

Create and Customize Amazon Q Application

Build a functioning Q App that analyzes skills and recommends training to bridge the skill gap.

- Input cards exist for uploading **CVs** and **Job Profiles**.

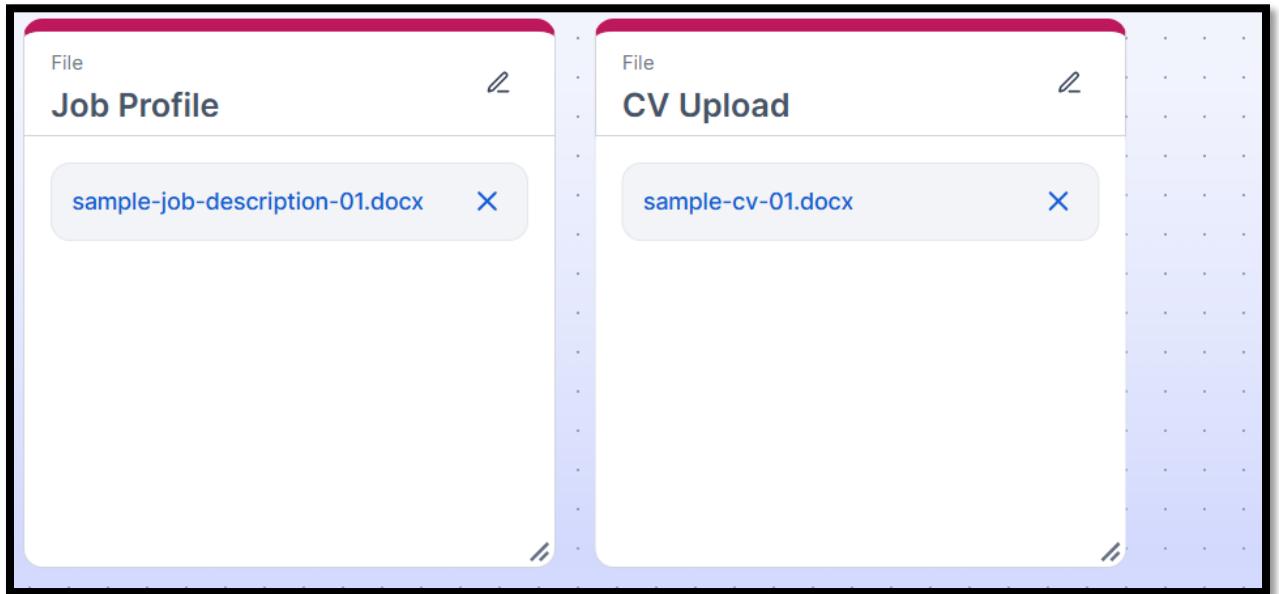


Figure 1-Input cards exist for uploading CVs and Job Profiles

- Output cards are implemented for both **Skill Gap Analysis** and **Training Recommendations**.

Output

X

Title

Skill Gap Analysis

Prompt ⓘ

Type @ to reference a card

You are a career coach. Review the learner's CV [CV Upload](#) and compare it with the provided Job Profile [Job Profile](#). Identify the key skill gaps, missing qualifications, and areas where the learner could improve to better match the job requirements. Provide:

- A summary of the learner's current strengths relevant to the role.
- A list of missing or underrepresented skills.
- Actionable recommendations for upskilling or improving the CV.

Figure 2 - Output card for Skill Gap Analysis

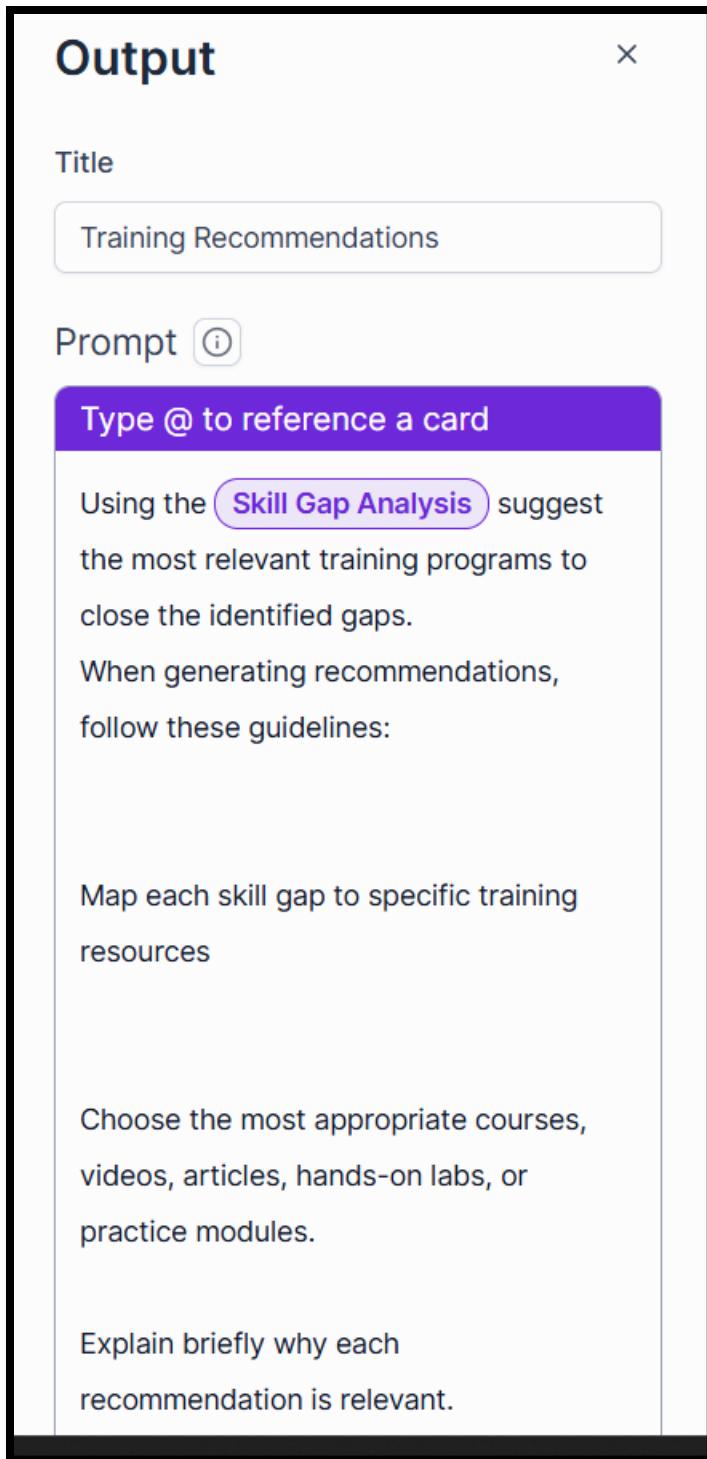


Figure 3 Output card for Training Recommendation

- Functionality is verified by uploading sample inputs and generating results.

Screenshot of the working interface is provided

Example App A quick example of Amazon Q Apps' capabilities

Job Profile sample-job-description-01.docx

CV Upload sample-cv-01.docx

Unmet Skill Gap Analysis

Focus on Python libraries specific to AI/ML (NumPy, Pandas, scikit-learn)
Practice model fine-tuning and inference optimization

5. Gain Container & Deployment Experience:
Learn Docker, Kubernetes, and serverless architectures
Practice deploying AI models in these environments
6. Develop MLOps Knowledge:
Learn about CI/CD pipelines for AI model deployment
Understand model monitoring and maintenance
7. CV Improvements:
Restructure to highlight relevant cloud and programming skills first
Consider adding a "Professional Development" section showing ongoing learning in AI/ML
Consider a skills-based format to better highlight transferable skills
8. Networking & Community Involvement:
Join AI/ML communities and contribute to discussions
Participate in AI hackathons to gain practical experience
Consider contributing to open-source AI projects

This role requires significant experience beyond what's currently shown in your CV. Consider targeting intermediate roles in cloud or AI to build experience before applying for senior architect positions.

Training Recommendations

AURO Machine Learning University: Free, foundational courses on AI concepts

- Hugging Face NLP Course: Hands-on introduction to transformers and LLMs
- DeepLearning.AI "Generative AI with LLMs": Practical introduction to LLM concepts

Intermediate Level:

- Andrew Ng's "AI For Everyone": Conceptual understanding of AI applications
- AWS reInvent workshops on Generative AI: Practical implementation sessions

Why relevant: These resources provide both theoretical foundations and practical experience with the exact frameworks mentioned in the job description.

2. Advanced Cloud Architecture

Recommended Path:

- AWS Solutions Architect Associate Certification: Natural progression from Cloud Practitioner
- AWS Solutions Architect Professional Certification: Advanced architectural concepts
- AWS Well-Architected Framework Labs: Hands-on practice with architectural best practices

Why relevant: These certifications directly address the 5+ years experience gap by demonstrating equivalent knowledge in cloud architecture principles.

3. AI/ML Frameworks

Hands-on Learning:

- AWS Machine Learning Specialty Certification: Comprehensive ML training on AWS
- Kaggle Learn Python & Intro to Machine Learning: Interactive, project-based learning
- TensorFlow Developer Certificate: Demonstrates proficiency in TensorFlow

Why relevant: These frameworks are explicitly mentioned in the job requirements and provide the technical foundation for working with LLMs.

4. Programming for AI

Skill Development:

- DataCamp Python for Data Science Track: Focused Python training for ML/AI
- Kaggle Learn Python & Intro to Machine Learning: Interactive, project-based learning
- AWS Code Whisperer Labs: Practical AI-assisted coding experience

Why relevant: Strengthens Python skills specifically for AI/ML applications, addressing the need for model fine-tuning mentioned in the job description.

5. Model Deployment

Technical Training:

- AWS EKS Workshop: Hands-on Kubernetes on AWS
- Serverless Framework Tutorials: Quick start with serverless architectures
- Docker and Kubernetes: The Complete Guide: Comprehensive container training

Why relevant: Directly addresses the requirement for deploying AI models in containerized environments.

6. Vector Databases & RAG

Specialized Knowledge:

- LangChain for LLM Application Development: Practical RAG implementation
- Pinecone University: Vector database fundamentals
- AWS Workshop: Building RAG Applications with Amazon Bedrock: Hands-on implementation

Why relevant: These technologies are specifically mentioned as preferred qualifications and are increasingly critical in Generative AI applications.

7. MLOps & CI/CD

DevOps for ML:

- ML Ops Specialization on Coursera: End-to-end MLOps workflows
- GITHUB Actions for CI/CD: Practical implementation of CI/CD pipelines
- AWS DevOps Professional Certification: Comprehensive DevOps on AWS

Why relevant: Addresses the requirement for understanding MLOps and CI/CD pipelines for AI model deployment.

8. AI Ethics & Governance

Foundational Knowledge:

- Responsible AI Practices (Google): Practical guidelines for ethical AI
- AI Ethics: Global Perspectives (edX): Broader understanding of AI
- AWS Machine Learning Lens: AWS-specific governance frameworks

Why relevant: Directly addresses the job responsibility to "advise on AI ethics, bias mitigation, and responsible AI deployment."

Learning Plan Recommendations

For Time-Constrained Learners:

1. Complete the AWS Solutions Architect certification (highest priority)
2. Complete the DeepLearning.AI "Generative AI with LLMs" course
3. Work through LangChain tutorials for practical RAG implementation
4. Participate in AWS workshops on Bedrock and SageMaker

For Hands-on Learners:

- Prioritize project-based learning through Kaggle competitions
- Complete AWS labs and workshops that provide guided hands-on experience
- Build a portfolio project implementing a RAG system with vector databases

For Visual/Video Learners:

- Focus on video courses from Coursera, edX, and AWS Training
- Supplement with AWS reInvent session recordings on Generative AI topics
- Join live coding sessions and webinars on AI implementation

This personalized learning path addresses each skill gap with current, industry-relevant resources while accommodating different learning preferences and time constraints.

Figure 4 - Screenshot of simple working interface

Enhance the application with advanced interaction components

- An **Input Card** for personalized recommendations by coaches is added.

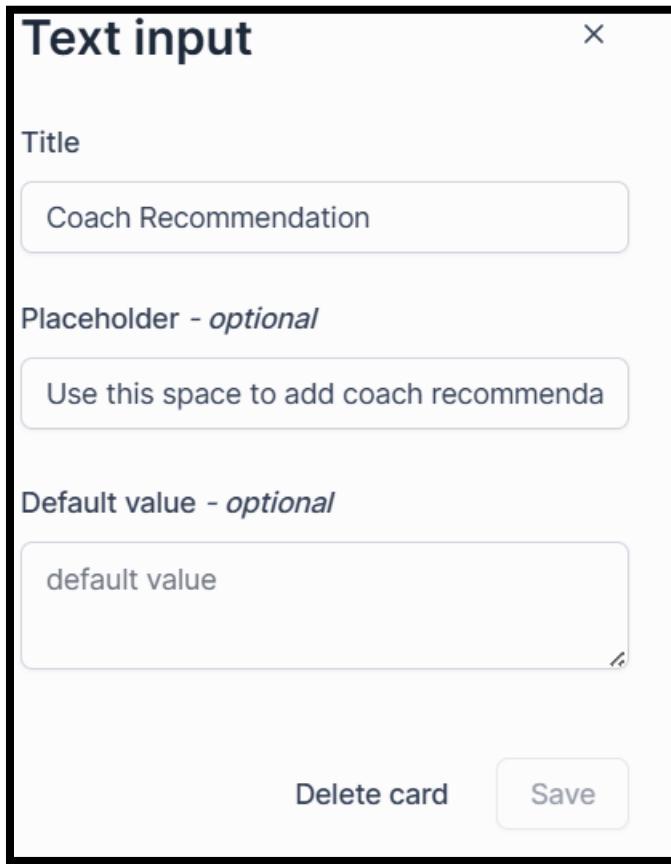


Figure 5 - An Input Card for personalized recommendations by coaches is added

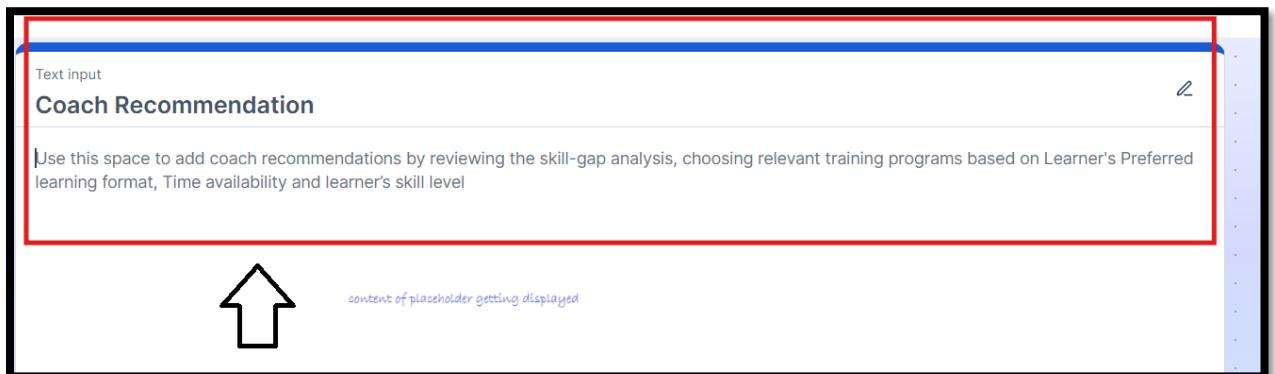


Figure 6 Coach Recommendation Input Card with Placeholder content

Coach Recommendation

Skill Level: Beginner

Time Availability: 2 hours every morning

Preferred Learning Formats: Hands-on labs + Video content

Recommendation:

Based on the identified skill gaps, I recommend a blended learning path that combines foundational video lessons with practice to build confidence and real-world capability.

Training Programs:

AWS Skill Builder

AWS Cloud Quest: Cloud Practitioner (hands-on, gamified learning)

AWS Cloud Practitioner Essentials (Video Course)

Introduction to AWS Identity and Access Management (IAM)

Hands-On Labs: Build your first Amazon S3 and EC2 setup

Udacity

AWS Cloud Architect Nanodegree – Intro Modules

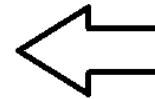
Introduction to Cloud Computing

Cloud DevOps Basics (Beginner Sections)

Suggested Schedule (2 hours each morning):

Run 

 Reset



with sample input

Figure 7 Coach Recommendation Input card with Sample Input

- Updated **Output Card** for Training Recommendations

Output

X

Title

Training Recommendations

Prompt ⓘ

Type @ to reference a card

Using the **Skill Gap Analysis** and **Coach Recommendation** suggest the most relevant training programs to close the identified gaps.

When generating recommendations, follow these guidelines:

Map each skill gap to specific training resources

Choose the most appropriate courses, videos, articles, hands-on labs, or practice modules.

Explain briefly why each

Figure 8 Output Card for Training Recommendations *including input card Coach Recommendation*

- An **Output Card** for a suggested **schedule** is added.

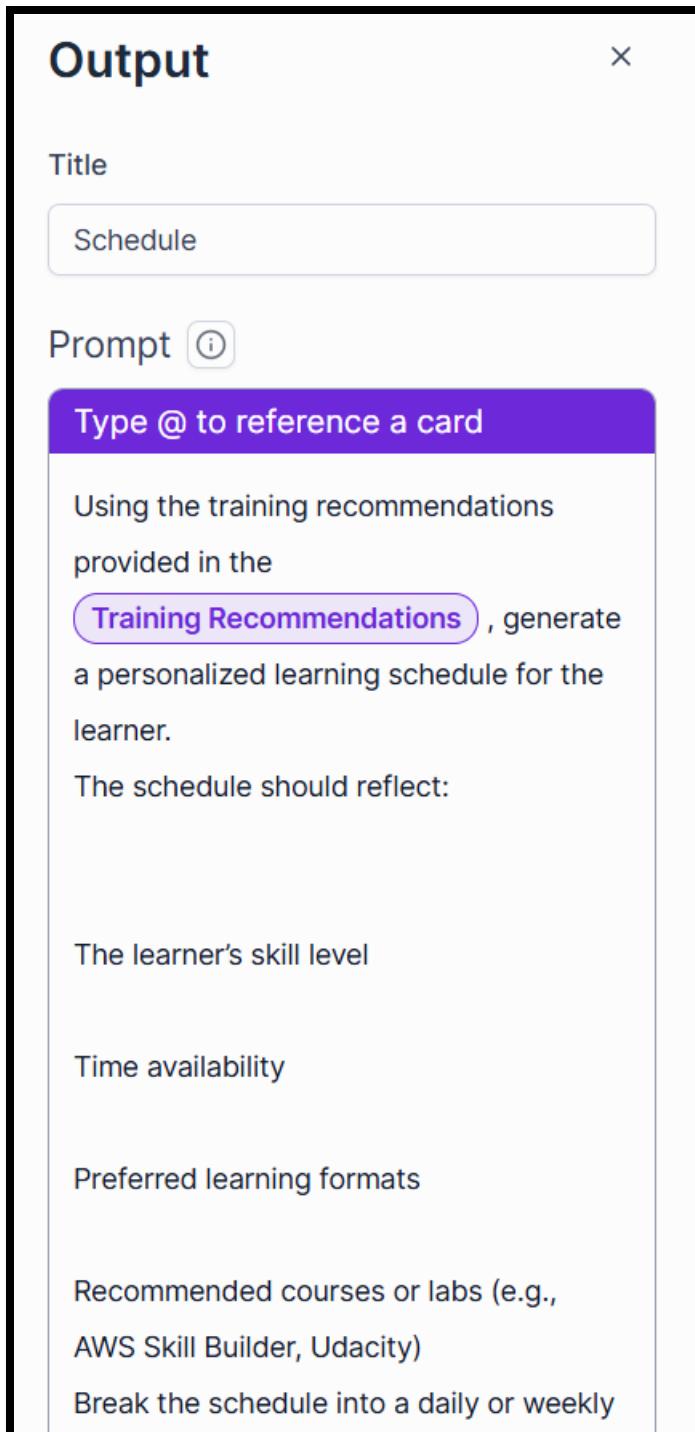


Figure 9 - Output Card for a schedule is added.

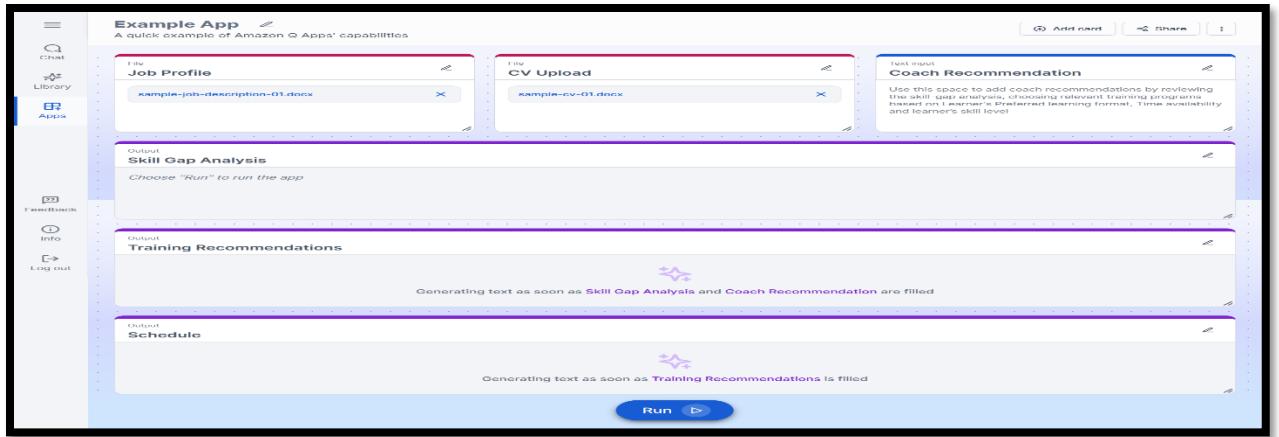


Figure 10 - The Structure of the application

- Functionality of added components is tested and confirmed.

Updated interface screenshot is submitted.

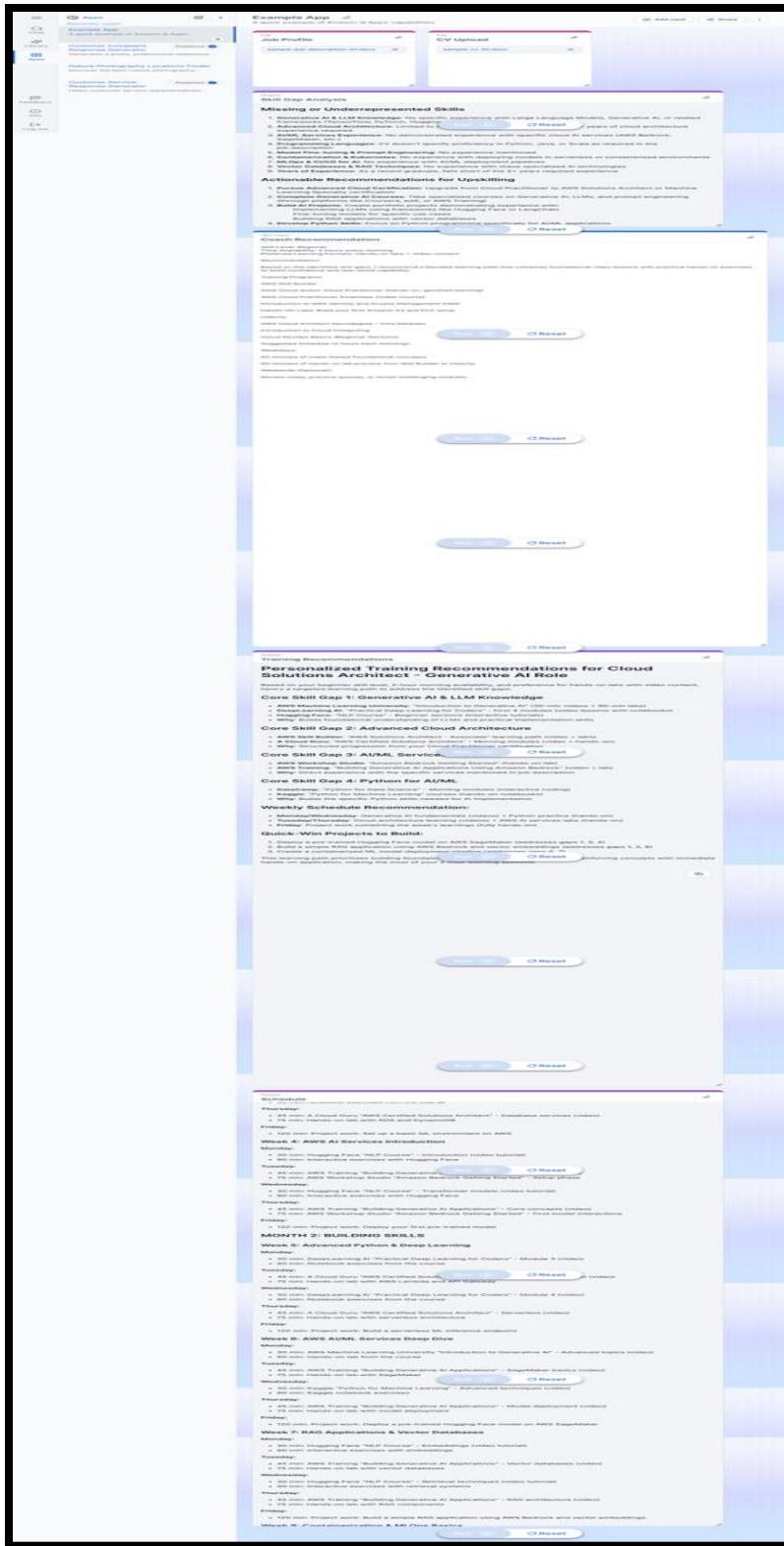


Figure 11 Updated Working Interface

Output

Training Recommendations

Personalized Training Recommendations for Cloud Solutions Architect - Generative AI Role

Based on your beginner skill level, 2-hour morning availability, and preference for hands-on labs with video content, here's a targeted learning path to address the identified skill gaps:

Core Skill Gap 1: Generative AI & LLM Knowledge

- AWS Machine Learning University: "Introduction to Generative AI" (30-min videos + 90-min labs)
- DeepLearning.AI: "Practical Deep Learning for Coders" - First 4 modules (video lessons with notebooks)
- Hugging Face: "NLP Course" - Beginner sections (interactive tutorials)
- Why: Builds foundational understanding of LLMs and practical implementation skills

Core Skill Gap 2: Advanced Cloud Architecture

- AWS Skill Builder: "AWS Solutions Architect - Associate" learning path (video + labs)
- A Cloud Guru: "AWS Certified Solutions Architect - Associate" course (hands-on)
- Why: Structured progression from your Cloud Guru course

Run  **Reset** 

Figure 12 - Training Recommendation Sample Response

Output

Schedule

12-Week Personalized Learning Schedule

Cloud Solutions Architect - Generative AI Path

Learner Profile:

- Skill Level: Beginner
- Time Availability: 2 hours every morning
- Preferred Learning Format: Hands-on labs + Video content

MONTH 1: FOUNDATIONS

Week 1: Python & Generative AI Basics

Monday:

- 30 min: DataCamp "Python for Data Science" - Introduction module (video)
- 90 min: DataCamp interactive coding exercises

Tuesday:

- 45 min: AWS Skill Builder "AWS Solutions AI" - Introduction module (video)
- 75 min: AWS Skill Builder hands-on lab - Setting up your environment

Run 

 Reset

Figure 13 Schedule – Sample response

Updated the name of the app to **Career Coach Application** and added a description

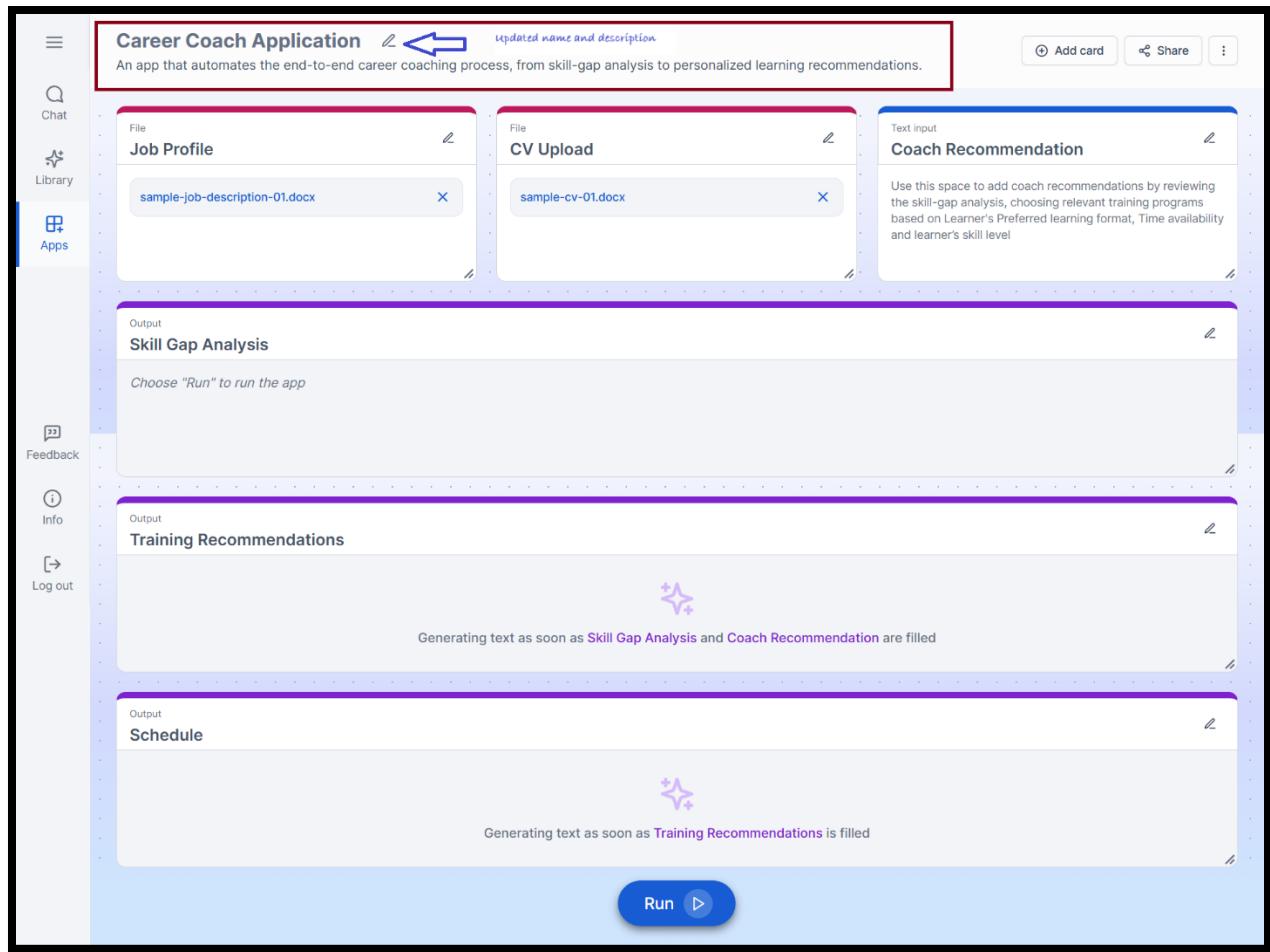


Figure 14 Updated name and description of the app