for training (e.g., evenings after 6pm, weekends, 2 hours per day, etc.)

File
Upload Job Profile

Drag and drop to upload or
Browse for files

File size limit is 50MB. File types: pdf, html, xml, xslt, md, csv, xls, xlsx, json, rtf, ppt, pptx, docx, txt.

Text input
Coach's Personalized Notes or Adjustments

Add any specific recommendations, priorities, or adjustments to the automated analysis (e.g., prioritize leadership training, focus on technical skills first, etc.)

Output Cards

The Skill Gap Analysis card compares the candidate's skills from their CV with the job requirements, identifying:

- Matched skills
- Missing skills (ranked by importance)
- Weak skills (present but below expected level)
- Learning objectives to close the skill gap

Output
Skill Gap Analysis

Generating text as soon as **Upload Learner's CV** and **Upload Job Profile** are filled

Run

Output

Title
Skill Gap Analysis

Prompt

Type @ to reference a card

Analyze the CV provided in **Upload Learner's CV** and the job profile in **Upload Job Profile**. Identify the skills mentioned in the job profile that are either missing or underdeveloped in the CV. Present your analysis as a structured list with columns for 'Skill', 'Current Level' (None/Basic/Intermediate/Advanced based on CV), and 'Required Level' (based on job profile). Focus on both technical and soft skills. Be comprehensive but prioritize the most important gaps first.

Source

Attached files

Section 2 – Create Application

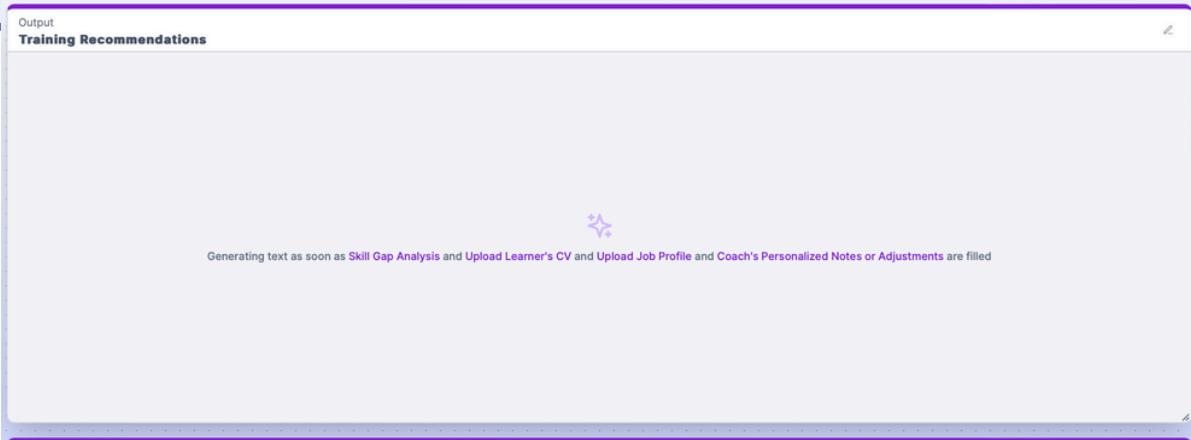
Output Cards

Training Recommendations

this card provides training suggestions based on the identified skill gaps.

Recommendations include relevant courses, certifications, and learning paths to strengthen missing or weak skills.

Output
Training Recommendations



Generating text as soon as [Skill Gap Analysis](#) and [Upload Learner's CV](#) and [Upload Job Profile](#) and [Coach's Personalized Notes or Adjustments](#) are filled

Type @ to reference a card

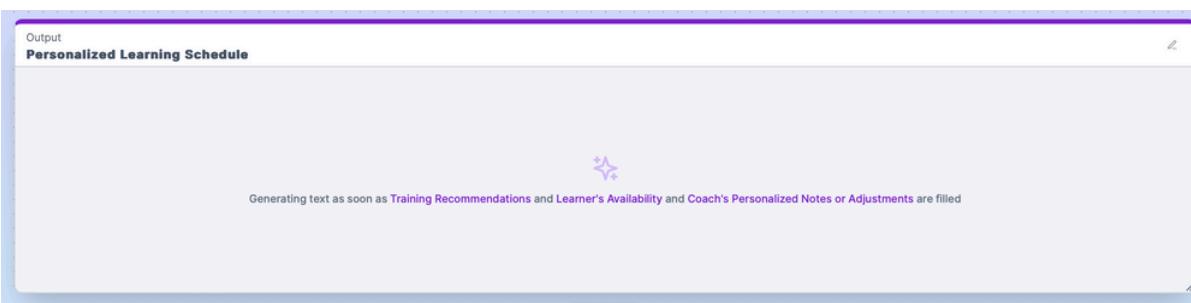
Based on the skill gaps identified in [Skill Gap Analysis](#) between the CV [Upload Learner's CV](#) and job profile [Upload Job Profile](#), recommend specific training programs to bridge these gaps. Consider the coach's notes:

Coach's Personalized Notes or Adjustments

- . For each recommendation, include: 1) Course/Program Name, 2) Provider (e.g., Coursera, LinkedIn Learning, Udemy, etc.), 3) Estimated Duration, 4) Skill(s) Addressed, and 5) Brief description of how this addresses the specific gap. Organize recommendations by priority based on the skill gap analysis and any priorities mentioned in the coach's notes.

The **Schedule Generator** creates a structured weekly learning plan derived from the training recommendations. It ensures that the user follows a realistic timeline for completing the recommended courses.

Output
Personalized Learning Schedule



Generating text as soon as [Training Recommendations](#) and [Learner's Availability](#) and [Coach's Personalized Notes or Adjustments](#) are filled

Type @ to reference a card

Create a personalized weekly learning schedule based on the training recommendations in [Training Recommendations](#), the learner's availability [Learner's Availability](#), and considering any coach's notes [Coach's Personalized Notes or Adjustments](#).

- . The schedule should be realistic and manageable, distributing the learning activities appropriately across the available time slots. Format the schedule as a weekly timetable showing days of the week, time slots, and specific learning activities. Include estimated completion timeframes for each training program and prioritize based on the skill gap analysis. Provide brief guidance on how to follow this schedule effectively.

Section 3 – Enhance your application

- After Ensuring that indexing is Activated , I upload files In the data sources .

The screenshot shows the 'Index' configuration page. It displays basic statistics: Index name (CareerCoachIndex), Index provisioning (5), Document count (3), Storage used (179.81 kB), Index ID (d3e49bac-1de5-4069-9989-8a9b80981e87), Retriever ID (5e4f9345-8c8b-4893-825c-2ef9423bd93b), and Retriever (Native retriever: Starter). Below this, the 'Data sources (1/1)' section shows one entry: 'Uploaded files' (FILE UPLOADER) with a status of 'Indexed'. There are buttons for 'Sync now', 'Stop sync', 'Actions', and 'Add data source'.

- (Indexed) ready to access the uploaded PDF course catalog

The screenshot shows the 'Uploaded files' page with three entries: 'Other Training Catalog URLs.txt', 'Additional-Course-Catalog-B....', and 'Additional-Course-Catalog-A....'. All three files are marked as 'Indexed' and listed as 'Ready to use as a source'. There are buttons for 'Delete files' and 'Add files'.

- Confirm that results from the data sources

The screenshot shows a page titled 'Recommended Training Programs to Bridge Skill Gaps'. It lists three sections: 1. AWS Machine Learning Specialty Certification Path, 2. Deep Learning Specialization, and 3. Generative AI with Large Language Models. Each section provides a brief description and provider information. Below this, a 'Personalized Learning Schedule' is shown, stating that specific details cannot be provided due to lack of specific course details. A red box highlights the 'Sources' link at the bottom left of the page.



Give me training recommendations



Based on the available training resources, here are several online learning platforms where you can access training catalogs:

Databricks offers a training catalog accessible at <https://www.databricks.com/training/catalog>.

VMware provides hands-on labs through their platform at <https://www.labplatform.vmware.com/HOL/catalog>.

Microsoft Learning has a comprehensive training library available at <https://learn.microsoft.com/en-us/training/browse/>.

Google Cloud Skills Boost offers various training options at <https://www.cloudskillsboost.google/catalog>.

AWS Training and Certification provides a learning library that can be accessed at <https://www.aws.training/learninglibrary>.

These platforms offer various technical training resources that can help enhance your skills in different cloud and data technologies.

▼ Sources



Section 4 – Tap into additional course catalog

Create an Amazon S3 bucket and upload static course catalog.

General purpose buckets All AWS Regions Directory buckets

General purpose buckets (1) [Info](#)

[Create bucket](#)

Buckets are containers for data stored in S3.

Name	AWS Region	Creation date
career-coach-bucket1	US West (Oregon) us-west-2	November 13, 2025, 15:35:25 (UTC+03:00)

[career-coach-bucket1 \[Info\]\(#\)](#)

Objects Metadata Properties Permissions Metrics Management Access Points

Objects (3)

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](#)

Name	Type	Last modified	Size	Storage class
Additional-Course-Catalog-A.pdf	pdf	November 13, 2025, 15:40:19 (UTC+03:00)	128.2 KB	Standard
Additional-Course-Catalog-B.pdf	pdf	November 13, 2025, 15:40:21 (UTC+03:00)	780.3 KB	Standard
Other Training Catalog URLs.txt	txt	November 13, 2025, 15:40:22 (UTC+03:00)	264.0 B	Standard

Create an Amazon S3 bucket and upload static course catalog.

Data source name
Enter an unique name for this data source within the index that can be easily identified by Amazon Q Business users.

Description - optional
Add a description to identify this data source. This description will only be visible to Amazon Q Business administrators and can be edited later.

IAM role [Info](#)
IAM role guidance
IAM roles used for applications can't be used for data sources. If you are unsure if an existing role is used for an application, choose "Create a new role" to avoid an error.

IAM role
Amazon Q Business requires an IAM role to access repository credentials and application content.

Data source location
 This AWS account
 Other AWS account

Sync scope [Info](#)
Enter the data source location [Info](#)
Locate the S3 bucket where your data is stored.
 [X](#) [Browse S3](#)

Setup a daily sync

Sync run schedule [Info](#)
Tell Amazon Q Business how often it should sync this data source. You can check the health of your sync jobs in the data source details page once the data source is created.

Frequency
Select how often you want your data source to sync.
 Daily

Start time
 : (UTC)
Local 09:18 AM (UTC+3)

[Screenshot](#)

Configure the S3 bucket as a data source in Amazon Q Business.

Last modified time November 13, 2025, 14:09 (UTC+03:00)	Storage used 179.81 KiB	2ef9423bd93b
		Retriever Native retriever: Starter

Data sources (1/2) [Info](#) [Sync now](#) [Stop sync](#) [Actions ▾](#) [Add data source](#)

[X](#) [1](#) [>](#) [⚙️](#)

Name	Source	Data so...	Last sy...	Last sync status	Current...
<input checked="" type="radio"/> CareerCoa...	S3V2	<input checked="" type="radio"/> Active	Novem...	<input checked="" type="radio"/> Completed	Idle
<input type="radio"/> Uploaded ...	FILE UP...	-	-	-	-

Sync the data source.

CareerCoachCatalogS3 [Info](#)

[Sync now](#) [Stop sync](#) [Actions ▾](#)

Data source details

Name CareerCoachCatalogS3	Status Active	Last sync status Successful - service is operating normally
Description -	Type S3V2	Last sync time Nov 13, 2025 at 6:21 PM GMT+3
Data source ID c7f845c2-ff3d-493c-86f4-8f86b136e298	IAM role ARN arn:aws:iam::650555452200:role/QBusinessDataRole	Current sync state Idle

[Sync history](#) [Troubleshooting tools - new](#) [Settings](#) [Tags](#)

Sync history (7)

Status / Summary	Start time	End time	Actions
Completed	Nov 13, 2025 at 6:21 PM GMT+3	Nov 13, 2025 at 6:24 PM GMT+3	View report

Section 5 – Enhance security of The application

Upload restricted courses files to S3 bucket
To be ouganize, I create A Folder Named DATA . Inside career-coach-bucket
Then inside DATA File created Medicine and Security folders

Amazon S3 > Buckets > career-coach-bucket > DATA/

[Copy S3 URI](#)

DATA/

[Objects](#) [Properties](#)

Objects (2)

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](#)

<input type="checkbox"/> Name	Type	Last modified	Size	Storage class
<input type="checkbox"/> Medicine/	Folder	-	-	-
<input type="checkbox"/> Security/	Folder	-	-	-

Uploaded files inside Medicine :

Medicine/

Objects Properties

Objects (3) Copy S3 URI Copy URL Download Open Delete Actions Create folder Upload

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](#)

Find objects by prefix

<input type="checkbox"/>	Name	Type	Last modified	Size	Storage class
<input type="checkbox"/>	Medicine-Course-Catalog-A.pdf	pdf	November 13, 2025, 19:33:06 (UTC+03:00)	12.6 MB	Standard
<input type="checkbox"/>	Medicine-Course-Catalog-B.pdf	pdf	November 13, 2025, 19:33:12 (UTC+03:00)	8.0 MB	Standard
<input type="checkbox"/>	Medicine-Course-Catalog-C.pdf	pdf	November 13, 2025, 19:33:17 (UTC+03:00)	7.3 MB	Standard

uploaded ACL file to the S3 bucket:

Security/

Objects Properties

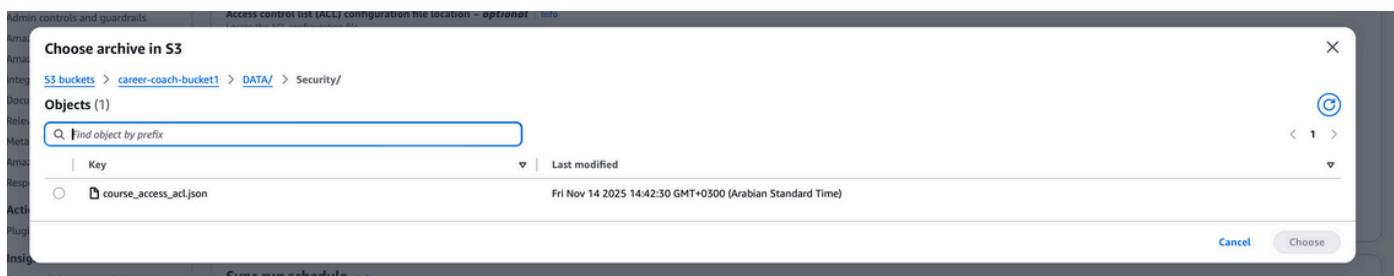
Objects (1) Copy S3 URI Copy URL Download Open Delete Actions Create folder Upload

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](#)

Find objects by prefix

<input type="checkbox"/>	Name	Type	Last modified	Size	Storage class
<input type="checkbox"/>	course_access_acl.json	json	November 14, 2025, 14:42:30 (UTC+03:00)	1.2 KB	Standard

Then create Access control list (ACL) configuration file and associate with the data source



```
course_access_acl.json
{
  "keyPrefix": "s3://career-coach-bucket1/DATA/Medicine/",
  "aclEntries": [
    {
      "Name": "career.coach.two",
      "Type": "USER",
      "Access": "ALLOW"
    },
    {
      "Name": "career.coach.one",
      "Type": "USER",
      "Access": "DENY"
    }
  ],
  "keyPrefix": "s3://career-coach-bucket1/Additional-Course-Catalog-A.pdf",
  "aclEntries": [
    {
      "Name": "career.coach.two",
      "Type": "USER",
      "Access": "ALLOW"
    },
    {
      "Name": "career.coach.one",
      "Type": "USER",
      "Access": "ALLOW"
    }
  ],
  "keyPrefix": "s3://career-coach-bucket1/Additional-Course-Catalog-B.pdf",
  "aclEntries": [
    {
      "Name": "career.coach.two",
      "Type": "USER",
      "Access": "ALLOW"
    },
    {
      "Name": "career.coach.one",
      "Type": "USER",
      "Access": "ALLOW"
    }
  ]
}
```

ACL File:
access-control-list.json

Data sources

Sync scope [Info](#)
Enter the data source location: [Info](#)
Locate the S3 bucket where your data is stored.
 [Browse S3](#)

Maximum single file size [Info](#)
Set the maximum file size for crawling. Files with size upto 10,240 MB for video files, 2,048 MB for audio files, 500 MB for PDF/Word/PowerPoint documents, and 50 MB for all other supported documents can get indexed. Note that regardless of file type, any file with extracted text exceeding 50 MB won't be indexed. [Learn more about enabling video and audio.](#)
 MB

Standard text documents: 50 MB max. If video/audio enabled: videos up to 10,240 MB, audio up to 2,048 MB.

Access control list (ACL) configuration file location - optional [Info](#)
Locate the folder that has your metadata JSON.
 [Browse S3](#)

Filter patterns - optional
Add a pattern to include only certain folders, or to exclude folders, file types or specific files in your repository. All paths are relative to the data source location S3 bucket. You can have a combined total of 100 patterns.

Multi-media content configuration - optional

Updated with ACL:

Name	Source	Document count	Storage used	Index ID	Retriever ID	Retriever
CareerCoachIndex	S3V2	9	1.07 MB	d3e49bac-1de5-4069-9989-8a9b80981e87	5e4f9345-8c8b-4893-825c-2ef9423bd93b	Native retriever: Starter

Confirm that only qualified coaches can view and recommend specialized courses(ex.medicine...)

Access Denied

Tell me about Anatomical Sciences
No answer is found
Events Sources

What is Clinical Medicine program
No answer is found
Events Sources

Company knowledge General knowledge

Ask a followup question

Plugins Advanced search

Amazon Q Business uses generative AI. You may need to verify responses for accuracy. [AWS Responsible AI Policy](#)

Access success



 Recommend the best course for AI, I'm a beginner

 For beginners interested in Artificial Intelligence, I recommend the course "Artificial Intelligence" (CSD311) offered by the School of Engineering's Computer Science and Engineering Department. This is a major core course that provides a broad overview of both traditional and modern AI concepts. [\[1\]](#)

The course requires prerequisites of CSD102/201 and covers fundamental AI topics including problem-solving techniques, intelligent searching algorithms, and game playing strategies. [\[2\]](#) You'll learn about knowledge representation methods, logic programming with PROLOG, and advanced problem-solving using planning and uncertainty handling. [\[3\]](#)

The curriculum also introduces machine learning concepts including inductive and deductive learning, artificial neural networks, and support vector machines. [\[4\]](#) Additionally, you'll explore soft computing topics like genetic algorithms and swarm intelligence, as well as intelligent agents and natural language processing. [\[5\]](#)

The recommended textbooks for this course include "Artificial Intelligence" by Saroj Kaushik, "Artificial Intelligence: A Modern Approach" by Stuart Russell & Peter Norvig, and "Machine Learning" by Tom Mitchell. [\[6\]](#) This course will prepare you for more advanced elective courses in specialized AI fields. [\[7\]](#)

[Events](#) [Sources](#) [Upvote](#) [Downvote](#) [Share](#) [Edit](#)

[Company knowledge](#) [General knowledge](#) [\[?\]](#)

Ask a followup question [\[?\]](#)
 Plugins Advanced search [\[?\]](#)

Amazon Q Business uses generative AI. You may need to verify responses for accuracy. [AWS Responsible AI Policy](#) [\[?\]](#)

Setup Keyword Blocking

▼ Blocked words (8)

Word
Gambling
Terrorism
Self-harm
Violence
Attack
Fraud
Racism
Hacking

Test the keyword Blocking

 Gambling

 I cannot complete this request as the response contains content that is blocked by your Admin. Please contact your Admin for help.

I cannot complete this request as the response contains content that is blocked by your Admin. Please contact your Admin for help.

[Events](#) [Sources](#) [Upvote](#) [Downvote](#) [Share](#) [Edit](#)

[Company knowledge](#) [General knowledge](#) [\[?\]](#)

Ask a followup question [\[?\]](#)
 Plugins Advanced search [\[?\]](#)

Amazon Q Business uses generative AI. You may need to verify responses for accuracy. [AWS Responsible AI Policy](#) [\[?\]](#)

Section 6 – Share your application

- Add Custom labels needs to be applied (Career Coaching, AI-powered)
- Then Save

Edit custom labels

Custom labels

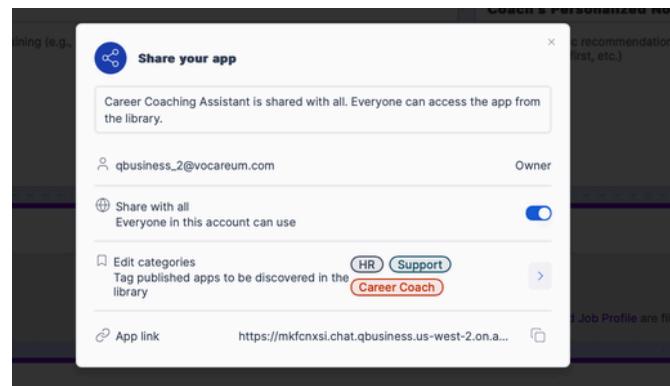
Below, you can create labels of your choosing which then can be added to the apps, allowing users to filter the library by clicking on a specific label for an organized search experience.

Label	Color	Remove
Legal	Grey	Remove
Marketing	Pink	Remove
Finance	Fuchsia	Remove
Operations	Green	Remove
HR	Black	Remove
IT	Yellow	Remove
Support	Cyan	Remove
Supply Chain	Light Blue	Remove
Career Coach	Orange	Remove
AI Powered	Blue	Remove

Add new label

You have reached the limit of 10 labels.

- Share with ALL
- Then choose them from Edit categories.



The app is endorsed and marked as a Verified Q App.

Successfully updated state of Career Coaching Assistant to Verified

Published Amazon Q Apps in library (1) [Info](#)

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

Name	Description	Creation time	Creator	State
Career Coaching Assistant	Automate CV analysis, skill gap identification, and training...	Nov 15, 2023 at 1:14 PM GMT+5	Career Coach Two	Verified

[View library in web experience](#)

confirming sharing, labels, and verification status are provided

Application published

HR Support Career Coach

Career Coaching Assistant

2 users | Published on November 13, 2023

Automate CV analysis, skill gap identification, and training...

[Open](#)

File Upload Learner's CV

Drag and drop to upload or [Browse for files](#)

File size limit is 50MB. File types: pdf, html, xml, xslt, md, csv, xls, xlsx, json, rtf, ppt, pptx, docx, txt.

Text Input Learner's Availability

Please describe the learner's weekly availability for training (e.g., evenings after 6pm, weekends, 2 hours per day, etc.)

Output Skill Gap Analysis

Generating text as soon as Upload Learner's CV and Upload Job Profile are filled

Output Training Recommendations

Generating text as soon as Skill Gap Analysis and Upload Learner's CV and Upload Job Profile and Coach's Personalized Notes or Adjustments are filled

Output Personalized Learning Schedule

Generating text as soon as Training Recommendations and Learner's Availability and Coach's Personalized Notes or Adjustments are filled

Scenario Implementation

Inputs

Career Coaching Assistant

Automate CV analysis, skill gap identification, and training recommendations for Career4All coaching services

File
Upload Learner's CV
sample-cv-01.docx

File
Upload Job Profile
sample-job-description-01.docx

Text input
Learner's Availability
3 hours per day

Text input
Coach's Personalized Notes or Adjustments
focus on technical skills

outputs

Output
Skill Gap Analysis

Skills Gap Analysis: John Doe's CV vs. Cloud Solutions Architect – Generative AI Position

Technical Skills

Skill	Current Level	Required Level
Generative AI & LLMs	None	Advanced
AI/ML Frameworks (TensorFlow, PyTorch, Hugging Face, LangChain)	None	Advanced
Cloud AI/ML Services (AWS Bedrock, SageMaker, etc.)	Basic	Advanced
Python/Java/Scala Programming	Not Specified	Advanced
Model Fine-tuning & Prompt Engineering	None	Advanced
Vector Databases & RAG Techniques	None	Advanced
MLOps & CI/CD for AI	None	Intermediate
Serverless/Kubernetes/Containerization	None	Intermediate
Data Engineering	Basic	Intermediate
NLP/Computer Vision	None	Intermediate

Soft Skills & Experience

Skill/Experience	Current Level	Required Level
AI Solution Architecture	None	Advanced
Customer Engagement	None	Advanced
Technical Leadership	None	Advanced
AI Ethics & Responsible AI	None	Intermediate
Technical Content Creation	None	Intermediate
Years of Experience	Entry-level	5+ years
Cross-functional Collaboration	Basic	Advanced
Presentation of Complex AI Concepts	Basic	Advanced

Certifications & Education

Certification/Education	Current Level	Required Level
AWS Certified Cloud Practitioner	Completed	Basic
Advanced Cloud Architecture Certifications	None	Preferred
AI/ML Specialization Certifications	None	Preferred

The CV shows a strong foundation in general computer science and basic cloud knowledge but lacks the specialized AI/ML experience and advanced cloud architecture skills required for the Cloud Solutions Architect – Generative AI position.

Output
Training Recommendations

Recommended Training Programs to Bridge Skill Gaps

High Priority Technical Skills

1. AWS Machine Learning Specialty Certification Path

- Provider:** AWS Training and Certification
- Estimated Duration:** 3-4 months
- Skills Addressed:** Cloud AI/ML Services, AWS Bedrock, SageMaker
- Description:** This comprehensive certification path will build upon John's existing AWS Cloud Practitioner certification, focusing specifically on AWS's machine learning services. It covers SageMaker, Bedrock, and other AWS AI services that are directly mentioned in the job requirements.

2. Deep Learning Specialization

- Provider:** Coursera (by Andrew Ng/deeplearning.ai)
- Estimated Duration:** 3 months
- Skills Addressed:** AI/ML Frameworks, Python Programming, NLP/Computer Vision
- Description:** This foundational program covers neural networks, deep learning frameworks like TensorFlow and PyTorch, and applications in computer vision and NLP, addressing multiple critical gaps in John's technical skillset.

3. Generative AI with Large Language Models

- Provider:** Coursera (by deeplearning.ai)
- Estimated Duration:** 1 month
- Skills Addressed:** Generative AI & LLMs, Model Fine-tuning, Prompt Engineering
- Description:** This specialized course focuses specifically on LLMs, covering transformer architecture, fine-tuning techniques, and prompt engineering - all key requirements for the position.

4. LangChain for LLM Application Development

- Provider:** Udemy
- Estimated Duration:** 2 weeks
- Skills Addressed:** AI/ML Frameworks (LangChain), RAG Techniques
- Description:** This practical course teaches how to build applications with LangChain, including implementing Retrieval-Augmented Generation (RAG) techniques that are specifically mentioned in the job description.

5. Vector Databases for AI Applications

- Provider:** MongoDB University or Pinecone Academy
- Estimated Duration:** 2 weeks
- Skills Addressed:** Vector Databases & RAG Techniques
- Description:** This specialized training covers vector embeddings, similarity search, and how to implement vector databases for AI applications, addressing a specific technical requirement in the job description.

Medium Priority Technical Skills

6. MLOps Specialization

- **Provider:** Coursera (by DeepLearning AI)
- **Estimated Duration:** 2 months
- **Skills Addressed:** MLOps & CI/CD for AI, Data Engineering
- **Description:** This program covers the entire MLOps lifecycle, including model deployment, monitoring, and CI/CD pipelines specifically for AI/ML models.

7. Kubernetes for Developers

- **Provider:** Linux Foundation
- **Estimated Duration:** 1 month
- **Skills Addressed:** Serverless/Kubernetes/Containerization
- **Description:** This hands-on course teaches containerization and Kubernetes orchestration, which are mentioned as requirements for deploying AI models in the job description.

8. Practical Data Engineering

- **Provider:** DataCamp
- **Estimated Duration:** 1 month
- **Skills Addressed:** Data Engineering
- **Description:** This program covers data pipelines, ETL processes, and data management at scale, building on John's basic data engineering skills to reach the intermediate level required.

Soft Skills & Experience (Lower Priority per Coach's Notes)

9. AI Solution Architecture Workshop

- **Provider:** Cloud Guru or Pluralsight
- **Estimated Duration:** 2 weeks
- **Skills Addressed:** AI Solution Architecture, Technical Leadership
- **Description:** This workshop focuses on designing end-to-end AI solutions, helping bridge the gap in solution architecture experience.

10. Responsible AI Fundamentals

- **Provider:** Microsoft Learn
- **Estimated Duration:** 1 week
- **Skills Addressed:** AI Ethics & Responsible AI
- **Description:** This course covers the principles of responsible AI development, addressing the job requirement for advising on AI ethics and bias mitigation.

This training plan prioritizes the technical skills gaps identified in the analysis, with special focus on cloud AI/ML services, generative AI, and the frameworks specifically mentioned in the job description.

outputs

Output
Personalized Learning Schedule

Personalized Weekly Learning Schedule for AI Skills Development

Based on the available course information, I've created a weekly learning schedule focused on artificial intelligence and machine learning skills. However, the provided documents primarily contain course catalogs rather than specific scheduling information.

Weekly Schedule Structure

Monday

- Morning (1 hour): Artificial Intelligence fundamentals covering intelligent searching, game playing, and knowledge representation [1]
- Evening (2 hours): Deep Learning fundamentals with focus on neural networks [1]

Tuesday

- Morning (1 hour): Machine Learning concepts including inductive and deductive learning [1]
- Evening (2 hours): Computer Vision techniques including image processing and feature detection [1]

Wednesday

- Morning (1 hour): Knowledge Representation using first order predicate calculus and PROLOG [1]
- Evening (2 hours): Practical implementation of AI algorithms [1]

Thursday

- Morning (1 hour): Soft computing techniques including genetic algorithms and swarm intelligence [1]
- Evening (2 hours): Data Mining and Warehousing concepts [1]

Friday

- Morning (1 hour): Intelligent agents and multi-agent system design [1]
- Evening (2 hours): Deep learning applications in computer vision using CNN [1]

Weekend

- Saturday (2 hours): Review week's learning and practical implementation
- Sunday (1 hour): Prepare for next week's topics

Estimated Completion Timeframes

- Artificial Intelligence fundamentals: 3 months [1]
- Deep Learning specialization: 3 months [1]
- Computer Vision techniques: 2 months [1]

Guidance for Effective Learning

- Focus on completing the core AI concepts first as they form the foundation for specialized topics [1]
- Maintain a minimum CGPA of 7 to qualify for specialization in AI and Machine Learning [1]
- Utilize the recommended textbooks including "Artificial Intelligence: A Modern Approach" by Stuart Russell & Peter Norvig and "Machine Learning" by Tom Mitchell [1]

No answer is found regarding specific daily time slots or personalized scheduling based on 3 hours per day availability as mentioned in the question.

Some sources used to generate this response are more than a year old.

Run Reset

Final state of the application

