Careers in Cloud

What are the career options in cloud computing?

Confused by cloud developer, architect, administrator roles? Do the terms FinOps, DevOps, and SecOps keep getting tossed around in meetings? We will take a look at some of the common roles and specialties in today's cloud landscape.

In this article, we will introduce some of the careers that involve working in the cloud, including:

- Foundational skills for roles using the cloud
- General roles that use the cloud
- Specialty roles for advanced cloud users

There are some critical skills that anyone wanting to work in the cloud should develop. Let's start by discussing the skills necessary for any cloud career.

Cloud Foundational Skills

For any role in the cloud, the following skills and knowledge would be helpful.

A Basic Understanding of the Cloud

It is necessary to develop an understanding of the general cloud landscape. We should know:

- What is the cloud?
- Who are the major cloud providers?
- What can the cloud offer?

We cover many of these topics here!

Setting up a cloud environment

Cloud users should be able to set up their local computers for accessing cloud services. These services are usually accessed using command line tools or web management consoles. Either way, a cloud user should be able to access cloud offerings using their computer.

High-level knowledge of cloud services

Anyone starting a cloud career should have some understanding of cloud offerings. This might include the broad categories that cloud services fall

under; compute, security, storage, and more. Knowledge in these areas will allow the cloud user to have informed discussions on cloud solutions.

Basic access and security

Security is a vital aspect of using the cloud. Improper cloud security could give someone access to a company's infrastructure and data. A cloud user should be familiar with concepts such as permissions, roles, users, and groups.

Configuring and deploying cloud solutions

An entry-level user of the cloud should be able to create and launch basic cloud services. These tasks might involve creating and launching a server instance or a database.

Each of these is a foundational skill for those who work in the cloud. Next, let's cover in more detail some cloud career options!

Cloud Roles

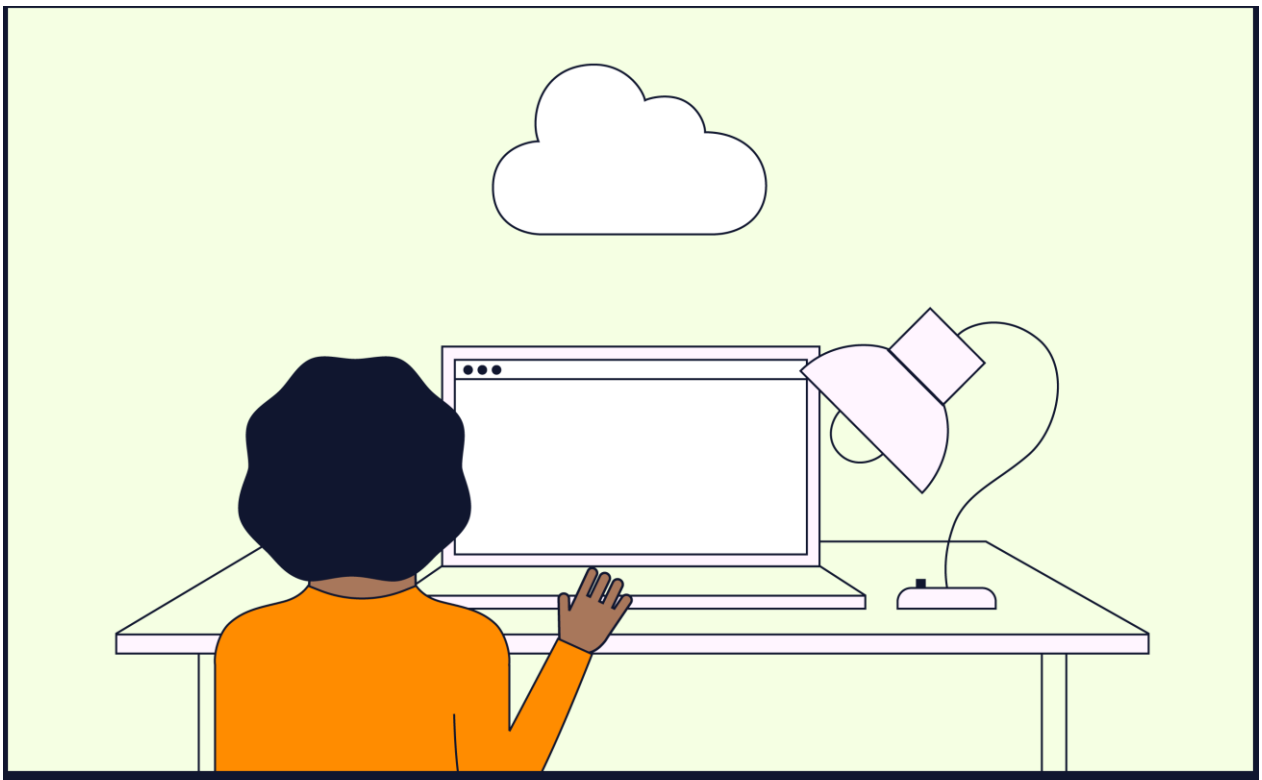
There are many different roles in the cloud. Each role focuses on different aspects of utilizing the cloud for a business. Some roles focus on the nitty-gritty of implementation. Other roles are big picture orchestrators of large systems. Here are some of the different roles in a cloud career.

Note: these roles are based on those found in large organizations. Roles vary from organization to organization. A smaller company might have fewer roles, with increased responsibilities in each role.

Cloud Developer

Devon is working on a new shopping feature. He needs to retrieve data from a database and store it within several classes. Devon decides to use the cloud provider API to retrieve this data. He then translates the returned values into the classes provided by his organization.

The cloud developer uses cloud services to create desired business outcomes. They might develop functionality by integrating cloud services into an application. Cloud engineers are often going to be using programming languages. Common languages for working with cloud services include Python and Go.



Cloud Administrator

A recommendation system has put some new work on Terri's plate. She will need to create a new cloud database table and configure roles for its access. She can create and configure the table using the management console.

The cloud administrator creates and manages the services that the business uses. The cloud developer will be connecting these services with their programs. The administrator focuses more on the configuration and maintenance of the cloud services.

The services and technologies used by the cloud administrator will depend greatly on the company they are working at.

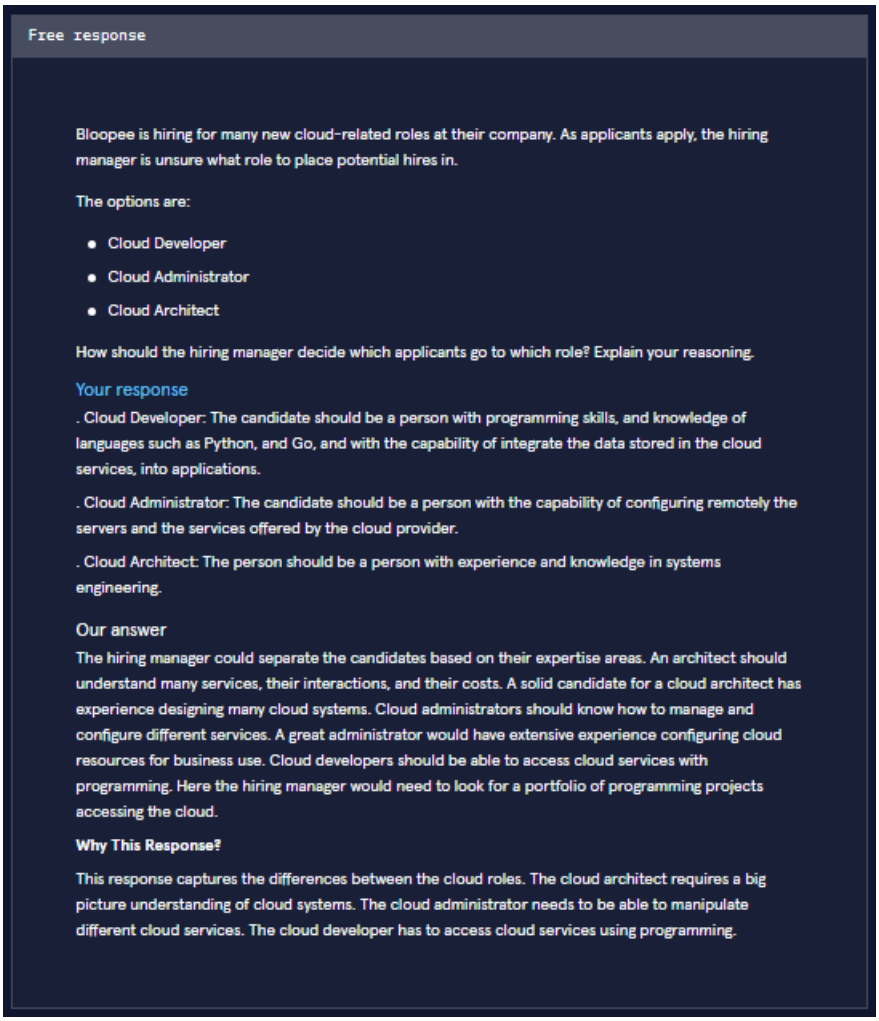
Cloud Architect

Bloopee has decided to move its infrastructure into the cloud. They have hired Cal to design how the company can structure the cloud services. The services must replicate those offered by the existing infrastructure. Cal handles figuring out how the storage, computing, and cloud infrastructure will interact.

Cloud architects are responsible for the design and construction of cloud systems. The cloud architect determines the services used and how they connect. They are responsible for the high-level technical cloud strategy.

The cloud administrator will expand, configure, and maintain these systems. The cloud developer will use pieces of this cloud architecture to conduct their work.

These are some of the more general cloud engineering roles. Each might work on any part of a cloud system. Some people wish to specialize in particular aspects of cloud work. Next, let's cover some common specializations.



Free response

Bloopee is hiring for many new cloud-related roles at their company. As applicants apply, the hiring manager is unsure what role to place potential hires in.

The options are:

- Cloud Developer
- Cloud Administrator
- Cloud Architect

How should the hiring manager decide which applicants go to which role? Explain your reasoning.

Your response

. Cloud Developer: The candidate should be a person with programming skills, and knowledge of languages such as Python, and Go, and with the capability of integrate the data stored in the cloud services, into applications.

. Cloud Administrator: The candidate should be a person with the capability of configuring remotely the servers and the services offered by the cloud provider.

. Cloud Architect: The person should be a person with experience and knowledge in systems engineering.

Our answer

The hiring manager could separate the candidates based on their expertise areas. An architect should understand many services, their interactions, and their costs. A solid candidate for a cloud architect has experience designing many cloud systems. Cloud administrators should know how to manage and configure different services. A great administrator would have extensive experience configuring cloud resources for business use. Cloud developers should be able to access cloud services with programming. Here the hiring manager would need to look for a portfolio of programming projects accessing the cloud.

Why This Response?

This response captures the differences between the cloud roles. The cloud architect requires a big picture understanding of cloud systems. The cloud administrator needs to be able to manipulate different cloud services. The cloud developer has to access cloud services using programming.

Specialties

Besides the more general roles within the cloud, there are also ways to specialize. Specializations focus on aspects of the cloud, such as security, productivity, and costs. Let's explore some of these specialty roles!

SecOps (Security Operations) / Cloud Security Engineer

The latest audit has revealed many security issues within Bloopee's organization. Sara oversees the effort to follow legal requirements and industry best practices. Over the next several months, Sara overhauls permissions, data encryption, and network policies. Through these reforms, Bloopee is back in compliance.

The SecOps or cloud security engineer aims to prevent misuse of a company's cloud infrastructure. This misuse can range from mistakes to malicious external users. Security engineers will often focus on controlling access to cloud services.

A SecOps engineer will require advanced knowledge of networking, data privacy, and security best practices. These tasks might involve defining roles for different teams, restricting permissions, and encryption. The security engineer protects data and defends the cloud system from external attacks.

FinOps (Financial Operations) / Cloud Financial Engineer

Bloopee wants to make sure it gets the most bang for its buck. They hired Maria to find ways to optimize the cost of supporting the cloud system. Maria investigates the team's workflows, architecture, and monitoring systems. Along the way, she finds ways to reduce costs.

The FinOps engineer or cloud financial engineer works on the finances of managing and running cloud services. A FinOps engineer will look for ways to improve cloud processes and service efficiency. They also might make extensive use of service logs to identify improvement opportunities. A FinOps engineer requires detailed knowledge of the prices of cloud offerings. These engineers will propose, test, and implement cost-effective changes.

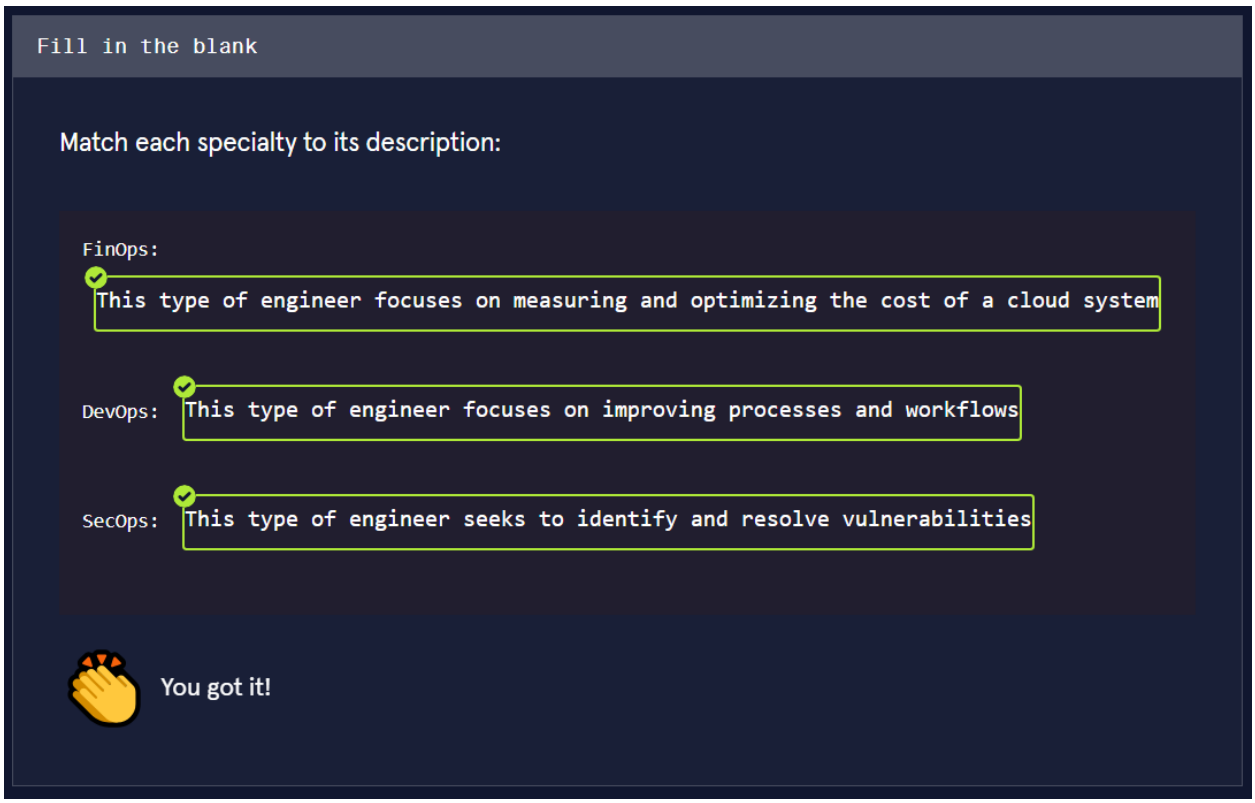
DevOps (Development Operations) / Site Reliability Engineer

As Bloopee expands, its number of new feature implementations and releases slows. Approvals, checklists, and merges interfere with getting new software out the door. Jolep comes on board to improve team velocity. Jolep introduces processes that reduce the work necessary to release new features. Bloopee begins releasing code changes at a much faster rate.

The DevOps or Site Reliability engineer combines infrastructure and development work, emphasizing automation. This type of engineer seeks to find ways to improve processes for developing a system. DevOps engineers will need a deep knowledge of development processes and tooling. Tools used by a DevOps engineer can include Docker, Kubernetes, Git, and Jenkins. Some important aspects of DevOps and Site Reliability Engineering work include:

- CI/CD Pipelines: A series of steps to make changes to a project automatically built, tested, and deployed.
- Monitoring: A practice enabling information to flow from our systems to our developers
- Resiliency: A practice of making our systems able to continue to function even under problematic conditions.

We have only covered a few of the many specialties involving work in the cloud. As you develop your cloud skills, you will discover other aspects of the cloud ecosystem.



Review
Throughout this article, we have discussed:

- Foundational skills for work in the cloud
- General roles for cloud developers
- Areas to specialize in

As you continue to learn about the cloud, keep these career options in mind. There are many different ways to work in the cloud, and you can pick something that interests you!