



Capstone Project

Intro to Azure - GEPP

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Contents

Contents	2
Expected Outcome	3
Problem Description	3
Project Timeline	3
Description of the Deliverables	4
Detailed Instructions	5
First Deliverable	5
Second Deliverable	5
Third Deliverable	6
Final Presentation	7

Expected Outcome

The goal of the capstone project is to understand and put into practice all the capabilities and knowledge learned on the Azure Cloud. This problem also reflects a real-world scenario where the analytics team works with an IT team, being capable of knowing the needs and resources in the cloud for their work and talk the same technical-language in order to make the peer work easier. Another important goal of this project is to enable the participants to work using the Cloud, Git and other technologies.

Problem Description

Assume you are new in the analytics teams, you are now working with your team and the IT/DEV/Security team. You must set-up your whole environment, creating a Git and an Azure account. Once you have setted up your environment, then you should be deep into the cloud, understanding the different capabilities of the cloud and why it's so important for these new technologies. Once you have understood the qualities of the cloud, you must understand your needs, your main tools for your work and map those tools to the new technologies in the cloud of Azure. Finally, you must work with the roles, responsibilities and permission in the cloud. This part will let you understand potential security risks and also will help your IT-team to give you the right permission for your day life work.

Project Timeline

The capstone project is designed to have three big modules. Every module in the capstone project has a recommended due date in which you should have finished the learning and the practice of each of them. We encourage you to finish those capstone projects by working as much as you can in them, taking the commitment of this project. We also recommend you to ask the lecturers and more importantly, ask for mentorship as much as you need to understand completely and finish your capstone project.

The deliverables, modules and due dates for the capstone project can be found in the next table:

Deliverables	Module	Due Date
First	Intro and Setup	November 15th
Second	Cloud Services	November 29th
Third	Governance	December 9th
Presentation	Delivery	December 13th

Description of the Deliverables

- **First:** This deliverable will be focused on the setup of your environments, asking you to create an Azure free-tier account and a Github account in order to keep tracking your progress into the different deliverables. You should also understand here the capabilities of the cloud and why most of the enterprises are moving to these services.
- **Second:** Once you have understood why the cloud services are so important to the cloud, now you will go into a deep understanding of the main services provided by Azure and then, you will map the main services you use in your work everyday with services into the cloud, the main idea here is to identify the services you should use in future.
- **Third:** Finally, after the compilation of the services you use into the cloud, you will now understand the permissions, connections and possible risks using the cloud services and how to avoid it.
- **Presentation:** The presentation will be performed in small groups in which every participant will present their project in no more than 10-min. The presentation must include the most important things you learned from the bootcamp, the documentation of the different services you can use in your role and an example of how you can use the cloud in your day to day.

Detailed Instructions

First Deliverable

- Create a Github account.
- Create an Azure free-tier account.
- Go to the bootcamp repository and make a fork of the whole repository into your account.
- Rename your repository as ***Intro-2-azure-your-name***.
- Create a folder inside your repository and name it ***capstone-project***.
- Create a document (it can be a word, txt or md document) in the capstone folder, name it **first-milestone** and write a brief description with no more than two paragraphs explaining the next questions:
 - Why is the cloud so important in the industries?
 - What are the most important features of the cloud services?
 - Is the Cloud useful for any enterprise?
 - What kind of enterprises do you think should keep using on-premise services? Why?

Second Deliverable

- Create a document inside your capstone folder, name it **second-milestone** and write in it the name of the main services that you learned in sessions and any other that you have heard about.
- Now make a description of every service you mentioned before trying to ask the following questions.
 - What is the service intended for?
 - Is this a managed service in the Azure Cloud? Why?
 - What is the cost of this service?
 - Is there more than one configuration of this service? What are the main differences?
 - Include references.



- Once you finish the description of the services of the previous point, now add a new section in the same document and create a list of the main tools/software that you use in your work everyday.
- Using the list of services above, add a category indicating whether the tool is a Paas, Saas or IaaS.
- Finally, add a new section in the same document, check the list of services that you use everyday and try to map all the services that you could use in the Azure cloud instead of your current tools and try to answer the following questions:
 - Does my tool have an equivalent service in the cloud?
 - If yes, which one? What things are equal, what others are different?
 - If not, is there any other similar service? What things are equal, what others are different?

Don't forget to update and upload your changes into your repository.

Third Deliverable

- Create another document named **third-milestone** in the folder of your capstone project.
- Answer the following questions:
 - What is an Azure Policy?
 - What is RBAC?
 - What are the main differences between them?
 - What is the difference between Azure Blueprint Contributor and Azure Blueprint Operator?
 - Which of the policies are more useful for your daily work?
 - With the services you mentioned in previous milestones you could use in Azure: What kind of policies/blueprint should you also ask for to your IT team?
- Upload the changes into your repository.

Final Presentation

- Create a presentation in which you cover the next points for a 10 min presentation:

- What have you learned
- What was the most challenging part for you in this bootcamp
- What services in the Azure cloud would you like to use for your role?
- What kind of roles, services or permissions should you have to use those services?
- A description of a possible requirement for your IT team in which you describe the services, roles, policies, etc for you work in the Azure Cloud.

