

Module 1: Welcome to AWS Academy Cloud Architecting

Tuesday, September 23, 2025 2:25 PM

A. Café business scenario

- Frank and Martha dreamed of opening a café and bakery in retirement. They were not ready to stop working entirely. They wanted to do something that incorporated their love of baking and supplemented their income.
- To make their dreams a reality, Frank and Martha recently opened a café and bakery at the base of their building. Since opening the café and bakery, they enjoy interacting with the people in their neighborhood. They also support community events with their baked goods and coffees.
- Frank and Martha have experienced an increase in local business. They also sometimes receive inquiries for products from business travelers and tourists who pass through the area. Together with their staff and café visitors (some of whom are AWS consultants), they discover how cloud computing can help their business grow.
- In each of the challenge (café) labs, you take on the role of the café staff, and receive advice and assistance from AWS consultants who occasionally pass through the café. You will architect cloud solutions that help fulfill the business needs of the café. The next slides introduce the personas involved in the café business scenario.

Café business owners and staff



Frank



Martha



Sofía



Nikhil

- | | | | |
|---|---|---|---|
| <ul style="list-style-type: none">• Co-owner of the café• Retired from the navy• Likes to bake• Nontechnical | <ul style="list-style-type: none">• Co-owner of café• Retired accountant• Knows how to use spreadsheets but otherwise, nontechnical | <ul style="list-style-type: none">• Daughter of Frank and Martha• Supply chain manager for the café• Future business administration student• Has technical skills that include programming | <ul style="list-style-type: none">• Café employee with visual design skills• Interested in learning cloud computing• Might take on more responsibilities at the café when Sofía starts her university studies |
|---|---|---|---|

- Frank is a great baker, but aside from taking selfies of his creations, he's not very technical. His partner, Martha, is a retired account and is familiar with using spreadsheets, but otherwise, she does not have a technical background. Sofia is the daughter of Frank and Martha. She runs the day - to - day operations of the café, which include managing the supply chain for sourcing ingredients and tracking inventory. She took some programming classes in secondary school and plans to start working toward a university degree in business administration later this year.

- Nikhil works at the café part time. He works behind the counter, serving customers and doing other tasks under Sofia's supervision. He finished secondary school and has some experience with visual design. He wants to learn more about web development and cloud computing. He plans to get a university degree that builds on his existing design skills and teaches him cloud computing skills.

- Sofía recently learned about AWS. She talked to her parents about how they might use AWS services to automate some aspects of the café business. She explained how AWS services can help reduce manual administrative work and improve the customer experience.

Café visitors who are AWS consultants



Olivia

- AWS solutions architect
- Has technical skills that include a specialty in databases and network technologies



Faythe

- Developer
- Has experience with AWS programming interfaces
- Is knowledgeable about cloud security



Mateo

- Systems administrator and engineer
- Likes to find ways to automate and to create repeatable solutions
- Knows the importance of backups and disaster recovery in solution design



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- Three frequent café visitors who are friends of Sofía and Nikhil are AWS consultants. They often chat about their interests in technology and the cloud.
- Olivia is an AWS solutions architect (SA) who recently moved to the downtown area. Through their conversations, Sofía learned that Olivia is an expert in AWS and cloud technologies. Olivia previously worked as a network engineer, and she also has a strong background in database technologies.
- Faythe is an AWS developer who recently completed an AWS internship program. She likes to use her programming skills to apply the appropriate technology to a business problem. She recently achieved the AWS Certified Security – Specialty and is interested in developing big data solutions. She often stops by the café for some of Frank's baked goods.
- Mateo usually grabs a coffee at the café on his way to work. He is an experienced AWS SysOps engineer. He is skilled at bringing automation and fault tolerance to the solutions that he builds. Mateo also likes to design for backup and disaster recovery. He previously worked as a developer and has been mentoring Faythe since she started as an intern with AWS. Mateo enjoys helping anyone who is interested in learning.

The evolving café architecture

Version	Business Reason for Update	Technical Requirements and Architecture Update
V1	Build a static website for a small business.	Host the website on Amazon S3.
V2	Update the website to support dynamic content and online ordering.	Deploy the web application and database on Amazon EC2.
V3	Reduce the effort to maintain the database and secure its data.	Separate web and database layers. Migrate the database to Amazon RDS on a private subnet.
V4	Enhance the security of the web application.	Use Amazon VPC features to configure and secure public and private subnets.
V5	Ensure that the website can handle an expected increase in traffic and remain highly available and resilient to failure.	Add a load balancer, implement auto scaling on the EC2 instances, and distribute compute and database instances across two Availability Zones.
V6	Automate deployments so that the café can consistently deploy, manage, and update café resources across Regions.	Build a version-controlled CloudFormation template to deploy the network and application layers. Deploy the CloudFormation stack to another Region.
V7	Add reporting capabilities while reducing the operational and maintenance burden, improving performance, and reducing costs.	Deploy Lambda functions that connect to the Amazon RDS database and generate a report based on a schedule.



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A. Roles in Cloud Computing

1. IT Professional:

- Common skills and responsibilities include following:
 - + Act as a generalist and might manage an application
 - + Often manage a production environment
 - + Highly technical
 - + Might have significant or limited experience in cloud technologies
 - + Might specialize in one area (such as security or storage)
- Job titles including:
 - + IT administrator
 - + Systems administrator
 - + Network administrator

2. IT Leader:

- Common skills and responsibilities include following:
 - + Lead a team of IT professionals
 - + Responsible for day-to-day communication
 - + Manage a budget, stay informed about technologies, and choose new technology
 - + Hands-on during the early stages of a project, and then delegate the team to take over
- Job titles including:
 - + IT Manager
 - + IT director
 - + IT supervisor

3. Developer:

- Common skills and responsibilities include following:
 - + Write, Test, and Fix code
 - + Think about projects at the application level
 - + Work with APIs and SDKs
 - + Might use sample code

- + Might specialize in one area (such as security or storage)

- Job titles including:

- + Software developer

- + System architect

- + Software development manager

4. DevOps Engineer:

- Common skills and responsibilities include following:

- + Build out the infrastructure that applications run on, often in the cloud

- + Follow the guidelines of the architect

- + Experiment to improve deployments

- Job titles including:

- + DevOps engineer

- + Build engineer

- + Reliability Engineer

5. Cloud Architect:

- Common skills and responsibilities include following:

- + Stay up to date with new technologies and help decide which ones to use

- + Provide documentation, processes, and tooling to developers

- + Give developers freedom to innovate

- + Resolve challenges using best practices for cost optimization, performance, reliability, and security

- Job titles including:

- + Cloud architect

- + Systems engineer

- + Systems analyst