

Santa Monica College just launched a Cloud Computing Certificate Program. Cloud Computing is the delivery of computing services—servers, storage, databases, networking, software, analytics, intelligence and more—over the Internet (“the cloud”) to offer faster innovation, flexible resources, and economies of scale. You typically pay only for cloud services you use, helping lower your operating costs, run your infrastructure more efficiently, and scale as your business needs change. Many industries are migrating on premise Data Centers to Cloud providers such as Amazon Web Services, Microsoft Azure or Google Public Cloud.

The need for skilled cloud architect is outpacing the education pipeline for them. Below are details about the certificates that are available in AWS, the classes SMC offers to support the employee pipeline and some helpful tips on and from employers in this field.

A. AWS PROFESSIONAL CERTIFICATIONS AVAILABLE

- 1) **Cloud practitioner** – The SMC course series will prepare you for this certification. 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.
 - a) This certification will allow you to be knowledgeable enough in cloud computing to work in:
 - Cloud computing sales
 - Business Solutions Role
 - or other supportive services
 - b) Cloud computing can be used for more than app development and hosting. It can be used as a business solution for:
 - Large Data Storage
 - Computing Services
 - Serverless Infrastructure.
 - Databases
 - CI/CD
 - Remote Backup Storage

To pass this exam must know AWS core services, basic cloud computing understanding, basic cloud security and support plan costs and features. The classes in the Santa Monica College Program series are built to facilitate the passing of this AWS certification.

- 2) **Solutions Architect Associate** (*Recommended*) - A fifth class for the Santa Monica College Program series is being developed to help students prepare to pass this certification. A background in DevOps or programming could be helpful for this pathway. This certification validates your ability to effectively demonstrate knowledge of how to architect and deploy secure and robust applications on AWS technologies. We recommend candidates have at least one year of hands-on experience designing available, cost-efficient, fault-tolerant, and scalable and distributed systems on AWS.
 - a. Solutions architect maybe involved in:
 - Hands-on experience designing available, cost-efficient, fault-tolerant, and scalable distributed systems on AWS
 - Hands-on experience using compute, networking, storage, and database AWS services
 - Hands-on experience with AWS deployment and management services
 - Ability to identify and define technical requirements for an AWS-based application
 - Ability to identify which AWS services meet a given technical requirement
 - Knowledge of recommended best practices for building secure and reliable applications on the AWS platform
 - An understanding of the basic architectural principles of building on the AWS cloud

- An understanding of the AWS global infrastructure
- An understanding of network technologies as they relate to AWS
- An understanding of security features and tools that AWS provides and how they relate to traditional services

2) Solutions Architect Professional – More Advanced version of the previous Certification. This certification tests your advanced technical skills and experience in designing distributed applications and systems on the AWS platform. This is recommended for anyone that has completed an AWS Certified Solutions Architect - Associate certification with two or more years of hands-on experience designing and deploying cloud architecture on AWS.

3) Specialty Certifications - Many specialties available in cloud computing. The field is constantly innovating and evolving.

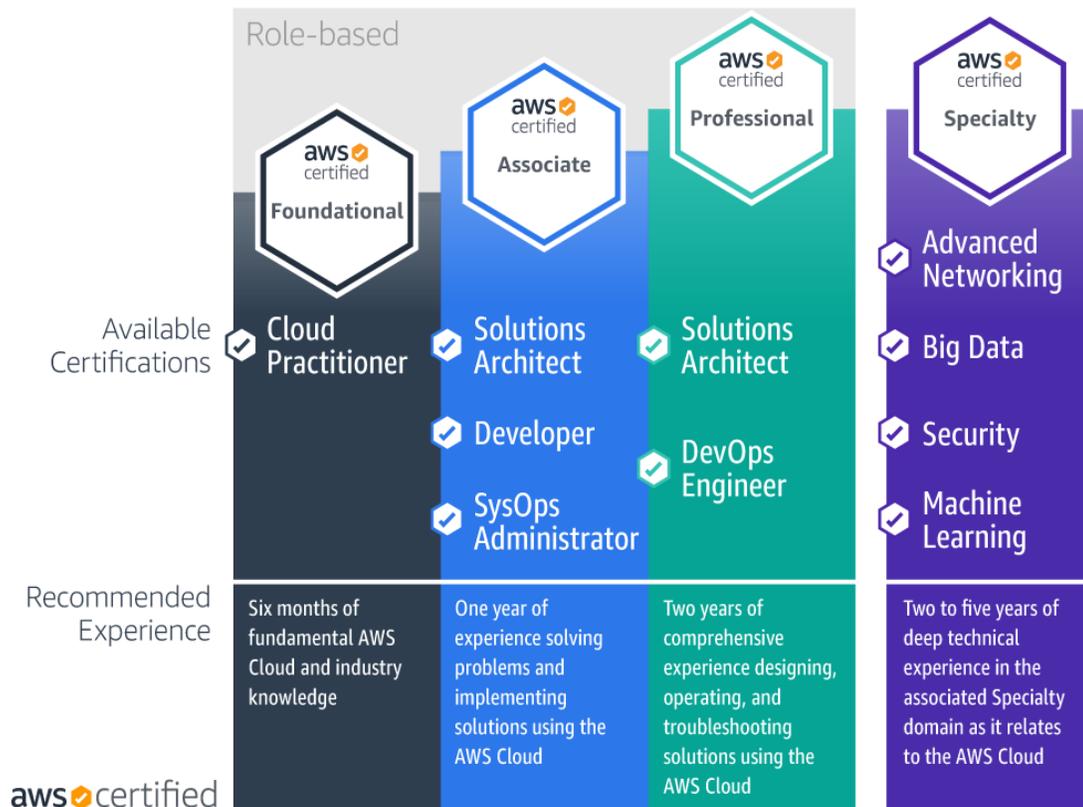
- Advanced Networking
- Big Data
- Security
- Machine Learning

The exams are roughly \$100 - \$300 each. The Solutions Architect is the most in demand category. A fifth class for the series is being developed to help students prepare to pass this certification.

Information on how to obtain AWS certifications and exam prep resources are available at:

- <https://aws.amazon.com/training/>
- <https://www.aws.training/Dashboard>
- <https://aws.amazon.com/certification/certification-prep/>
- <https://aws.amazon.com/certification/>

As technology is constantly evolving the recency of the certificate will matter.



B. CLASSES AT SMC

CS79A Introduction to Cloud Computing

CS79B Databases Essentials for Amazon Web Services

CS79C Compute Engines for Amazon Web Services

CS79D Security in Amazon Web Services

An architecture class is in development to be the 5th class in the series. This class will offer practical experience.

A Programming background is not required to take this series and obtain the Cloud Practitioner Certification.

The below classes are recommended to compliment the Cloud Computing Certificate:

- Linux
- Networking
- Python Programming

As a student of this program you will receive a credit for a year of the AWS platform usage.

C. TRAITS EMPLOYERS ARE LOOKING FOR

- Creative problem solvers
- Critical thinkers
- The ability to find answers
- Change seeker
- Ability to explain projects
- Ability to learn from failure

D. CAREER COUNSELING

Career counselors work individually with students to help explore and assess career interests, work values, skills, and personality and how they fit into the world of work. Students work with counselors to explore majors and careers and set goals regarding career choices. Counselors are also available to review resumes, cover letters, portfolios, and conduct mock interviews.

E. EMPLOYMENT RESOURCES

Make an appointment for resume and cover letter writing, mock interviews, and general job search assistance. The following are the top three resources we recommend to find internship and job opportunities:

1) www.smc.edu/hiresmc

Hire SMC is a free searchable employer data base, like Indeed.com or LinkedIn, but it is just for employers seeking to work with Santa Monica College students. The following opportunities can be found on this website: Off-campus jobs, Internships & On-campus jobs. To access www.smc.edu/hiresmc:

- Click on “Student” and register.
- Your User ID is your SMC email address. You must include your full SMC email address (including @student.smc.edu). You will need to create a password.

2) www.linkedin.com

LinkedIn is a social networking website designed for professionals in all industries. By using it, you can begin networking and connecting with individuals in your field of interest. Recruiters use LinkedIn to hire college interns and employees. You can also reach out for mentors and feedback on your work. Make sure if you have a LinkedIn page it is dialed in and includes a link to your portfolio.

3) www.indeed.com

The #1 job site worldwide! Excellent resource for current positions. Search for internships, occupational research, and companies.

4) www.awseducate.com

You can discover the skills necessary in cloud careers, obtain micro credentials, upload your resume and portfolio, and apply for jobs and internships in the cloud.

F. INTERNSHIPS

Internships are a great way to apply classroom knowledge to real world problems. In addition, participating in an

internship expands your network, can lead to permanent employment, and is good to have on your resume. For information on how to receive course credit for an internship visit www.smc.edu/internship
To apply for an internship you must have a resume and a portfolio.

G. RESUME

Create a AWS Profile on AWS Educate. As AWS Educate students complete learning pathways, and earn AWS Educate badges, their achievements roll up into a profile that allows them to map their skills to relevant jobs, and easily submit that profile as an application to employers. As employers are looking for specific cloud skills, they are able to tap into AWS Educates members. All SMC students enrolled in the AWS courses, become AWS educate members.

Resumes are not a summary of everything you have even done. Resumes are a summary of the experience you have relevant to the position you are applying for. It is critical to review the job description you are applying for. Notice the skills the job posting is looking for. Highlight on your resume the skills that you have that correspond to the ones the posting is requesting. Limit your resume to one page. Include any AWS related personal projects are you are working on as well as final projects from the AWS courses.

A full resume guide and some sample resumes are available at www.smc.edu/resume
Good Amazon video resource guide: https://www.youtube.com/watch?v=bk_Pt7xgN_k

H. RESUME TIPS FROM EMPLOYERS

Be sure to include class or independent projects on your resume to highlight your area of interest, and your problem solving skills. A few examples are highlighted below:

- 1) Problem: needed to take photos of all sizes uploaded to a S3 bucket and fit them in a particular space
Solution: Used lambda function to store the photos
- 2) Problem: had to clean out S3 bucket but it was more expensive to delete files than to store them.
Solution: created a file life cycle policy
- 3) Problem: had to set up web server architecture to distribute and scale info to website
Solution:
 - triggered an update and used lambda
 - S&S topic triggered by Git
 - Used a tool called packer
- 4) Problem: customer needs to spin up infrastructure on demand. Commit to Git.
Solution: clone infrastructure and change D&S to point to new infrastructure.

I. PORTFOLIOS

It is important to think about your portfolio from the very beginning of your educational experience, so you are not scrambling for content at the last minute. Portfolios demand a great deal of time and energy to create. Knowing that potential employers will see your work may help you think about classroom assignments and volunteer projects differently.

1) Content

At the beginning stages of your career employers would like to understand your thought process and identify what you are interested in. For each project in your portfolio, include a brief summary of the project/problem you were solving, and the process you used to solve that problem.

2) Tools to showcase your work

- AWS Educate Profiles: <https://aws.amazon.com/education/awseducate/>
- Earn AWS Skill Badges: <https://aws.amazon.com/education/awseducate/>
- Create a personal app and host it on Amazon Web Services, some helpful resources to accomplish this:
 - <https://docs.aws.amazon.com/gettingstarted/latest/deploy/awsgsg-deploy.pdf>
 - <https://aws.amazon.com/getting-started/tutorials/launch-an-app/>

- <https://aws.amazon.com/application-hosting/>
- <https://aws.amazon.com/serverless/build-a-web-app/>
- GitHub: <https://github.com/>
- You can create a general portfolio with links to your other work using:
Cargo: <https://2.cargocollective.com/> Square Space: <https://www.squarespace.com/>
Adobe Portfolio: <https://www.myportfolio.com/> Wordpress: www.wordpress.com

J. SOCIAL MEDIA

Highlighting your projects, goals, progress, process, problems and solutions using blogs, LinkedIn, and YouTube is a way to promote yourself and your work. You can also use your online portfolio as a business website by including a contact me section. Make sure your personal social media is cleaned up or set to private.

K. TRICKY INTERVIEW QUESTIONS

Q. How many windows are there in NYC?

A. There is no answer, they want to see your problem solving process.

le. "x" buildings x "y" floors x "z" windows

Q. What change to what service would you apply?

A. The answer you supply will identify your interests and/or your pain points

le. The ability to auto scale from the command line vs. the console

L. TIPS ON HOW TO GROW SKILLS

- Set up a Slack auto updated with Amazon updates
- Sign up and get certified in areas of interest
- Collaborate with colleagues/peers

M. ADDITIONAL WAYS TO BUILD EXPERIENCE

You can create tech solutions based on personal interest or for friends' and family's businesses to build your portfolio and resume. You can also build experience and build your network through some of the following activities:

- 1) **Los Angeles AWS Meetup Group** - This group shares lessons learned about using Amazon Web Services, including API's, EC2, S3, Automation, Deployment, Security, ELB, High Availability, Business Continuity and learning about how others are currently using AWS. <https://www.meetup.com/Los-Angeles-AWS-Users-Group/>
- 2) **AWS Summits (Free)** - AWS Global Summits are free events that bring the cloud computing community together to connect, collaborate, and learn about AWS. At the AWS Summits, you can learn how to choose the right database, modernize your data warehouse, and drive digital transformation using AI. Summits are held in major cities around the world and attract technologists from all industries and skill levels who want to discover how AWS can help them innovate quickly and deliver flexible, reliable solutions at scale. <https://aws.amazon.com/events/summits/>
- 3) **Volunteering** - VolunteerMatch is a great place to find and sign up for Volunteer Opportunities.
- 4) **Clubs** - Get involved in club activities and take an active role in the club activities. See the clubs available at Santa Monica College or learn how to start your own club at <http://www.smc.edu/icc>
- 5) **Professional Associations** - Join a Professional Association. Industries have Professional Associations where people can attend workshops and network. Most associations offer student memberships at low or no cost.
- 6) **Class Projects** - Class projects count! Make sure you take an active role and are proud of your work so you can include your projects in a portfolio of your work.
- 7) **Participate in AWS events and webinars:** <https://aws.amazon.com/about-aws/events/>
- 8) **AWS YouTube Channel: In-depth lectures on AWS services and related news**
<https://www.youtube.com/user/AmazonWebServices>