



CS 470 Project Two Guidelines and Rubric

Competency

In this project, you will demonstrate your mastery of the following competency:

- Defend design decisions to a variety of audiences and in a variety of formats

Scenario

Congratulations, you have successfully migrated your full stack application and set it up in a serverless environment using cloud storage and a cloud database. Your boss is pleased because the new board of directors can see measurable growth in customers and revenue. To celebrate, the company has decided to send you to a developers' conference where you will present on the process of migrating a full stack application to an AWS serverless solution. Your audience will consist of other startup company developers, eager to learn from your experiences. Your conference application requires a preview of your full presentation. You will produce a highlights version using the outline provided below.

As you create your presentation, you know this will be a great artifact to catapult your career. You can discuss it in your next job interview since it answers the questions, "Tell me about a project you've worked on", and "How could you scale or improve this project using the AWS Serverless stack?"

Moving to the cloud has many benefits, but along with these benefits come challenges. Automation rates are rising, but optimizing efficiencies and security testing in the cloud infrastructure can pose many challenges, as you know. Your presentation should include the elements in the instructions below.

Directions

Conference Presentation Submission

Create a presentation about your experiences migrating from full stack to a cloud-native web application using AWS microservices. Your presentation should briefly address each of the topics below and touch upon the elements and questions provided. Each section should have a title page and a visual representation of the topic. You may use screenshots, diagrams, or snippets of code to illustrate the concept or process you are describing. You will also write a narration script that will become the narration for the slide deck. You may use PowerPoint or MS Sway to produce your presentation. It should not exceed 10 minutes in length.

- **Purpose of Presentation**
 - Introduce yourself.
 - State the purpose of the presentation: to articulate the intricacies of cloud development to both technical and nontechnical audiences.
- **Containerization and Orchestration**
 - Explain the models used to migrate a full stack application to the cloud.
 - What tools are necessary for containerization?
 - What is the value of using Docker Compose?
 - Suggested image: Screenshot of Docker Compose
- **The Serverless Cloud**
 - Serverless
 - What is "serverless" and what are its advantages?
 - What is S3 storage and how does it compare to local storage?
 - Suggested images: You may create UML diagrams or cite diagrams found online using APA 7.
 - Describe the advantages of using a serverless API.
 - Explain Lambda API logic.
 - What scripts are produced in order to make this happen?
 - Summarize the steps needed to integrate the frontend with the backend.
 - Suggested images: You may create UML diagrams or cite diagrams found online using APA 7.
 - What are the data-model differences between MongoDB and DynamoDB?
 - What queries did you perform?
 - What scripts are produced in order to make this happen?

- Suggested image: diagrams or script snippets and types

- **Cloud-Based Development Principles**

- Elasticity
- Pay-for-Use Model
 - Suggested image: An AWS graph comparing Capacity vs. Usage has been included in your template.

- **Securing Your Cloud Application**

- How can you prevent unauthorized access?
- Explain the relationship between roles and policies.
- What custom policies were created?
- How can you secure the connection between Lambda and Gateway?
- Lambda and the database
- S3 Bucket
 - Suggested image: diagrams and or script snippets
- Briefly recount three main points that are salient to your explanation and demonstrate your understanding of cloud development.

Create a presentation using a PowerPoint slide deck. The presentation should be a slide deck containing text, images, and diagrams, with your recorded narration over the slides. Articulate your understanding of building a full stack serverless application with full integration between all components.

You will need to draft the presentation and write a script to accompany the images. The script can be text posted in the comment section of your slide deck to make it easier for you to record. This way, you can read from your script while you are recording each slide. Producing a script will require you to think critically about the whole process. In addition, it serves as a transcript and meets accessibility criteria. Be sure to describe the images you include and how they serve as evidence of learning or support for your ideas. Your images should provide a visual explanation of a concept. In some cases you may use bullet points; however, it is highly recommended that you include visual information such as screenshots of your work and diagrams that you create to help nontechnical professionals understand the concepts you plan to articulate.

The recording should be no more than 10 minutes long. Use the PowerPoint template provided in the Supporting Materials section. Save the presentation as an MP4 file. If you would like to use an alternate presentation tool, please make sure it contains both audio and images and have it approved by your instructor before you begin. All presentations will also be posted to the Module Eight Discussion for peer review in Module Eight.

What to Submit

To complete this project, you must submit the following:

Submit these two items to both Brightspace and the Module Eight Discussion:

1. Upload the MP4 file of your presentation to YouTube and make it unlisted (recommended). See this article for guidance: [How to Upload an "Unlisted" Video to YouTube](#).
2. Create a PDF of your complete presentation script written as a narrative. Include the video link under your heading, which should include your name, the date, the assignment name (Project Two Conference Presentation: Cloud Development), and a link to your YouTube video.

Please note: The Module Eight Discussion is open this week so that you can post your presentation links and begin to review your peers' presentations. You will make peer comments in Module Eight.

Supporting Materials

The following resource(s) may help support your work on the project:

[CS 470 Project Two Template](#)

Use this template with the images provided as the basis for your presentation. This is the template you will use to produce your final presentation. It contains an outline with each of the rubric criteria. You may modify the presentation to accommodate your own presentation style or additional images that align with your script.

[How to Create Voice-Over Narration for Your PowerPoint Presentation](#) [3:06]

Watch this video for a guide to creating voice-over narration in a PowerPoint presentation.

[How to Add Narration to Your PowerPoint Presentation](#) [11:41]

Watch this video to gain clarity on how best to create a narrated slideshow.

Project Two Rubric

Criteria	Exemplary (100%)	Proficient (85%)	Needs Improvement (55%)	Not Evident (0%)	Value
Purpose of Presentation	Exceeds proficiency in an exceptionally clear, insightful, sophisticated, or creative manner	Articulates the advantages of using the cloud to both technical and nontechnical audiences	Shows progress toward proficiency, but with errors or omissions; areas for improvement may include lack of clarity	Does not attempt criterion	5
Containerization and Orchestration	Exceeds proficiency in an exceptionally clear, insightful, sophisticated, or creative manner	Compares and contrasts the models used to move an application to the cloud, explaining rationale for containerization versus Lambda	Shows progress toward proficiency, but with errors or omissions; areas for improvement may include errors or omissions in the dockerfile or Docker Compose script	Does not attempt criterion	20
The Serverless Cloud	Exceeds proficiency in an exceptionally clear, insightful, sophisticated, or creative manner	Describes various principles of serverless web hosting	Shows progress toward proficiency, but with errors or omissions; areas for improvement may include understanding the concepts of the cloud, but not being able to explain the concepts of serverless; not understanding the core concepts of the cloud	Does not attempt criterion	40
Cloud-Based Development Principles	Exceeds proficiency in an exceptionally clear, insightful, sophisticated, or creative manner	Explains the principles of elasticity and the pay-for-use model	Shows progress toward proficiency, but with errors or omissions; areas for improvement may include not understanding central concepts to the cloud such as elasticity and pay-for-use, or not understanding the macro-level cloud value proposition based on elasticity and pay-for-use	Does not attempt criterion	20
Securing Cloud Application	Exceeds proficiency in an exceptionally clear, insightful, sophisticated, or creative manner	Explains the approach used to prevent unauthorized access to the web server, APIs, and database such as configuring the roles and policies as appropriate	Shows progress toward proficiency, but with errors or omissions; areas for improvement may include failure to understand the concepts of roles and policies in AWS and how they relate to each other and the services provided by AWS	Does not attempt criterion	10
Articulation of Response	Exceeds proficiency in an exceptionally clear, insightful, sophisticated, or creative manner	Clearly articulates complex technical information to both technical and nontechnical audiences; uses tools to produce visual information to describe the functionality and purpose of this project	Shows progress toward proficiency, but with errors in grammar, sentence structure, and spelling, negatively impacting readability	Submission has critical errors in grammar, sentence structure, and spelling, preventing understanding of ideas	5
Total:					100%