MRU Cloud Computing
in collaboration with AWS re/Start

Overview

Amazon Web Services (AWS) and Mount Royal University's Faculty of Continuing Education are teaming up to offer AWS re/Start, with the support of Calgary Economic Development's Energy to Digital Growth Education and Upskilling Project (EDGE UP) 2.0: A Scaling Opportunity. This job skills training program prepares individuals for entry-level roles in cloud computing and connects them to potential employers.

Funded by the Future Skills Centre, this online offering is a 12-week, full-time skills development program to jump-start your career working in cloud computing. Through scenario-based learning and hands-on labs, you gain the technical skills you need for entry-level cloud roles. AWS re/Start also focuses on building professional skills such as adaptive communication, time management and collaboration. The 12-week program's mission is to build a diverse pipeline of entry-level cloud talent that will contribute to local organizations.

Curriculum

The program helps individuals build skills around AWS Core Services and covers foundational introduction of Cloud concepts such as the advantages of Cloud Technologies, key technologies offered through the Cloud (Computing, Storage, Networking, Security, and Database) and Programming concepts. Each cohort of learners, supported by accredited trainers, completes cloud training curriculum, which features scenario-based learning, hands-on labs, projects, and coursework to exercise real life processes.

In addition to technical skills, AWS re/Start teaches employability skills to prepare learners to succeed in a professional environment by teaching skills to think critically, build multi-level projects, plan projects and communicate effectively.

Program details

- Program schedule is full-time, Monday to Friday (except for stat holidays)
- Time commitment per week: 40 hours
- Delivered online

- All learners require a computer or laptop. For this online-learning program, your Internet access must be able to sustain a 5Mbps connection (as measured at speedtest.net) and support outbound RDP (TCP/3389) and SSH (TCP/22) traffic. A laptop or computer with the following specifications:
  - Intel quad core CPU (i7 recommended)
  - 8GB RAM (16GB recommended)
  - 13-inch 1080p screen (15 inches recommended)
  - Dedicated graphics card with 2GB of VRam
  - 256GB solid state hard drive (512GB recommended)
  - Portable hard drive (for data backup)
  - Windows 10 Pro 64-bit
  - Antivirus/malware protection

Learning objectives

Individuals enrolled in the program will develop skills in several areas, including:

- Working knowledge of the Linux operating system, scripting, automation and programming languages focused on Python
- Understanding of networking concepts, protocols, security best practices particularly as related to their cloud deployment
- Knowledge of security fundamentals such as authentication, authorization, shared responsibility model and firewalls
- Fundamental understanding of databases technologies
- Application of AWS Core Services in the area of compute, storage and networking, including EC2, S3, IAM, VPC, Lambda, Cloud Formation, RDS and Route 53
- Understanding of professional skills for a technology working environment, including communication skills, collaboration tools, project management, presentation skills, and project reporting

Role readiness

Individuals graduating from the AWS re/Start program are prepared to enter roles in several areas, including:

- Data Center technical support performing configurations directed and designed by others
- Technical support (first line of triage in simple infrastructures and AWS Core services)
- Automation of simple tasks through Python scripting, including in an AWS Core services environment
- Basic networking configurations and debugging
- Simple AWS Core Services configurations

Advanced tasks

Graduates have the foundational skills to progress to work on more advanced tasks after a few months. Below are some examples of tasks graduates can take on after a few months in role:

- Customer support (progressively complex triage scenarios)
- Software engineering/junior DevOps, automating tasks of growing complexity
- Supporting cloud deployment (configuration, automation, and debugging)

Post-graduate resources

After completion of the AWS re/Start program, graduates will be invited to access additional resources to help them grow their technical skills. The graduates can access learning material free to them, with independent learning resources, hands-on labs, office hours with instructors, and access to live sessions from AWS subject matter experts to help them grow towards specialized roles such as architects, developers and system operators.

Breakdown by topics

Cloud Foundations

Introduction to Cloud (basic computing and introduction to AWS)	20 hours
Linux Fundamentals	42 hours
Networking Fundamentals	22 hours
Security Fundamentals	33 hours
Python Programming	46 hours
Databases Fundamentals	31 hours

AWS core services

Jumpstart on AWS (JAWS) provides a deeper dive into AWS from an operation perspective.

Well-Architected Framework	7 hours
Understanding-Systems-Operations-on-AWS	8 hours
Tooling-and-Automation	6 hours
Computing-Servers	10 hours

Computing-Scaling-and-Name-Resolution	13 hours
Computing-Containers-and-Serverless	10 hours
Computing-Database-Services	8 hours
Networking	9 hours
Storage-and-Archiving	16 hours
Monitoring-and-Security	10 hours
Managing-Resource-Consumption	7 hours
Creating-Automated-and-Repeatable-Deployments	16 hours

Daily and weekly recurring sessions

Room for instructor driven reinforcement sessions is provided through the 12 weeks in order to validate learners' preparation. Peer-to-peer sessions are also included to foster teamwork in a professional environment.

Daily recap sessions/reinforcement	40 minutes/day
1/1 activities like mentoring, small presentations, personal portfolio preparation	2 hours/week

Employability Skills and Event Sessions

The curriculum features sessions and activities blending soft skills learnings with professional environment-like tools, processes and best practice exposure. The sessions are applied to the technical curriculum to make this a unified and immersive experience for the learners. Topics include Amazon leadership principles, elevator pitch, digital presence and exploring cloud possibilities. Learners take part in community sessions that include networking events and company visits (health restrictions allowing).

Cloud Practitioner Essentials Assessments

During Week 12 of the program, learners will have an opportunity to study and prepare for the AWS Certified Cloud Practitioner certification exam. Learners can complete practice questions to review core topics for the exam.