AWS 認證
AWS Certification Overview

2021-05-27 (四) 7,8  14:10-15:00 Online

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2021-05-27
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中央研究院 資訊科學研究所 訪問學人
國立台灣大學 資訊管理 博士

Publications Co-Chairs, IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM 2013–)

Program Co-Chair, IEEE International Workshop on Empirical Methods for Recognizing Inference in Text (IEEE EM-RITE 2012–)

Publications Chair, The IEEE International Conference on Information Reuse and Integration (IEEE IRI)
AWS Certification

Validate technical skills and cloud expertise to grow your career and business.

Schedule an exam

Prepare for an exam

Earn an industry-recognized credential

AWS Certification validates cloud expertise to help professionals highlight in-demand skills and organizations build effective, innovative teams for cloud initiatives using AWS. Choose from diverse certification exams by role and specialty designed to empower individuals and teams to meet their unique goals.

Explore our role-based certifications for those in Cloud Practitioner, Architect, Developer, and Operations roles, as well as our

https://aws.amazon.com/certification/
AWS Certification

參與技術、技能、雲端專業知識和能力的驗證，以拓展您的職業和業務發展。

取得業界認可的認證

AWS Certification 透過驗證雲端專業知識與能力，幫助專業人士充分展露自己能滿足市場需求的強項，同時經由運用 AWS，協助機構打造創新且高效的雲端計劃團隊。提供多樣化的認證考試讓您挑選，專門設計的角色和專長驗證，可大幅提升個人和團隊實現其獨特目標的能力。

我們提供角色型認證，以驗證應試者是否具有雲端從業人員、架構師、開發人員和操作人員所需具備的專業知識；此外還有專

https://aws.amazon.com/certification/
AWS Certification

Professional
Two years of comprehensive experience designing, operating, and troubleshooting solutions using the AWS Cloud

Associate
One year of experience solving problems and implementing solutions using the AWS Cloud

Foundational
Six months of fundamental AWS Cloud and industry knowledge

Specialty
Technical AWS Cloud experience in the Specialty domain as specified in the exam guide

https://aws.amazon.com/certification/
AWS Certification

Format
65 questions; either multiple choice or multiple response

Type
Foundational

Delivery Method
Testing center or online proctored exam

Time
90 minutes to complete the exam

Cost
100 USD (Practice Exam: 20 USD)

Language
Available in English, Indonesian (Bahasa), Japanese, Korean, and Simplified Chinese

https://aws.amazon.com/certification/
AWS Certification

**Format**
65 questions; either multiple choice or multiple response

**Type**
Associate

**Delivery Method**
Testing center or online proctored exam

**Time**
130 minutes to complete the exam

**Cost**
150 USD (Practice exam: 20 USD)

**Language**
Available in English, Japanese, Korean, and Simplified Chinese

[https://aws.amazon.com/certification/](https://aws.amazon.com/certification/)
AWS Certification

Professional

Two years of comprehensive experience designing, operating, and troubleshooting solutions using the AWS Cloud

Format
75 questions; either multiple choice or multiple response

Type
Professional

Delivery Method
Testing center or online proctored exam

Time
180 minutes to complete the exam

Cost
300 USD (Practice Exam: 40 USD)

Language
Available in English, Japanese, Korean, and Simplified Chinese

https://aws.amazon.com/certification/
AWS Certification

Format
65 questions; either multiple choice or multiple response

Type
Associate

Delivery Method
Testing center or online proctored exam

Time
130 minutes to complete the exam

Cost
150 USD (Practice exam: 20 USD)

Language
Available in English, Japanese, Korean, and Simplified Chinese

https://aws.amazon.com/certification/
AWS Certification

Format
65 questions; either multiple choice or multiple response

Type
Associate

Delivery Method
Testing center or online proctored exam

Time
130 mins to complete the exam

Cost
150 USD (Practice exam: 20 USD)

Language
Available in English, Japanese, Korean, and Simplified Chinese

https://aws.amazon.com/certification/
AWS Certification

Professional
Two years of comprehensive experience designing, operating, and troubleshooting solutions using the AWS Cloud

Format
75 questions; either multiple choice or multiple response

Type
Professional

Delivery Method
Testing center or online proctored exam

Time
180 minutes to complete the exam

Cost
300 USD (Practice exam: 40 USD)

Language
Available in English, Japanese, Korean, and Simplified Chinese

https://aws.amazon.com/certification/
AWS Certification

**Format**
65 questions; either multiple choice or multiple response

**Type**
Specialty

**Delivery Method**
Testing center or online proctored exam

**Time**
180 minutes to complete the exam

**Cost**
300 USD (Practice exam: 40 USD)

**Language**
Available in English, Japanese, Korean, and Simplified Chinese

https://aws.amazon.com/certification/
AWS Certified Cloud Practitioner (CLF-C01)

Source: https://aws.amazon.com/certification/certified-cloud-practitioner/
**AWS Certified Cloud Practitioner**

- This certification provides individuals in a larger variety of cloud and technology roles with a way to validate their AWS Cloud knowledge and enhance their professional credibility.
- This exam covers four domains, including cloud concepts, security, technology, and billing and pricing.

https://aws.amazon.com/certification/certified-cloud-practitioner/
AWS Certified Solutions Architect – Associate (SAA-C02)

Source: https://aws.amazon.com/certification/certified-solutions-architect-associate
AWS Certified Solutions Architect – Associate

- This certification validates your ability to effectively demonstrate knowledge of how to architect and deploy secure and robust applications on AWS technologies.
- This exam is for anyone with at least one year of hands-on experience designing available, cost-efficient, fault-tolerant, and scalable and distributed systems on AWS.

AWS Academy and Certifications

• **AWS Academy Cloud Foundations (ACF)**
  • **AWS Certified Cloud Practitioner (CLF-C01)**

• **AWS Academy Cloud Architecting (ACA)**
  • **AWS Certified Solutions Architect – Associate (SAA-C02)**

[https://aws.amazon.com/training/awsacademy/](https://aws.amazon.com/training/awsacademy/)
AWS Academy and Certifications

• AWS Academy **Cloud Foundations** (ACF)
  • AWS Certified **Cloud Practitioner** (CLF-C01) (2021/05)
  • AWS Cloud Practitioner Essentials (Second Edition)
    • [https://aws.amazon.com/training/course-descriptions/cloud-practitioner-essentials/](https://aws.amazon.com/training/course-descriptions/cloud-practitioner-essentials/)
  • AWS Technical Essentials
    • [https://aws.amazon.com/training/course-descriptions/essentials/](https://aws.amazon.com/training/course-descriptions/essentials/)

• AWS Academy **Cloud Architecting** (ACA)
  • AWS Certified **Solutions Architect – Associate** (SAA-C02)
  • Architecting on AWS
    • [https://aws.amazon.com/training/course-descriptions/architect/](https://aws.amazon.com/training/course-descriptions/architect/)

[https://aws.amazon.com/training/awsacademy/](https://aws.amazon.com/training/awsacademy/)
# AWS Certified Cloud Practitioner (CLF-C01)

<table>
<thead>
<tr>
<th>Domain</th>
<th>% of Examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domain 1: Cloud Concepts</td>
<td>26%</td>
</tr>
<tr>
<td>Domain 2: Security and Compliance</td>
<td>25%</td>
</tr>
<tr>
<td>Domain 3: Technology</td>
<td>33%</td>
</tr>
<tr>
<td>Domain 4: Billing and Pricing</td>
<td>16%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

### AWS Certified Solutions Architect – Associate (SAA-C02)

<table>
<thead>
<tr>
<th>Domain</th>
<th>% of Examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domain 1: Design Resilient Architectures</td>
<td>30%</td>
</tr>
<tr>
<td>Domain 2: Design High-Performing Architectures</td>
<td>28%</td>
</tr>
<tr>
<td>Domain 3: Specify Secure Applications and Architectures</td>
<td>24%</td>
</tr>
<tr>
<td>Domain 4: Design Cost-Optimized Architectures</td>
<td>18%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

AWS Certified Cloud Practitioner (CLF-C01)

Source: https://aws.amazon.com/certification/certified-cloud-practitioner/
• Domain 1: Cloud Concepts
  • 1.1 Define the AWS Cloud and its value proposition
  • 1.2 Identify aspects of AWS Cloud economics
  • 1.3 List the different cloud architecture design principles

Source: https://aws.amazon.com/certification/certified-cloud-practitioner/
AWS Certified Cloud Practitioner (CLF-C01)

- **Domain 2: Security and Compliance**
  - 2.1 Define the AWS shared responsibility model
  - 2.2 Define AWS Cloud security and compliance concepts
  - 2.3 Identify AWS access management capabilities
  - 2.4 Identify resources for security support

Source: https://aws.amazon.com/certification/certified-cloud-practitioner/
• Domain 3: **Technology**
  
  • 3.1 Define methods of deploying and operating in the AWS Cloud
  
  • 3.2 Define the AWS global infrastructure
  
  • 3.3 Identify the core AWS services
  
  • 3.4 Identify resources for technology support

• Domain 4: **Billing and Pricing**
  • 4.1 Compare and contrast the various pricing models for AWS
  • 4.2 Recognize the various account structures in relation to AWS billing and pricing
  • 4.3 Identify resources available for billing support
AWS Certified Solutions Architect – Associate (SAA-C02)

• Domain 1: Design Resilient Architectures
  • 1.1 Design a multi-tier architecture solution
  • 1.2 Design highly available and/or fault-tolerant architectures
  • 1.3 Design decoupling mechanisms using AWS services
  • 1.4 Choose appropriate resilient storage

Source: https://aws.amazon.com/certification/certified-solutions-architect-associate
AWS Certified Solutions Architect – Associate (SAA-C02)

• Domain 2: Design High-Performing Architectures
  • 2.1 Identify elastic and scalable compute solutions for a workload
  • 2.2 Select high-performing and scalable storage solutions for a workload
  • 2.3 Select high-performing networking solutions for a workload
  • 2.4 Choose high-performing database solutions for a workload

Source: https://aws.amazon.com/certification/certified-solutions-architect-associate
AWS Certified Solutions Architect – Associate (SAA-C02)

• Domain 3: Design **Secure** Applications and Architectures
  
  • 3.1 Design secure access to AWS resources
  • 3.2 Design secure application tiers
  • 3.3 Select appropriate data security options

• Domain 4: Design **Cost-Optimized** Architectures
  • 4.1 Identify cost-effective storage solutions
  • 4.2 Identify cost-effective compute and database services
  • 4.3 Design cost-optimized network architectures
AWS Products and Services

Featured Services
- Compute
- Networking & Content Delivery
- Machine Learning
- Business Applications
- Management & Governance
- Satellite
- VR & AR

Analytics
- Containers
- Application Integration
- Database
- Front-End Web & Mobile
- Internet of Things

Security, Identity & Compliance
- Serverless
- Storage
- Blockchain
- Game Tech
- Quantum Technologies
- Robotics

Source: https://aws.amazon.com/
# AWS Compute

## AWS EC2
- Virtual servers in the cloud

## Amazon Elastic Container Service
- Run and manage docker containers

## AWS Batch
- Run batch jobs at any scale

## Amazon Elastic Container Registry
- Store and retrieve docker images

## AWS Elastic Beanstalk
- Run and manage web apps

## Amazon Lightsail
- Launch and manage virtual private servers

## AWS Lambda
- Run code without thinking about servers

## Amazon Elastic Kubernetes Service
- Run managed Kubernetes on AWS

## AWS Fargate
- Run containers without managing servers or clusters

## AWS Outposts
- Run AWS infrastructure on-premises

## AWS Serverless Application Repository
- Discover, deploy, and publish serverless applications

## AWS Wavelength
- Deliver ultra-low latency applications for 5G devices

## VMware Cloud on AWS
- Build a hybrid cloud without custom hardware

Source: [https://aws.amazon.com/](https://aws.amazon.com/)
<table>
<thead>
<tr>
<th>Service</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amazon Aurora</td>
<td>High Performance Managed Relational Database</td>
</tr>
<tr>
<td>Amazon ElastiCache</td>
<td>In-memory Caching System</td>
</tr>
<tr>
<td>Amazon Quantum Ledger Database (QLDB)</td>
<td>Fully managed ledger database</td>
</tr>
<tr>
<td>Amazon Redshift</td>
<td>Fast, Simple, Cost-effective Data Warehousing</td>
</tr>
<tr>
<td>Amazon DynamoDB</td>
<td>Managed NoSQL Database</td>
</tr>
<tr>
<td>Amazon Managed Apache Cassandra Service</td>
<td>Managed Cassandra-compatible database</td>
</tr>
<tr>
<td>Amazon RDS</td>
<td>Managed Relational Database Service for MySQL, PostgreSQL, Oracle, SQL Server, and MariaDB</td>
</tr>
<tr>
<td>Amazon Timestream</td>
<td>Fully managed time series database</td>
</tr>
<tr>
<td>Amazon DocumentDB (with MongoDB compatibility)</td>
<td>Fully managed document database</td>
</tr>
<tr>
<td>Amazon Neptune</td>
<td>Fully Managed Graph Database Service</td>
</tr>
<tr>
<td>Amazon RDS on VMware</td>
<td>Automate on-premises database management</td>
</tr>
<tr>
<td>AWS Database Migration Service</td>
<td>Migrate Databases with Minimal Downtime</td>
</tr>
</tbody>
</table>

Source: [https://aws.amazon.com/](https://aws.amazon.com/)
AWS Storage

Amazon Simple Storage Service (S3)
Scalable Storage in the Cloud

Amazon FSx for Lustre
High-performance file system integrated with S3

AWS Backup
Centralized backup across AWS services

CloudEndure Disaster Recovery
Highly automated disaster recovery

Amazon Elastic Block Store (EBS)
EC2 block storage volumes

Amazon FSx for Windows File Server
Fully managed Windows native file system

AWS Snow Family
Physical devices to migrate data into and out of AWS

Amazon Elastic File System (EFS)
Fully managed file system for EC2

Amazon S3 Glacier
Low-cost Archive Storage in the Cloud

AWS Storage Gateway
Hybrid Storage Integration

Source: https://aws.amazon.com/
<table>
<thead>
<tr>
<th>Service</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amazon VPC</td>
<td>Isolated Cloud Resources</td>
</tr>
<tr>
<td>Amazon Route 53</td>
<td>Scalable Domain Name System</td>
</tr>
<tr>
<td>AWS Cloud Map</td>
<td>Application resource registry for microservices</td>
</tr>
<tr>
<td>AWS Transit Gateway</td>
<td>Easily scale VPC and account connections</td>
</tr>
<tr>
<td>Amazon API Gateway</td>
<td>Build, Deploy, and Manage APIs</td>
</tr>
<tr>
<td>AWS PrivateLink</td>
<td>Securely Access Services Hosted on AWS</td>
</tr>
<tr>
<td>AWS Direct Connect</td>
<td>Dedicated Network Connection to AWS</td>
</tr>
<tr>
<td>Elastic Load Balancing</td>
<td>Distribute incoming traffic across multiple targets</td>
</tr>
<tr>
<td>Amazon CloudFront</td>
<td>Global Content Delivery Network</td>
</tr>
<tr>
<td>AWS App Mesh</td>
<td>Monitor and control microservices</td>
</tr>
<tr>
<td>AWS Global Accelerator</td>
<td>Improve application availability and performance</td>
</tr>
</tbody>
</table>

Source: [https://aws.amazon.com/](https://aws.amazon.com/)
<table>
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<tr>
<th>Service</th>
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</tr>
</thead>
<tbody>
<tr>
<td>AWS Identity &amp; Access Management</td>
<td>Manage User Access and Encryption Keys</td>
</tr>
<tr>
<td>Amazon GuardDuty</td>
<td>Managed Threat Detection Service</td>
</tr>
<tr>
<td>AWS Artifact</td>
<td>On-demand access to AWS compliance reports</td>
</tr>
<tr>
<td>AWS Directory Service</td>
<td>Host and Manage Active Directory</td>
</tr>
<tr>
<td>AWS Resource Access Manager</td>
<td>Simple, secure service to share AWS resources</td>
</tr>
<tr>
<td>AWS Shield</td>
<td>DDoS Protection</td>
</tr>
<tr>
<td>Amazon Cognito</td>
<td>Identity Management for your Apps</td>
</tr>
<tr>
<td>Amazon Inspector</td>
<td>Analyze Application Security</td>
</tr>
<tr>
<td>AWS Certificate Manager</td>
<td>Provision, Manage, and Deploy SSL/TLS Certificates</td>
</tr>
<tr>
<td>AWS Firewall Manager</td>
<td>Central Management of Firewall Rules</td>
</tr>
<tr>
<td>AWS Secrets Manager</td>
<td>Rotate, Manage, and Retrieve Secrets</td>
</tr>
<tr>
<td>AWS Single Sign-On</td>
<td>Cloud Single Sign-On (SSO) Service</td>
</tr>
<tr>
<td>Amazon Detective</td>
<td>Investigate potential security issues</td>
</tr>
<tr>
<td>Amazon Macie</td>
<td>Discover, Classify, and Protect your Data</td>
</tr>
<tr>
<td>AWS CloudHSM</td>
<td>Hardware-based Key Storage for Regulatory Compliance</td>
</tr>
<tr>
<td>AWS Key Management Service</td>
<td>Managed Creation and Control of Encryption Keys</td>
</tr>
<tr>
<td>AWS Security Hub</td>
<td>Unified security and compliance center</td>
</tr>
<tr>
<td>AWS WAF</td>
<td>Filter Malicious Web Traffic</td>
</tr>
</tbody>
</table>

Source: [https://aws.amazon.com/](https://aws.amazon.com/)
# AWS Cost Management

## AWS Cost Explorer
Analyze Your AWS Cost and Usage

## AWS Budgets
Set Custom Cost and Usage Budgets

## AWS Cost and Usage Report
Access Comprehensive Cost and Usage Information

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reserved Instance Reporting</td>
<td>Dive Deeper into Your Reserved Instances (RIs)</td>
</tr>
<tr>
<td>Savings Plans</td>
<td>Save up to 72% on compute usage with flexible pricing</td>
</tr>
</tbody>
</table>

Source: [https://aws.amazon.com/](https://aws.amazon.com/)
AWS Services

• Amazon **EC2**
  • Virtual servers in the cloud

• Amazon **Simple Storage Service (S3)**
  • Scalable storage in the cloud

• Amazon **Aurora**
  • High performance managed relational database

• Amazon **DynamoDB**
  • Managed NoSQL database

• Amazon **RDS**
  • Managed relational database service for MySQL, PostgreSQL, Oracle, SQL Server, and MariaDB

Source: [https://aws.amazon.com/](https://aws.amazon.com/)
AWS Services

• AWS Lambda
  • Run code without thinking about servers

• AWS Elastic Beanstalk
  • Run and manage web apps

• Amazon VPC
  • Isolated cloud resources

• Amazon Lightsail
  • Launch and manage virtual private servers

• Amazon SageMaker
  • Build, train, and deploy machine learning models at scale

Source: https://aws.amazon.com/
References

• https://aws.amazon.com/certification/
• https://www.aws.training/
• https://aws.amazon.com/training/awsacademy/
• https://aws.amazon.com/education/awseducate/
• AWS Certified Cloud Practitioner
  • https://aws.amazon.com/certification/certified-cloud-practitioner/
• AWS Certified Solutions Architect – Associate
  • https://aws.amazon.com/certification/certified-solutions-architect-associate/
• AWS Cloud Practitioner Essentials (Second Edition)
  • https://aws.amazon.com/training/course-descriptions/cloud-practitioner-essentials/
• Architecting on AWS
  • https://aws.amazon.com/training/course-descriptions/architect/
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