EE4500 – Certification

Next steps

- Complete AWS Academy Cloud Foundations
- Certify: AWS Cloud Practitioner
- Further certifications

Complete AWS Academy Cloud Foundations

- To complete:
  - Knowledge checks x 10
  - Labs x 6
  - Activities x 2
  - Course assessment
- Certification delivered at end of course
  - Course ends 2-May-2025
  - Can be ended sooner

Certify: AWS Cloud Practitioner

- Professional qualification
  - Foundational level
- JCU will pay the US$100 cost
- Location
  - In exam centre (Cairns CBD)
  - Remotely – proctored by Pearson VUE

Exam content

- Explain the value of the AWS Cloud.
- Understand and explain the AWS shared responsibility model.
- Understand security best practices.
- Understand AWS Cloud costs, economics, and billing practices.
- Describe and position the core AWS services, including compute, network, database, and storage services.
- Identify AWS services for common use cases.

Domains

- 24% Domain 1: Cloud Concepts
  - 15-16 questions
- 30% Domain 2: Security and Compliance
  - 19-20 questions
- 34% Domain 3: Cloud Technology and Services
  - 22 questions
- 12% Domain 4: Billing, Pricing and Support
  - 8 questions

Pass mark

"Exam results The exam is scored against a minimum standard established by AWS professionals who follow certification industry best practices and guidelines. Your results for the exam are reported as a scaled score of 100–1,000. The minimum passing score is 700."

Preparing for the Cloud Practitioner Certification

- AWS Skill Builder
  - https://skillbuilder.aws/exam-prep/cloud-practitioner

- Online courses
  - freeCodeCamp.org - https://www.youtube.com/watch?v=NhDYbskXRgc

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Practise exams

- AWS
  - [Sample questions](#) (PDF)
  - https://skillbuilder.aws/exam-prep/cloud-practitioner
    - Exam Prep Official Question Set
- Cloud Vikings
  - https://www.youtube.com/watch?v=uaMdsDyFEaE
- ExamPro
  - https://www.exampro.co/clf-c02

Further certifications

- Levels
  - Foundational
  - Associate
  - Professional

Foundational

FOUNDATIONAL

Knowledge-based certification for foundational understanding of AWS Cloud.

No prior experience needed.

Associate

ASSOCIATE

Role-based certifications that showcase your knowledge and skills on AWS and build your credibility as an AWS Cloud professional. **Prior cloud and/or strong on-premises IT experience recommended.**

Professional

PROFESSIONAL

Role-based certifications that validate advanced skills and knowledge required to design secure, optimized, and modernized applications and to automate processes on AWS.

2 years of prior AWS Cloud experience recommended.
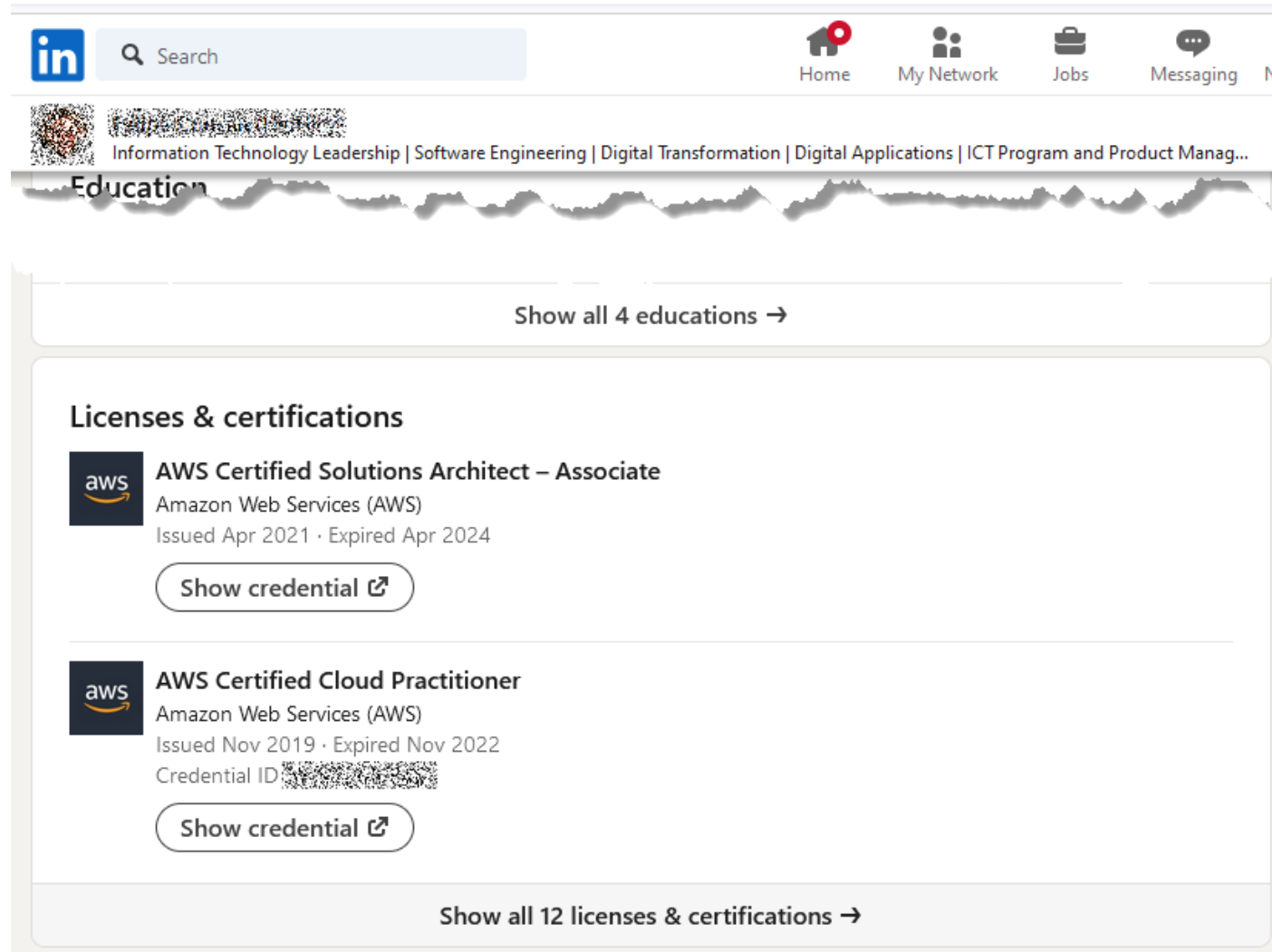
Specialty

SPECIALTY

Dive deeper and position yourself as a trusted advisor to your stakeholders and/or customers in these strategic areas. **Refer to the exam guides on the exam pages for recommended experience.**

Example

Journey: Practitioner

AWS Certified Cloud Practitioner

The AWS Certified Cloud Practitioner validates foundational, high-level understanding of AWS Cloud, services, and terminology. This is a good starting point on the AWS Certification journey for individuals with no prior IT or cloud experience switching to a cloud career. *Additional exam preparation resources and hands-on experience recommended before taking the AWS exam.*

Journey: Architect

AWS Certified Solutions Architect – Associate

AWS Certified Solutions Architect - Associate showcases knowledge and skills in AWS technology, across a wide range of AWS services. The focus of this certification is on the design of cost and performance optimized solutions, demonstrating a strong understanding of the AWS Well-Architected Framework. *Additional exam preparation resources and hands-on experience recommended before taking the AWS exam.*

Journey: Developer

AWS Certified Developer - Associate

AWS Certified Developer - Associate showcases knowledge and understanding of core AWS services, uses, and basic AWS architecture best practices, and proficiency in developing, deploying, and debugging cloud-based applications by using AWS. *Additional exam preparation resources and hands-on experience recommended before taking the AWS exam.*

Journey: Machine learning

AWS Certified Machine Learning - Specialty

This credential helps organizations identify and develop talent with critical skills for implementing cloud initiatives. Earning AWS Certified Machine Learning - Specialty validates expertise in building, training, tuning, and deploying machine learning (ML) models on AWS.
Additional exam preparation resources and hands-on experience recommended before taking the AWS exam.

Other journeys

AWS Certified Data Engineer - Associate

This credential validates skills and knowledge in core data-related AWS services, ability to ingest and transform data, orchestrate data pipelines while applying programming concepts, design data models, manage data life cycles, and ensure data quality. *Additional exam preparation resources and hands-on experience needed before taking the AWS exam.*

AWS Certified Security - Specialty

AWS Certified Security-Specialty validates your expertise in creating and implementing security solutions in the AWS Cloud. This certification also validates your understanding of specialized data classifications and AWS data protection mechanisms. *Additional exam preparation resources and hands-on experience recommended before taking the AWS exam.*

AWS Certified SysOps Administrator - Associate

This credential helps organizations identify and develop talent with critical skills for implementing cloud initiatives. Earning AWS Certified SysOps Administrator - Associate validates experience in deploying, managing, and operating workloads on AWS. *Additional exam preparation resources and hands-on experience recommended before taking the AWS exam.*

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Facilitating further certifications

- Talk to me
- We can set up course units for you on AWS Academy
- Timetable to suit you

Select a module

- Look at the following slides in the course notes
- Talk to me if it interests you

Job role: Cloud Practitioner

Start learning the foundations of the AWS Cloud and its benefits, core services, pricing, and security.

🎓 **AWS Academy Cloud Foundations**

🧪 **Lab:** AWS Academy Cloud Foundations Lab 2: Build your VPC and Launch a Web Server & Lab 6: Scale and Load Balance Your Architecture

👥 **AWS Academy Forums:**

- **Best Practices for Teaching AWS Academy Courses**
- **AWS Cloud Practitioner Exam Preparation Plan**

▶️ **Video: What is Cloud Computing?**

🔧 **AWS Skill Builder: Cloud Practitioner Essentials**

📄 **AWS Documentation: Overview of Amazon Web Services**

📅 **AWS Academy Calendar Event: Categories** - AWS Academy Cloud Foundations Workshop & AWS Academy Program Overview

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Job role: Solutions Architect

Begin learning how to design resilient, high-performing, secure, and cost-optimized architectures on AWS.

- 🎓 **AWS Academy Cloud Foundations**
- ⚗ **Lab:** AWS Academy Lab Project: Cloud Web Application Builder Outline
- ▶ **Video:** AWS Academy Cloud Architecting - Module 9 demo: Creating a Highly Available Web Application
- 🔧 **AWS Skill Builder:** AWS Card Clash - an Architecture Design Game

- 📄 **AWS Documentation:** AWS Well-Architected Framework
- 🗓 **AWS Academy Calendar Event:** Category - AWS Academy Cloud Architecting Workshop

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Job role: Machine Learning and AI

Start building your knowledge of machine learning and how to apply machine learning to solve problems, unlock new insights, and to use the latest innovation in the field to add value to your solutions.

- 🎓 **AWS Academy Machine Learning Foundations**

- 🎓 **AWS Academy Machine Learning for Natural Language Processing**

- ⚗️ **Lab:** AWS Academy Machine Learning Foundations Lab 3.5 - Amazon SageMaker - Deploying a modele

- 👥 **AWS Academy Forums:** AWS Academy Learner Lab Activity - **Reinforcement Learning with AWS DeepRacer**

- ▶️ **Video:** AWS Academy Machine Learning Foundations - Module 2 demo: Amazon SageMaker

- 🔧 **AWS Skill Builder:** **Amazon Bedrock - Getting Started**

- 📅 **AWS Academy Calendar Event:** **Category** - AI/Machine Learning

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Job role: Data Engineer

Start to learn about and get hands-on practice with the tasks, tools, and strategies that are used to collect, store, prepare, analyze, and visualize data for use in analytics and machine learning applications

🎓 **AWS Academy Data Engineering**

🧪 **Lab: AWS Academy Lab Project - Cloud Data Pipeline Builder**

👥 **AWS Academy Forums: Learn more about the new AWS Academy Data Engineering Course**

▶ **Video:** AWS Academy Data Engineering - Module 10 demo: Creating a Linear Regression Model Using Amazon CodeWhisperer

🔧 **AWS Skill Builder: Introduction to AWS Data Pipeline**

📄 **AWS Documentation: AWS Data Pipeline Concepts**

📅 **AWS Academy Calendar Event: Category** - Data Analytics / Engineering

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Job role: Developer

These resources help you begin to learn the foundations of cloud development, serverless fundamentals, and how to develop, deploy, and modernize applications on AWS.

🎓 **AWS Academy Cloud Developing**

🧪 **Lab:** AWS Academy Lab Project: Microservices and CICD Pipeline Builder Outline

▶️ **Video:**

- AWS Academy Cloud Developing - Module 10 demo: Working with Amazon Messaging Services
- AWS Academy Cloud Architecting - Module 10 demo Part 1: Analyzing AWS CloudFormation Template Structure

👥 **AWS Academy Forums:** Create Web Applications using AWS Community Wordpress AMI packaged by Bitnami

🔧 **AWS Skill Builder:** Introduction to Containers

📄 **AWS Documentation:** Introduction to DevOps on AWS

📅 **AWS Academy Calendar Event:** Category – Developer Tools

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Job role: Cloud Operator (SysOps)

Begin learning the foundations of managing, automating, monitoring, and troubleshooting solutions on AWS. Learn how to troubleshoot scenarios and automate deployments of networks and systems on AWS.

🎓 **AWS Academy Cloud Operations**

⚗ **Lab:** AWS Academy Lab Project: Microservices and CICD Pipeline Builder Outline

👥 **AWS Academy Forums:** Managing Infrastructure as Code (IaC) with AWS CloudFormation

▶ **Video:** AWS AWS Academy Cloud Operations - Module 1 demo: Amazon Command Line Interface & Module 5 demo: Introduction to AWS Step Functions

🔧 **AWS Skill Builder:** How AWS Managed Services (AMS) Works Within Cloud Operating Models

📄 **AWS Documentation:** AWS Systems Manager

📅 **AWS Academy Calendar Event:** Category - Developer Tools

Practice questions

1) Why is AWS more economical than traditional data centers for applications with varying compute workloads?

A) Amazon EC2 costs are billed on a monthly basis.

B) Users retain full administrative access to their Amazon EC2 instances.

C) Amazon EC2 instances can be launched on demand when needed.

D) Users can permanently run enough instances to handle peak workloads.

Practice questions

2) Which AWS service would simplify the migration of a database to AWS?

    A) AWS Storage Gateway

    B) AWS Database Migration Service (AWS DMS)

    C) Amazon EC2

    D) Amazon AppStream 2.0

Practice questions

3) Which AWS offering enables users to find, buy, and immediately start using software solutions in their AWS environment?
    A) AWS Config
    B) AWS OpsWorks
    C) AWS SDK
    D) AWS Marketplace

Practice questions

4) Which AWS networking service enables a company to create a virtual network within AWS?

    A) AWS Config

    B) Amazon Route 53

    C) AWS Direct Connect

    D) Amazon Virtual Private Cloud (Amazon VPC)

Practice questions

5) Which of the following is an AWS responsibility under the AWS shared responsibility model?

    A) Configuring third-party applications

    B) Maintaining physical hardware

    C) Securing application access and data

    D) Managing guest operating systems

Practice questions

6) Which component of the AWS global infrastructure does Amazon CloudFront use to ensure low-latency

delivery?

    A) AWS Regions
    B) Edge locations
    C) Availability Zones
    D) Virtual Private Cloud (VPC)

Practice questions

7) How would a system administrator add an additional layer of login security to a user's AWS

Management Console?

    A) Use Amazon Cloud Directory
    B) Audit AWS Identity and Access Management (IAM) roles
    C) Enable multi-factor authentication
    D) Enable AWS CloudTrail

Practice questions

8) Which service can identify the user that made the API call when an Amazon EC2 instance is

terminated?

    A) AWS Trusted Advisor
    B) AWS CloudTrail
    C) AWS X-Ray
    D) AWS Identity and Access Management (AWS IAM)

Practice questions

9) Which service would be used to send alerts based on Amazon CloudWatch alarms?

    A) Amazon Simple Notification Service (Amazon SNS)

    B) AWS CloudTrail

    C) AWS Trusted Advisor

    D) Amazon Route 53

Practice questions

10) Where can a user find information about prohibited actions on the AWS infrastructure?

 A) AWS Trusted Advisor

 B) AWS Identity and Access Management (IAM)

 C) AWS Billing Console

 D) AWS Acceptable Use Policy

Schedule

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7		Legend
Introduction	AWS Introduction	AWS Global Infrastructure Overview	AWS Compute	AWS Storage	AWS Certification Walhthrough			In-person lectorials
RESTful APIs	Cloud concepts overview	AWS Networking and Connectivity		AWS Databases	Subject Wrap			Activities
	LoRaWAN & TTN		Web development					On-line lectures
Business Models (BMC/VP)	Value Proposition Design	Project Review & Feedback	3D Printing	Project Review	Architecture Quiz			Labs
Setup LoRaWAN Gateway	LoRaWAN Node	IoT Database	IoT Dashboard			Presentation		

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Next – Subject Wrap