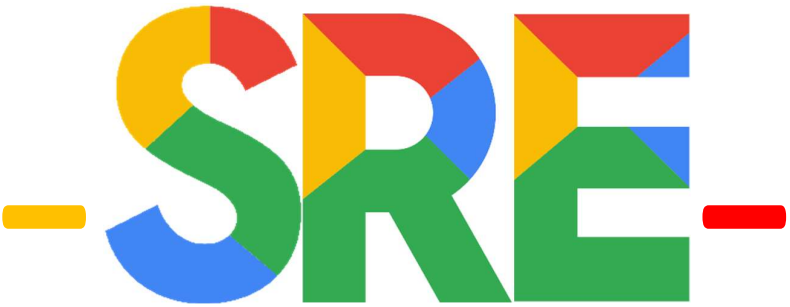


NATIONAL UNIVERSITY
of Computer & Emerging Sciences

Course: Software Requirements Engineering

Instructor: Lecturer Sara Rehmat

Submitted by:
Muhammad Rehan | 22P-9106

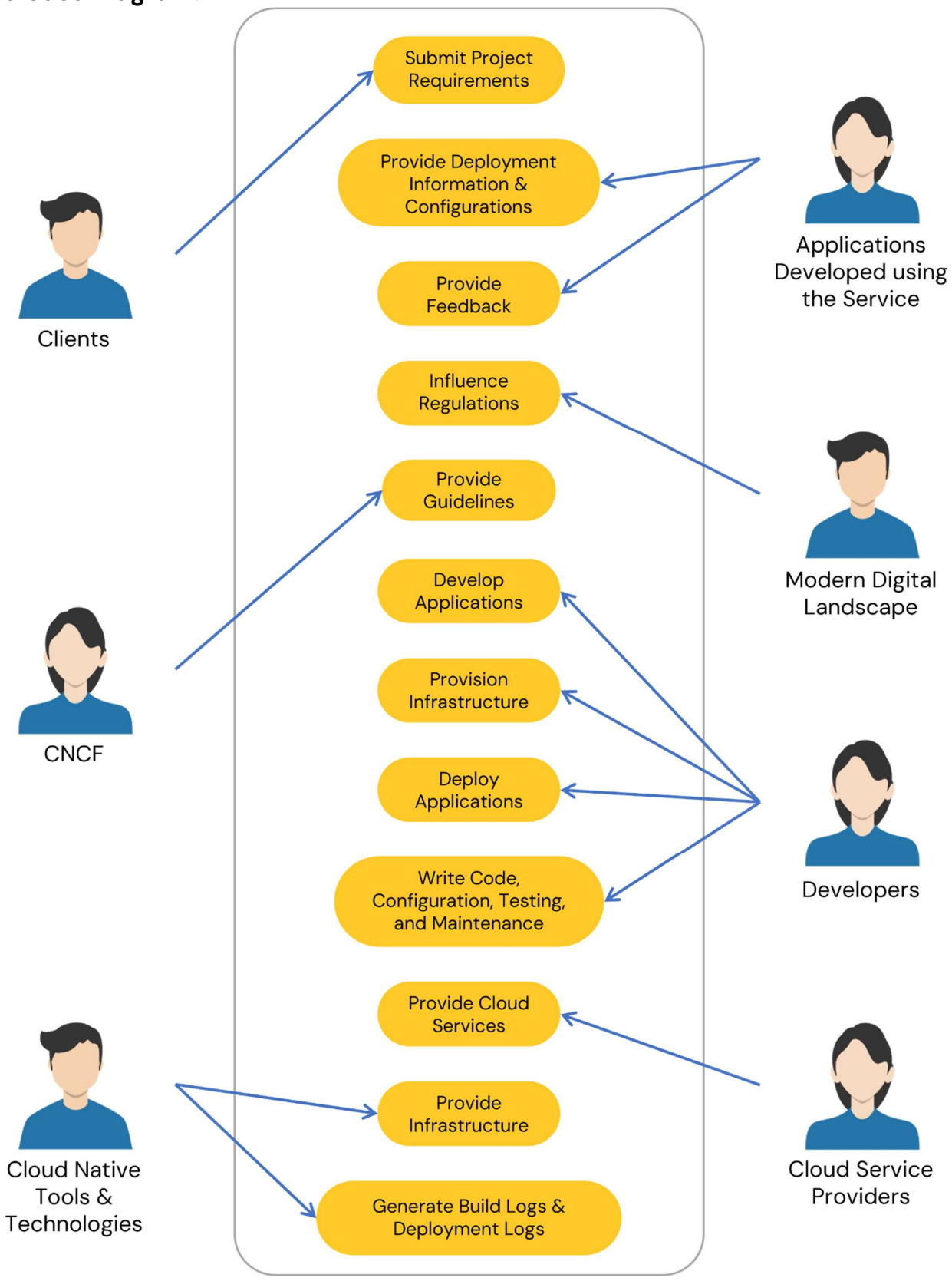
Class: BSE-3A

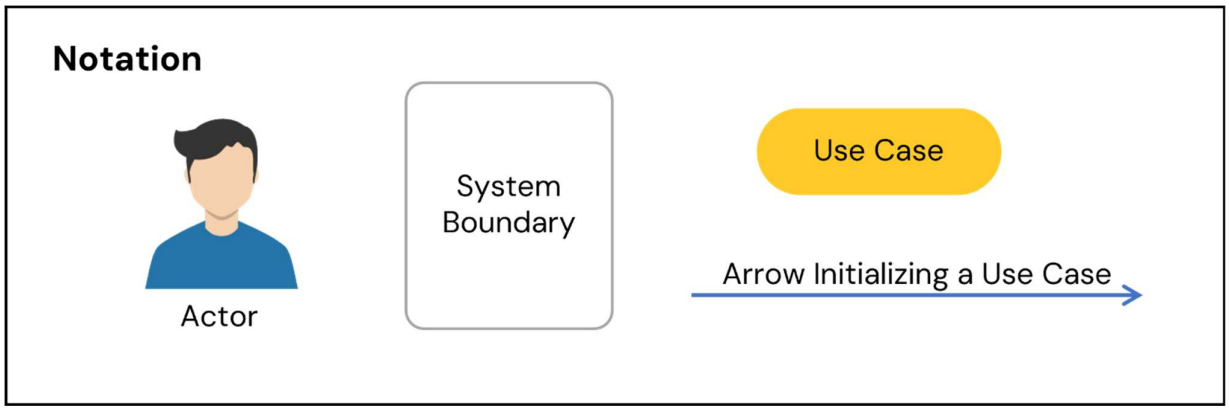
Date: Nov 23th, 2023.

Assignment no 03

Project: Cloud Native Development Service

Use Case Diagram:





The use case diagram for the Cloud-Native Development Service project provides a high-level view of the interactions between various actors and the system.

This is a high-level representation of the use cases. A real-world use case diagram might include more specific interactions and use cases, depending on the complexity of the system. Also, there are no secondary actors in this diagram, and there are no included or extended use case relationships. This is because the interactions between the actors and the system are straightforward and do not involve optional or reusable behaviors.

Use case Descriptions:

1. **Provide Guidelines:**

ID and Name:	**UC-1: Provide Guidelines**
Created By:	FooPerson Date Created: November 25, 2023
Primary Actor:	Cloud Native Computing Foundation (CNCF)
Description:	The Cloud Native Computing Foundation (CNCF) provides principles and guidelines for cloud-native development to the Cloud-Native Development Service
Trigger:	A request is made for cloud-native development guidelines.
Preconditions:	**PRE-1.** CNCF has established guidelines for cloud-native development
Postconditions:	**POST-1**. Guidelines are provided to the Cloud-Native Development Service. **POST-2**. Cloud-Native Development Service uses the guidelines for developing software applications.

Normal Flow:	**1.0** Provide Guidelines **1.** CNCF is requested to provide guidelines for cloud-native development. **2.** CNCF provides the guidelines to the Cloud-Native Development Service. **3.** Cloud-Native Development Service uses the guidelines for developing software applications.
Alternative Flows:	**Request for Specific Guidelines:** If the Cloud-Native Development Service requests specific guidelines from the CNCF, the CNCF provides those specific guidelines.
Exceptions:	**No Guidelines Available:** If the CNCF does not have any established guidelines for cloud-native development, the CNCF informs the Cloud-Native Development Service that no guidelines are available. **Outdated Guidelines:** If the guidelines provided by the CNCF are outdated, the CNCF informs the Cloud-Native Development Service that the guidelines are outdated and provides updated guidelines. **Guidelines Not Relevant:** If the guidelines provided by the CNCF are not relevant to the current project, the CNCF informs the Cloud-Native Development Service that the guidelines are not relevant and provide relevant guidelines.
Priority:	High
Frequency:	Low (Only at the beginning of the project).
Business Rules:	All.
Other Information:	The guidelines provided by CNCF are crucial for the Cloud-Native Development Service to ensure that the developed applications adhere to best practices for cloud-native development
Assumptions:	**1.** The Cloud-Native Development Service has the necessary access and permissions to request guidelines from the CNCF. **2.** The CNCF has a system in place to provide guidelines for cloud-native development. **3.** The guidelines provided by the CNCF are up-to-date and relevant to the current project.

2. **Influence Standards and Regulations:**

ID and Name:	**UC-2: Influence Standards and Regulations**
Created By:	FooPerson Date Created: November 25, 2023
Primary Actor:	Modern Landscape
Description:	The Modern Landscape influences standards and regulations related to cloud-native development.
Trigger:	A request is made to Gather standards and regulations related to cloud-native development.
Preconditions:	**PRE-1.** The project is required to Gather standards and regulations for the development.
Postconditions:	**POST-1**. Standards and regulations are influenced to benefit cloud-native development **POST-2**. Cloud-Native Development Service benefits from the influenced standards and regulations.
Normal Flow:	**1.0** Influence Standards and Regulations 1. Modern Landscape is requested to influence standards and regulations related to cloud-native development. 2. Modern Landscape influences the standards and regulations. 3. Standards and regulations are influenced to benefit cloud-native development.
Alternative Flows:	**Request for Specific Influence:** If the Cloud-Native Development Service requests specific influence on standards and regulations from the Modern Landscape, the Modern Landscape provides that specific influence.
Exceptions:	**No Authority to Influence:** If the Modern Landscape does not have the necessary authority to influence standards and regulations, the Modern Landscape informs the Cloud-Native Development Service that it does not have the authority**.**
Priority:	Moderate

Frequency:	Ongoing throughout the project
Business Rules:	All.
Other Information:	The influence of the Modern Landscape on standards and regulations is crucial for the Cloud-Native Development Service to ensure that the developed applications adhere to best practices for cloud-native development.
Assumptions:	**1.** The Cloud-Native Development Service has the necessary access and permissions to request influence on standards and regulations from the Modern Landscape **2.** The Modern Landscape has the necessary authority to influence standards and regulations

3. Provide Cloud Service

ID and Name:	**UC-3 Provide Cloud Service**
Created By:	FooPerson Date Created: November 25, 2023
Primary Actor:	Cloud Service
Description:	The Cloud Service provides infrastructure and services to the Cloud-Native Development Service.
Trigger:	A request is made for infrastructure and services related to cloud-native development.
Preconditions:	**PRE-1.** Cloud Service has the necessary infrastructure and services to provide.
Postconditions:	**POST-1**. Infrastructure and services are provided to the Cloud-Native Development Service
Normal Flow:	**1.0** Influence Standards and Regulations **1.** Cloud Service is requested to provide infrastructure and services related to cloud-native development **2.** Cloud Service provides the infrastructure and services **3.** Cloud-Native Development Service uses the provided infrastructure and services for developing software applications.

Alternative Flows:	**Request for Specific Service**: If the Cloud-Native Development Service requests specific infrastructure and services from the Cloud Service, the Cloud Service provides that specific infrastructure and services
Exceptions:	**No Service Available:** If the Cloud Service does not have any infrastructure and services to provide, the Cloud Service informs the Cloud-Native Development Service that no infrastructure and services are available**.**
Priority:	High (The whole project is built on this).
Frequency:	Ongoing throughout the project
Business Rules:	All.
Other Information:	The infrastructure and services provided by the Cloud Service are crucial for the Cloud-Native Development Service to ensure that the developed applications adhere to best practices for cloud-native development.
Assumptions:	The Cloud-Native Development Service has the necessary access and permissions to request infrastructure and services from the Cloud Service.

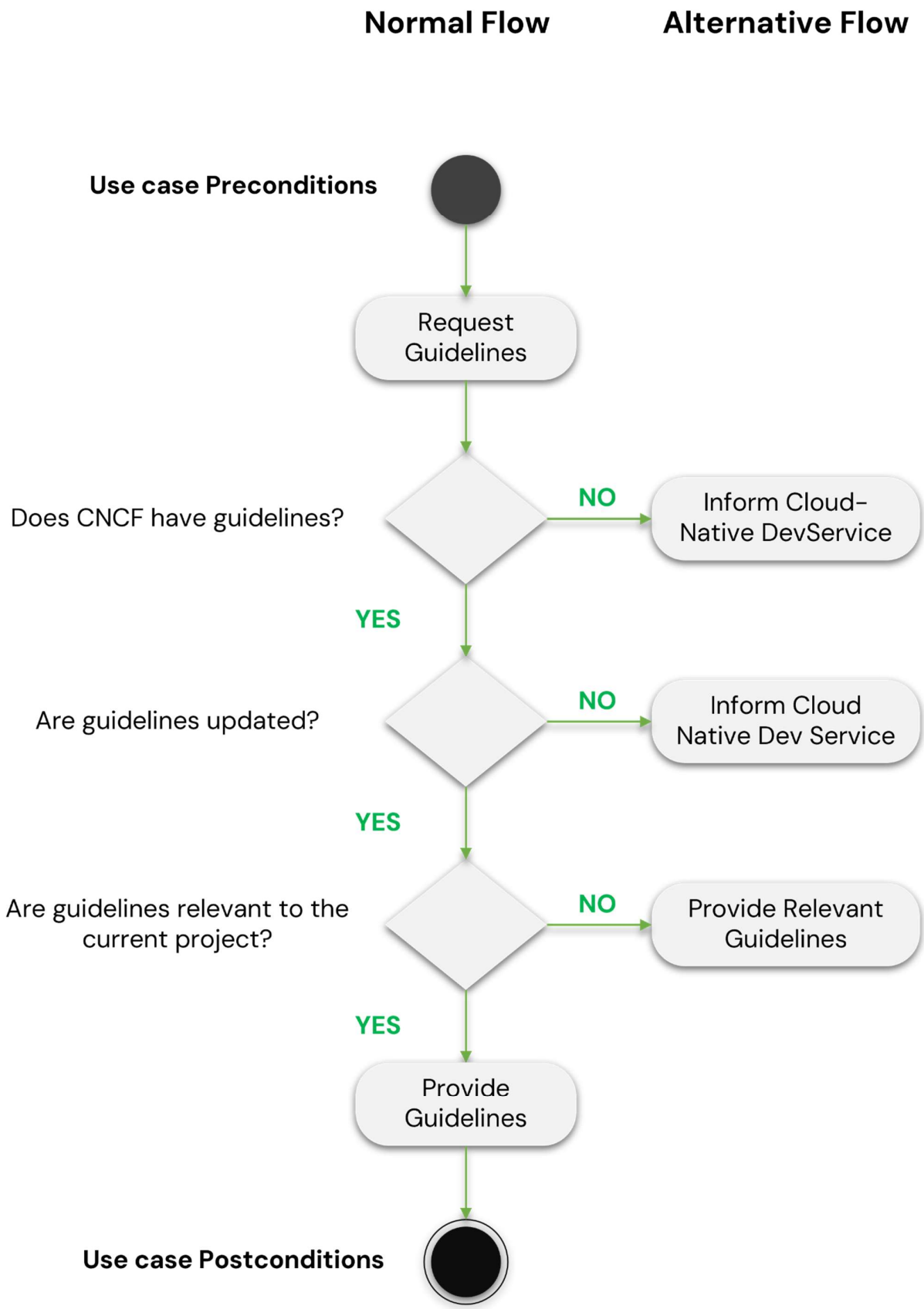
4. **Generate Build Logs and Deployment Logs**

ID and Name:	**UC-4 Generate Build Logs and Deployment Logs**
Created By:	FooPerson Date Created: November 25, 2023
Primary Actor:	Cloud Native Tools and Technologies
Description:	The Cloud Native Tools and Technologies generate build logs and deployment logs for cloud-native development
Trigger:	A request is made for build logs and deployment logs related to cloud-native development.
Preconditions:	**PRE-1.** Cloud Native Tools and Technologies have the necessary tools and technologies to generate build logs and deployment logs.
Postconditions:	**POST-1** Cloud-Native Development Service uses the generated build logs and deployment logs for developing software applications.

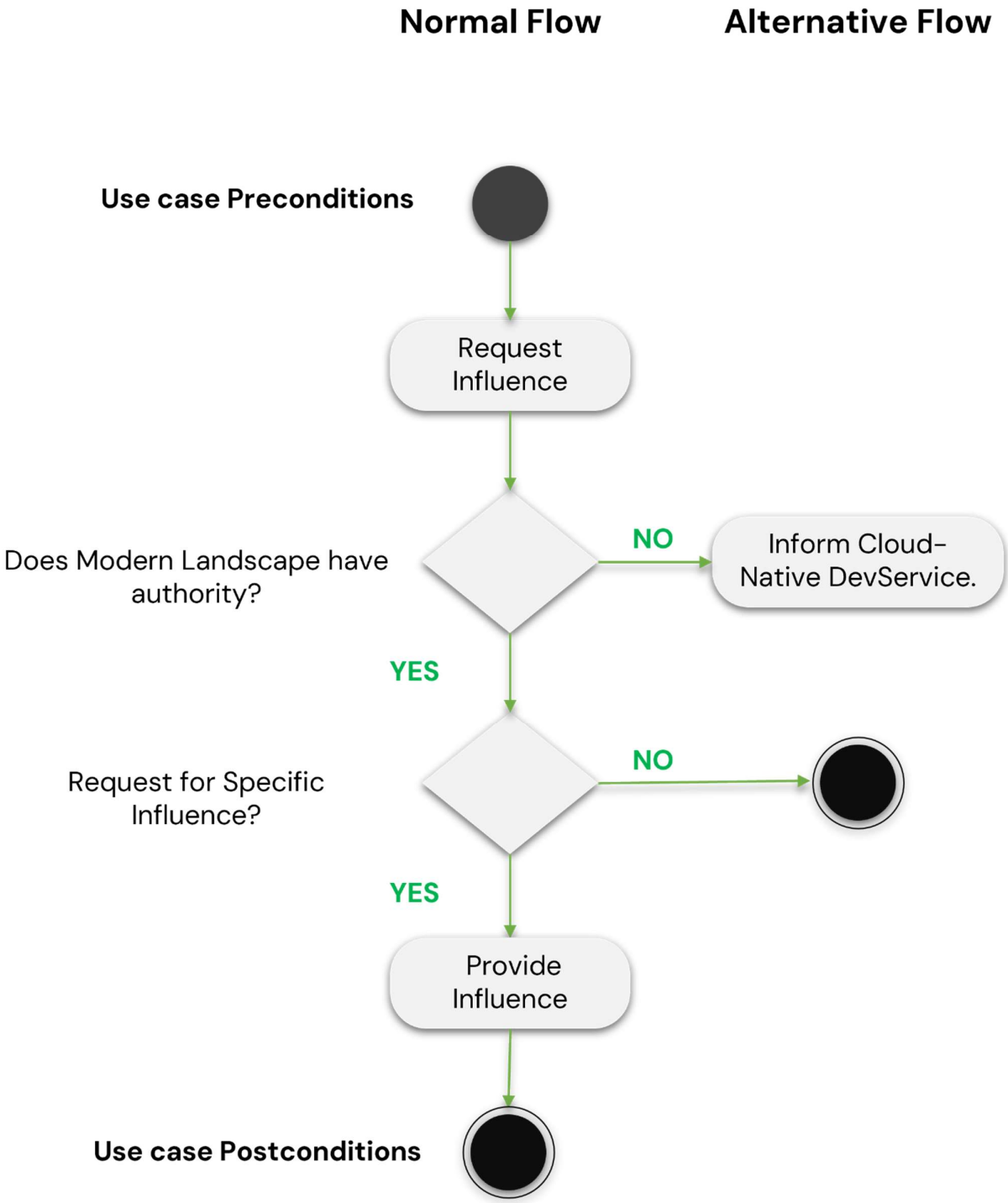
Normal Flow:	**1.0 Generate Build Logs and Deployment Logs** **1.** Cloud Native Tools and Technologies generate the build logs and deployment logs. **2.** Cloud-Native Development Service uses the generated build logs and deployment logs for developing software applications.
Alternative Flows:	**Request for Specific Logs**: If the Cloud-Native Development Service requests specific build logs and deployment logs from the Cloud Native Tools and Technologies, the Cloud Native Tools and Technologies provide those specific logs.
Exceptions:	**No Logs Available:** If the Cloud Native Tools and Technologies do not have any build logs and deployment logs to provide.
Priority:	High (The whole project is maintained through logs).
Frequency:	Ongoing throughout the project
Business Rules:	All.
Other Information:	The build and deployment logs generated by the Cloud Native Tools and Technologies are crucial for the Cloud-Native Development Service to ensure that the developed applications adhere to best practices for cloud-native development.
Assumptions:	**1.** The Cloud-Native Development Service has the necessary access and permissions to request build logs and deployment logs from the Cloud-Native Tools and Technologies. **2.** The Cloud Native Tools and Technologies have the necessary tools and technologies to generate build logs and deployment logs. **3.** The build logs and deployment logs are relevant to the current project.

Activity Diagrams:

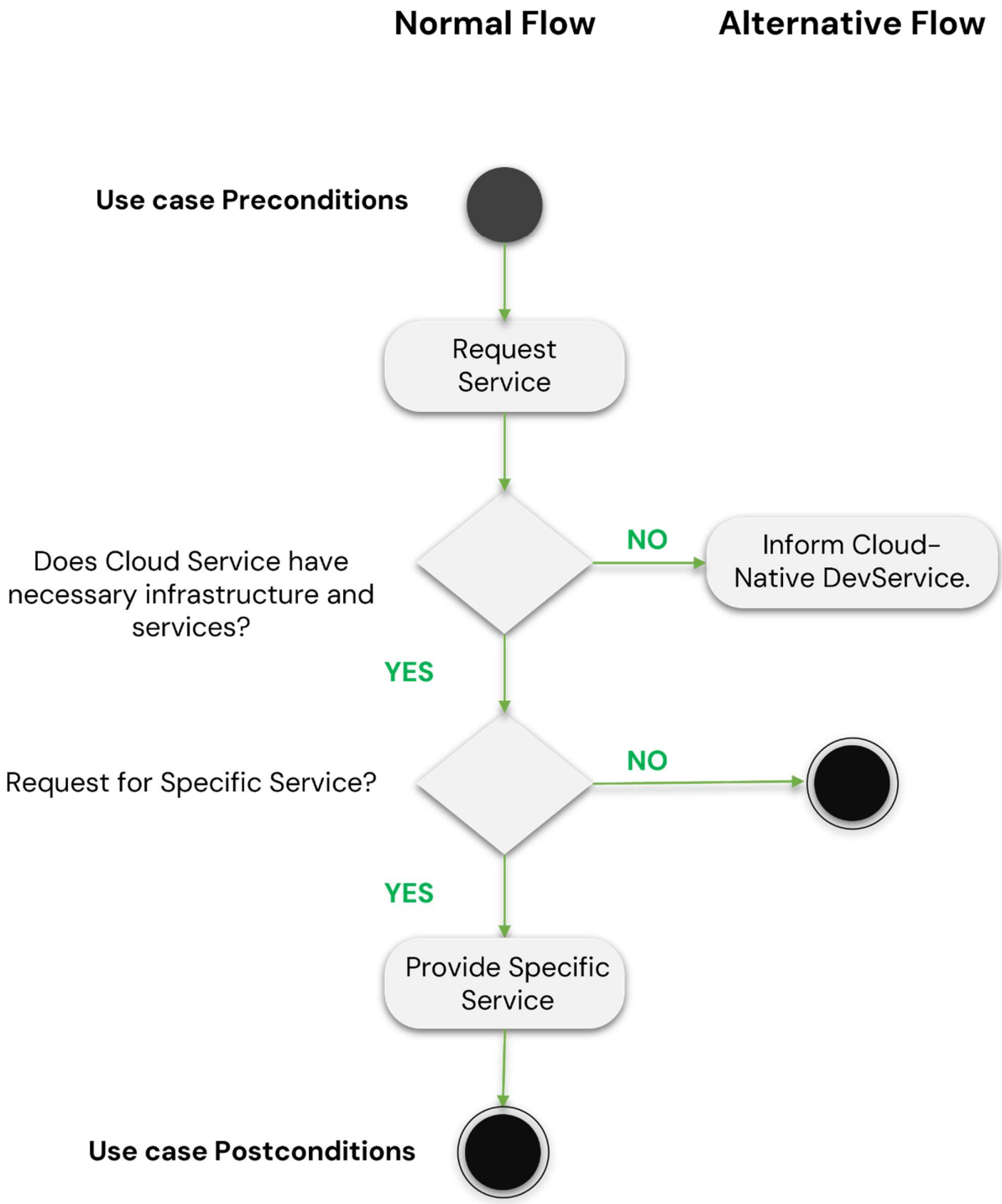
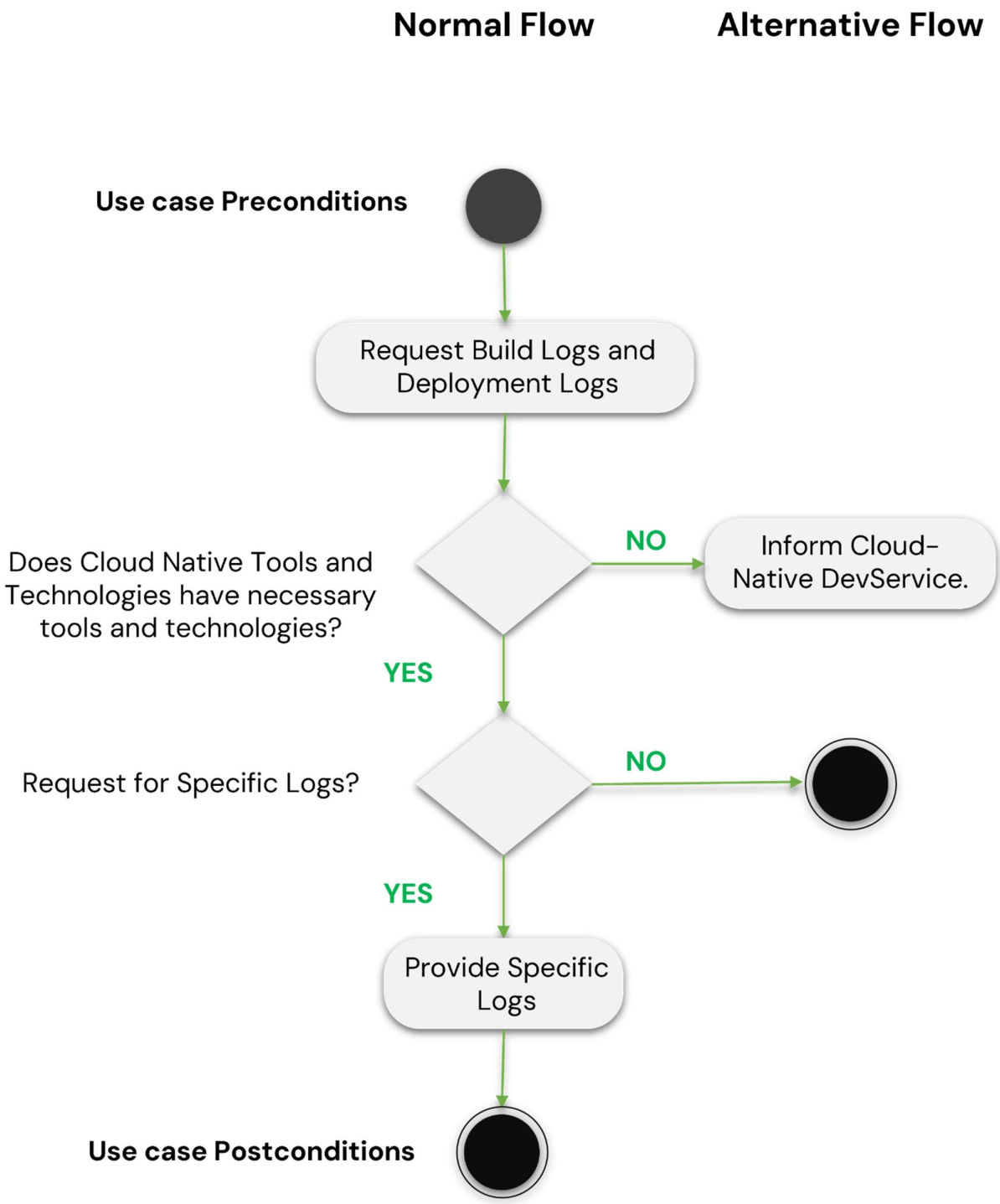
1. Provide Guidelines



2. Influence Standards and Regulations:



3. Provide Cloud Service



4. Generate Build and Development Logs: