

# Self-assessment document

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# Self-assessment table

## Sprint #4

Learning outcome	Ratings				
Future-oriented Organization	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Investigative problem solving	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Personal Leadership	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Targeted Interaction	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Scalable Architectures	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Development and Operations	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Cloud Services	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Security by Design	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Distributed Data	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>

### Sprint #3

Learning outcome	Ratings				
Future-oriented Organization	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Investigative problem solving	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Personal Leadership	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Targeted Interaction	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Scalable Architectures	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Development and Operations	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Cloud Services	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Security by Design	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Distributed Data	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>

## Sprint #2

Learning outcome	Ratings				
Future-oriented Organization	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Investigative problem solving	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Personal Leadership	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Targeted Interaction	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Scalable Architectures	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Development and Operations	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Cloud Services	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Security by Design	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Distributed Data	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>

## Sprint #1

Learning outcome	Ratings				
Future-oriented Organization	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Investigative problem solving	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Personal Leadership	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Targeted Interaction	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Scalable Architectures	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Development and Operations	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Cloud Services	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Security by Design	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>
Distributed Data	<i>Advanced</i>	<i>Proficient</i>	<i>Beginning</i>	<i>Orienting</i>	<i>Undefined</i>

# Learning outcomes

## Future-oriented organization

### Sprint #4

#### *Beginning*

Following the lack of progress and communication in the previous sprint, we had a discussion as a group on ways to handle the group project better for the upcoming sprint. We agreed on a new agreement which required everyone to be present at Fontys and available to do work for the group project twice a week.

### Sprint #3

#### *Beginning*

Following Sprint #2's planning, we discussed some details about the project more in-depth and divided separate parts of the project between group members. However, we switched our meetings with the client to bi-weekly since there was not much to discuss when we are developing the functionality of the system. Following that change, most of the group members, including me, were less present at Fontys on group days which resulted in bad communication and we fell behind planning. In terms of my individual project, I researched and documented how GDPR would affect my individual project.

Grade: Beginning

### Sprint #2

#### *Beginning*

As a group we were present and prepared for the weekly meetings with the client. After some research has been conducted regarding the group project, we made a long-term planning for the development of our group project. We created tasks for both the current and future sprints. I researched and documented how GDPR affects our group project and we suggested solutions for applying the regulations to the client. We defined the functional and non-functional requirements of the project and designed a solution which fits them. What is more, I defined both functional and non-functional requirements for my individual project as well. More details regarding my requirements can be found in the **Requirements document**.



## Sprint #1

### *Orienting*

As a group, we set up different channels for communication in order to collaborate and help each other during development. We made an agreement within the group members about methods to approach the group project and ways of working. We created a Jira board to manage our tasks and made a short-term planning on research. Furthermore, we scheduled weekly progress review meeting with the client.

## Investigative problem solving

### Sprint #4

## Sprint #3

### *Beginning*

During this sprint I encountered many obstacles during the development of both individual and group projects. In terms of my individual project, I had to figure out an efficient method of setting up an authentication method in the system. At first, I had some understanding on how to solve the problem which ended up being partly wrong after I did some research on the matter. Following that I implemented the selected authentication method within my system. The discussed research can be found in the document **Authentication Research**.

## Sprint #2

### *Beginning*

After I received feedback on my individual project's architecture, I conducted research on how to fix the current flaws. I focused on defining the non-functional requirements of the project and how both functional and non-functional requirements can be fulfilled. What is more, I applied the good practices and methodology found during the research in my individual project's architecture. I included all details regarding my individual project's architecture in the **Architecture document**.

## Sprint #1

### *Orienting*

Since we were given access to some of the APIs we needed to make use of during our group project by the client, I looked into the documentation of those systems and performed a hands-on test while at the client's location.

## Personal leadership

### Sprint #4

#### *Proficient*

I re-evaluated my individual planning for this sprint and prioritized some tasks over others to keep the development process. What is more, since my last two portfolio deliveries were not up to par, I took the time and effort to provide a presentable portfolio for the teachers to grade.

### Sprint #3

#### *Beginning*

I created a plan, which involves all technical expectations that need to be fulfilled to cover all learning outcomes. That plan is divided by sprints, including what tasks need to be done each sprint in order to catch up with my progress. Furthermore, I made the decision that I would do a “Open-learning” semester instead of a minor. This would allow me to propose a project of mine to be included in the semester which if successful would allow me to test and improve my leadership and management skills.

### Sprint #2

#### *Beginning*

During this sprint, I took the initiative to lead the discussions about the design choices for our group project. As a group we effectively began using the whiteboard placed next to our table to manage progress and clarify details. I looked into the possible choices for my next semester and selected a few possible options but decided to wait for an event where all minors are presented in order to make a final decision.

### Sprint #1

#### *Orienting*

In order to manage our tasks, as a group we created a Jira environment for our group project. We defined the way of working and task division.

## Targeted Interaction

### Sprint #4

#### *Beginning*

Due to the absence of most group members for the past weeks, the communication within the team was bad which ended up in underdelivering after the third group sprint. Following that, we as a team decided to make a change in our methods of working and defined a stricter agreement for the following sprints.

### Sprint #3

#### *Beginning*

During this sprint I had a responsibility to develop one of the planned functionalities of our group project. Since it was still in question if this functionality is possible within our current design, before beginning implementation, I designed the solution using the C4 model, I created wireframes for the visual layer and made a document explaining how it operates. I proposed the solution to the client and after he agreed on the proposal, I began implementation.

### Sprint #2

#### *Orienting*

We applied our initial plan and had weekly progress meetings with the client. We used moments when the whole group was together to discuss important design choices for the project, incorporating the client's input into the decision-making. Furthermore, since we had to gain further information on data format of surveys that would be saved in our system. Following that we decided that at least one group member should go to the weekly gatherings of the other students who condoned those surveys to investigate the issue.

### Sprint #1

#### *Orienting*

As a group we made an agreement on ways of working during this semester. What is more, we dedicated 3 days of the week for group project work and 2 for individual work. We also set up weekly meetings with the client to track our progress. Furthermore, we set up communication channels for both work-related and casual communication.

## Scalable architectures

### Sprint #4

#### *Beginning*

Began researching on how to create and host a local Kubernetes cluster in order to set up the services' scaling.

### Sprint #3

#### *Beginning*

I received feedback on my last architecture design, which ended up being the final version. I implemented part of the system which includes 2 services, gateway and a discovery server. Both services can be accessed through the gateway. Even though one of the services handles the registration and authentication of users, the authorization tokens are being validated by the gateway to improve overall performance of the system.

### Sprint #2

#### *Orienting*

I updated the architecture design based on the given feedback from the teachers but did not get feedback on it. Updated diagram is included in the Architecture document. I intend to finalize the architecture design during next sprint and begin implementation.

### Sprint #1

#### *Orienting*

I made an initial draft of the architecture for my project based on the defined requirements. I applied the "microservice" style to the architecture. I got feedback on flaws in my architecture that need to be fixed. More details on the initial design can be found in the Architecture document.

## Development and Operations

### Sprint #4

#### *Orienting*

I switched the locally hosted database with a database within a docker container. By the end of the sprint I am planning to have set up the CI/CD pipelines for my services.

### Sprint #3

#### *Orienting*

I began setting up a CI pipeline for one of my services but encountered errors with the pipeline because the database connected to that service is locally hosted. For the next sprint I am planning to fix the CI pipeline and set up a CD pipeline for each service as well.

### Sprint #2

#### *Undefined*

I did not do anything to improve on this learning outcome during this sprint. For the next sprint, I intend to create repositories and set up CI/CD pipelines for all my services.

### Sprint #1

#### *Undefined*

I did not do anything to improve on this learning outcome during this sprint.

## Cloud services

### Sprint #4

#### *Orienting*

I began looking into cloud services that can be of use for my project but haven't documented it still.

### Sprint #3

#### *Undefined*

I did not do anything to improve on this learning outcome during this sprint. For next sprint I am planning to research on cloud services that can add value to my project.

## Sprint #2

*Undefined*

I did not do anything to improve on this learning outcome during this sprint.

## Sprint #1

*Undefined*

I did not do anything to improve on this learning outcome during this sprint.

## Security by design

### Sprint #4

*Beginning*

I started looking into ways of securing communication over message brokers, used for internal communication between services.

### Sprint #3

*Beginning*

I applied the authentication and authorization in the system. I started looking into ways to secure the communication between individual services. What is more, I am planning to include a tool which verifies if my services are protected by the OWASP's top 10 security threats.

### Sprint #2

*Orienting*

I researched ways of how to apply authentication and authorization within a system consisting of microservices and designed a method of doing it. Details regarding the research can be found in the [Authentication Research document](#).

### Sprint #1

*Orienting*

In order to not include sensitive and non-sensitive data in the same database I separated the authentication credentials from other account details of an user into 2 services within my architecture design. Diagrams displaying this can be found in the [Architecture document](#).

## Distributed data

### Sprint #4

#### *Beginning*

I performed hands-on research on making use of message brokers by making a demo project. I began working on setting up the communication between my 2 services.

### Sprint #3

#### *Beginning*

I defined the data requirements for each service individually. I created database schemas which represent the data fields in each database. What is more I also set up one of the databases locally.

### Sprint #2

#### *Orienting*

I did not do anything to improve on this outcome this sprint. For next sprint I am planning to define and document all data requirements per service and design database schemas. What is more, I am aiming to set up some of the databases locally.

### Sprint #1

#### *Orienting*

I dedicated a database to each service when designing my architecture. Details regarding the architecture can be found in the [Architecture diagram](#).

## Reflection

### Sprint #4

Since the communication issues lasted for a few weeks, we fell behind our planning for the group project. As a result of that, we underdelivered during the review of our third group sprint, which was a bit frustrating. The client was informed on our internal issues within the group during the sprint review and was understanding about our situation. Following that, we took the first step to resolve the communication issues in the group – all of us gathered together and talked about it. We defined new rules by which we are going to work – we specified days and timespan when you need to be present at location for group work. I think that this was crucial to improving our work ethic. Everyone has been following the defined rules since the agreement and we are making progress in the

development. For my individual project I began looking into the next steps in setting up the complete end-to-end flow of my initial implementation.

### Sprint #3

During this sprint I received more feedback from the teachers. I was advised to make a detailed plan on the activities I still need to do in order to cover all learning outcomes. I prepared a plan which was agreed to by one of the technical teachers as I didn't manage to show it to the other one. Furthermore, I have made a significant progress on my implementation, developing part of the system. I completed most but couldn't complete all tasks that I included in my planning for this sprint. Regarding the group project, I managed to complete all tasks that were assigned to me. During this sprint I was showing up regularly at Fontys, instead of working from home. However, that was not the case for the whole group – some of the members were sick, some had personal issues which resulted in poor communication. I believe that this sprint personally for me was substantially more productive than previous ones and paves the way to completing my semester successfully.

### Sprint #2

Even though I intended to be more present during this sprint, my mind was mainly occupied by personal issues. I applied the feedback given to me by teachers during last sprint but did not ask for feedback during the sprint. I realized that I need to take this semester more serious and catch up with my tasks. I intend to improve my productivity and attendance during next sprint.

### Sprint #1

I believe that this sprint can be considered productive in terms of team collaboration and identifying initial design ideas for the group project. We set up communication channels between as a group which allowed us to be in touch whenever something is needed. We had both meetings with the client both on their location and online which gave us a good outline of the project's scope. In terms of individual progress, I think that I began working towards the right direction. However, I was not much present for feedback from my teachers. I think that I should be more present in order to have a smoother learning process.