

ASDs

Task 6

Product description

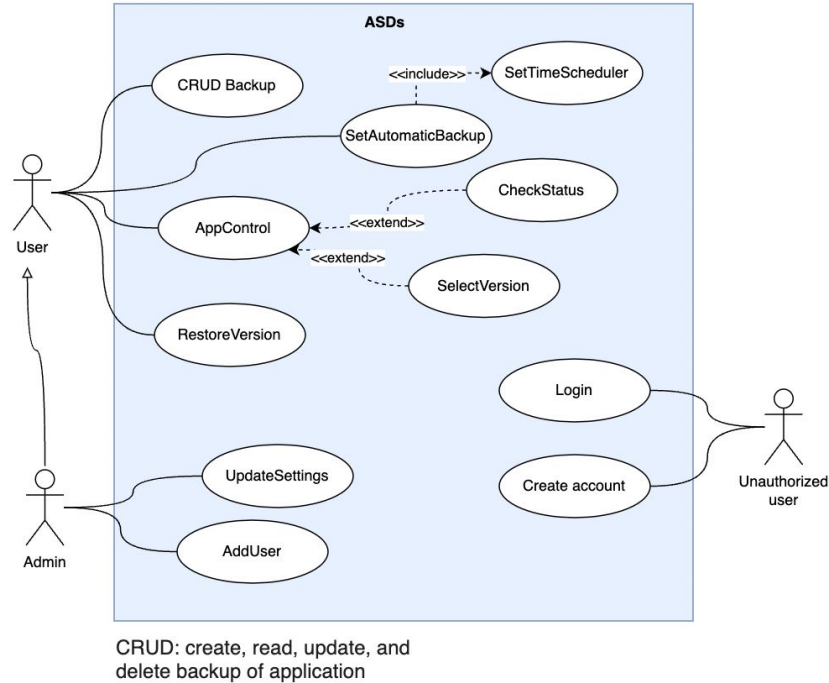
An application continuity service dynamically backs up and restores the state of applications running within the framework on K8s. The service shall use the DSL of the framework to determine the relevant application state and its backup policies. Developers of an application should be able to backup and restore a specific version from images and relevant state from the service. The application state shall be stored externally on the given S3-compatible object storage.

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Repo: https://github.com/gorelyi-code/advanced_software_designers

Report: https://github.com/gorelyi-code/advanced_software_designers/tree/main/hometasks

Use case diagram



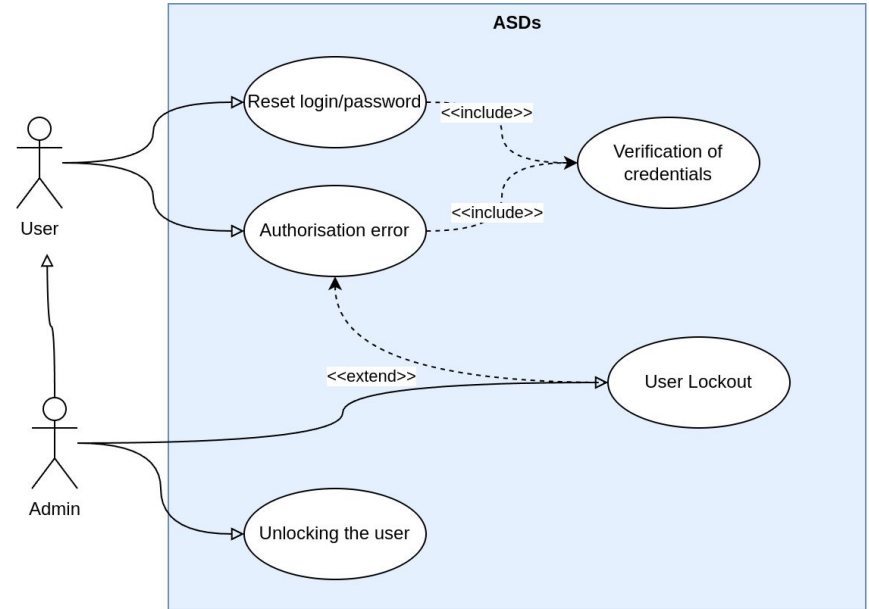
Description in github:

https://github.com/gorely-code/advanced_software_designers/blob/main/main_scenarios.md

Use case diagram (alternative)

Use case describes a situation when a user cannot log in to an account. The diagram shows the following scenarios:

- The user recovers the password
- The user receives an authorisation error and his account is blocked.
- Administrator locks the user's account
- Administrator restores the user's account

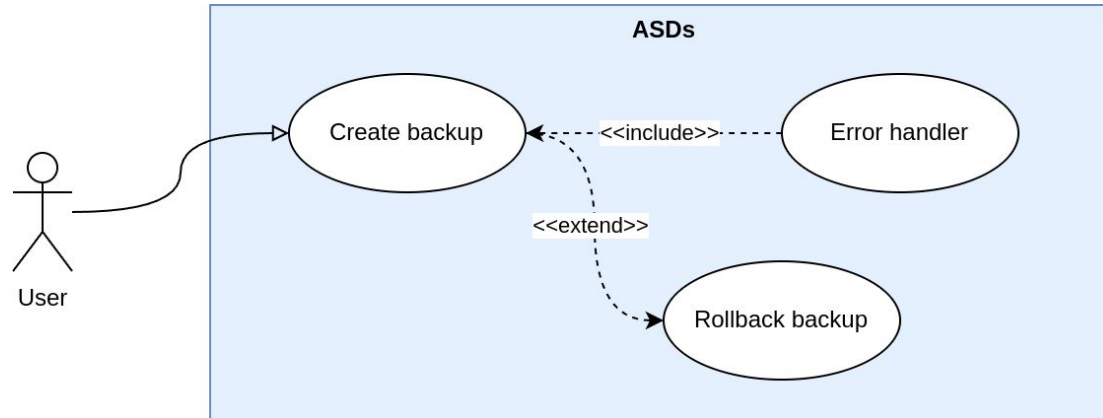


Description in github:

https://github.com/gorely-code/advanced_software_designers/blob/main/alternative_scenarios.md

Use case diagram (alternative)

Use case describes a situation when an error occurs when creating a backup and we can rollback the backup creation

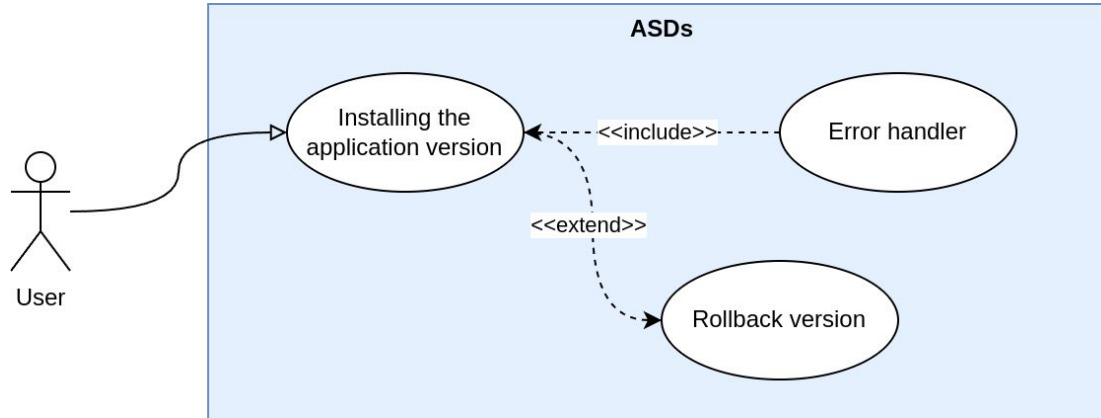


Description in github:

https://github.com/gorely-code/advanced_software_designers/blob/main/alternative_scenarios.md

Use case diagram (alternative)

Use case describes a situation when an error occurs when installing an application version, as a result of which we can revert to the previous version



Description in github:

https://github.com/gorelyi-code/advanced_software_designers/blob/main/alternative_scenarios.md

Interaction analysis (CRC cards)

Application

Do	Know	Interact
<ul style="list-style-type: none">• Stores data about application (name, id, ...)• Controls the work state of app	<ul style="list-style-type: none">• Application info (name, id, ...)• Current version of application• State of app (activated, deactivated)	<ul style="list-style-type: none">• Application manager

Application manager

Do	Know	Interact
<ul style="list-style-type: none">• Control applications (CRUD)• Make backup	<ul style="list-style-type: none">• All user's applications info (name, id, current version...)• All versions of application	<ul style="list-style-type: none">• Application• Account• Kubernetes

Account

Do	Know	Interact
<ul style="list-style-type: none">• Provides the user with access to the interaction with the application• Stores user information	<ul style="list-style-type: none">• User info (name, hash password...)• Role of user (Access to various functions)	<ul style="list-style-type: none">• Application manager• Version manager• Kubernetes manager• Role user

Kubernetes manager

Do	Know	Interact
<ul style="list-style-type: none">• Provides an api for working with k8s	<ul style="list-style-type: none">• Access to k8s system• Backup settings• Backup policies	<ul style="list-style-type: none">• Application manager

Version

Do	Know	Interact
<ul style="list-style-type: none">• Stores data about version of application (name, id, date, ...)	<ul style="list-style-type: none">• Version info (name, id, ...)• State of version (activated, deactivated)	<ul style="list-style-type: none">• Version manager• Application

Version manager

Do	Know	Interact
<ul style="list-style-type: none">• Control app versions• Issues the required version• Restore app version	<ul style="list-style-type: none">• All user's versions info (name, id, date, state...)• Access to the repository of all user versions	<ul style="list-style-type: none">• Version• Account• Kubernetes

Role user

Do	Know	Interact
<ul style="list-style-type: none">• Defines the functionality available to the user	<ul style="list-style-type: none">• Types of roles that determine the level of access to the application• Administrator account settings	<ul style="list-style-type: none">• Account

Interaction analysis

use case	cooperation name	used roles	candidate classes
Login	Access to the system	User, Admin, System	Account
CreateAccount	Registration in the system	User, System	Account, RoleUser
CRUD Backup	Creating and controlling application backups	User, System, Kubernetes	Account, Application manager, Application, Version
SetAutomaticBackup	Automatic backup creation	User, System	Account, Application manager, Application Version
AppControl	Control of added applications	User, System	Account, Application manager, Application
RestoreVersion	Restoring a specific version of the application	User, System, Kubernetes	Account, Version manager, Application, Version
UpdateSettings	Setting up the system operation	Admin, System, Kubernetes	Account, Kubernetes manager
AddUser	Adding a new user	Admin, System	Account, RoleUser

Updated class diagram

