

## Systems Operations on AWS

Course Fee: HK\$12,600 (May apply up to HK\$8,400 subsidy)

\*Maximum saving, with the final grant subjects to approval.

- Use standard AWS infrastructure features such as Amazon Virtual Private Cloud (VPC), Amazon Elastic Compute Cloud (EC2), Elastic Load Balancing, and Auto Scaling from the command line
- Use AWS CloudFormation and other automation technologies to produce stacks of AWS resources that can be deployed in an automated, repeatable fashion
- Build functioning virtual private networks with Amazon VPC from the ground up using the AWS Management Console
- Deploy Amazon EC2 instances using command line calls and troubleshoot the most common problems with instances
- Monitor the health of Amazon EC2 instances and other AWS services
- Manage user identity, AWS permissions, and security in the cloud
- Manage resource consumption in an AWS account using tools such as Amazon CloudWatch, tagging, and Trusted Advisor
- Select and implement the best strategy for creating reusable Amazon EC2 instances
- Configure a set of Amazon EC2 instances that launch behind a load balancer, with the system scaling up and down in response to demand
- Edit and troubleshoot a basic AWS CloudFormation stack definition

|                               |   |
|-------------------------------|---|
| Programme code                | 10012208  |
| Duration and time             | 3 days<br>9:30-17:00  |
| Venue                         | TBC   |
| Medium                        | Cantonese, supplemented with English terminology                              |
| Course fee                    | HK\$12,600<br>(May apply up to HK\$8,400* subsidy)                            |
| Pre-requisite                 | AWS Technical Essentials  |
| Bring Your Own Device (BYOD): | Windows 7/10 / Mac OS 10.x or above with minimum 2 GB RAM and 20 GB hard disk |

## Course Description

System Operations on AWS is designed to teach those in a Systems Administrator or Developer Operations (DevOps) role how to create automatable and repeatable deployments of networks and systems on the AWS platform. The course covers the specific AWS features and tools related to configuration and deployment, as well as common techniques used throughout the industry for configuring and deploying systems.

### RTTP Training Grant Application

Companies should submit their RTTP training grant application for their employee(s) via <https://rttp.vtc.edu.hk/rttp/login> at least two weeks before course commencement. Alternatively, [application form](#) could be submitted by email to [rttp@vtc.edu.hk](mailto:rttp@vtc.edu.hk) along with supporting documents.

This course is subject to approval under the Reindustrialisation and Technology Training Programme (RTTP) with up to 2/3 course fee reimbursement upon successful applications. For details: <https://rttp.vtc.edu.hk>.

## Course Outline

### Module 1: Understanding systems operations on AWS

- Systems operations in the Cloud
- AWS Global Infrastructure
- Introduction to core services
- AWS Account Security
- AWS Identity and Access Management (IAM)
- Demonstration: Deploying a website

### Module 2: Tooling and Automation

- AWS Command Line Interface (CLI)
- AWS System Manager
- Additional administration and development tools
- AWS Software Development Kit (SDK)
- AWS Cloud Formation
- AWS OpsWorks
- Hands-on lab 1: Using AWS System Manager

### Module 3: Computing (Servers)

- Computing on AWS
- Managing your AWS instances
- Securing your AWS instances
- AWS EC2 instance pricing
- Hands-on lab 2: Creating Amazon EC2 instances

### Module 4: Computing (scaling and name resolution)

- Elastic load balancing
- Amazon EC2 Auto Scaling
- Amazon Route 53
- Hands-on lab 3: Using Auto Scaling in AWS

### Module 5: Computing (Containers and Serverless)

- Containers on AWS
- AWS Lambda
- Amazon API Gateway
- AWS Batch

### Module 6: Computing (Database Services)

- Amazon Relational Database Service (Amazon RDS)
- Amazon Aurora
- Amazon DynamoDB
- AWS Database Migration Services

### Module 7: Networking

- Networking and Amazon Virtual Private Cloud (VPC)
- Securing your network
- Troubleshooting networks in AWS
- Hands-on lab 4: Configuring a Virtual Private Cloud (Windows & Linux)

## Course Outline

### Module 8: Storage and archiving

- Amazon Elastic Block Store ( Amazon EBS)
- Amazon Store
- Amazon Elastic File System (Amazon EFS)
- Amazon Simple Storage Services (Amazon S3)
- Amazon S3 Glacier
- AWS Snowball
- Hands-on lab 5: Managing Storage in AWS (Windows & Linux)

### Module 9: Monitoring and security

- Amazon CloudWatch-Monitoring, Events, Logging
- AWS Cloud Trail
- AWS Configuration
- Amazon GuardDuty
- Hands-on lab 6: Monitoring your application and infrastructure with CloudWatch

### Module 10: Managing resource consumption

- Tagging
- Cost reduction opportunities in the cloud
- Cost monitoring and billing alarms
- AWS Trusted Advisor
- Hands-on lab 7: Managing resources with tagging

### Module 11: Creating automated and repeatable deployments

- Configuration management in the cloud
- Creating AMIs and building strategies
- Using configuration software
- AWS Cloud Formation
- Troubleshooting AWS Cloud Formation templates
- Hands-on lab 8: Automating deployments with Cloud Formation

## Target Audience

- System Administrators
- Software Developers, especially those in a Developer Operations (DevOps) role

## Certification Exam:

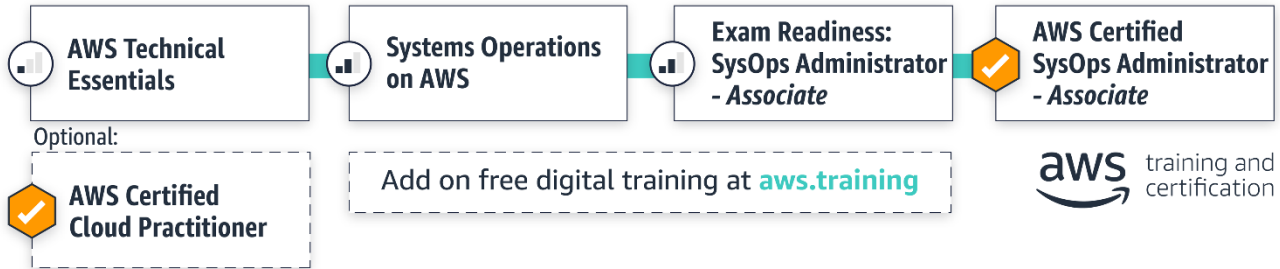
### AWS Certified Solution Architect - Associate

## Operations Learning Path



AWS Certified SysOps Administrator - Associate

 = certification  
  = intermediate  
 = foundational  
  = advanced



## Trainer Information

Raymond is a technical trainer in Great China Region for over 15 years. He has a solid knowledge in teaching Architecture, and Application Development to Government Enterprise, Small and Medium Business and Universities. He is an experienced IT consultant in many projects including web and app development, intranet and portal development, server setup and configuration.

Kitson is a technical trainer with 8 AWS Certifications. He has more than 4 years of experience in teaching Cloud Computing, Web Development and Programming in VTC. He has 4 years of experience in project management and software development of worldwide hospitality IPTV systems.

## Enrolment Methods

1. Scan the QR code to check training schedule then complete the enrolment and payment online OR
2. Mail the crossed cheque with payee name "Hong Kong Productivity Council" (in HK dollar) to HKPC Academy, Hong Kong Productivity Council, 3/F, HKPC Building, 78 Tat Chee Avenue, Kowloon (attention to Mr Desmond CHAN). Please indicate the course name and course code on the envelope.



[Enrolment Link](#)

Supporting Organisations (In arbitrary order)

