

July 2024  
Deliverable 5.2

# Femme Forward

Sustainable Future Tech Careers Training Materials

## About Femme Forward

Femme Forward - *Fast-tracking women into new tech careers and supporting successful female-led start-ups* - is a two-year transnational project funded under the Erasmus+ Programme.

Through an innovative and comprehensive training programme, women with various backgrounds will be empowered to either start a career in tech or employ their experience and knowledge to set up a tech start-up.

Femme Forward will identify, develop and pilot high-quality digital education content to tackle the current gender gap in the digital economy, enabling at least 500 women to start on the track to tech employment or entrepreneurship.

Femme Forward will offer an easy-to-use and extensive repository of tested, high-quality educational materials, available in multiple languages and on a multi-device compatible learning platform: [femmeforward.eu](https://femmeforward.eu).

## Project partners

The Femme Forward consortium comprises 15 partners led by SIMPLON.co, bringing together key industry, technology and education stakeholders in Europe.

### Full partners

1. SIMPLON.CO (France)
2. TOP-IX (Italy)
3. ENGIM PIEMONTE (Italy)
4. Tech and Teach gGmbH (Germany)
5. BeCode (Belgium)
6. Big Blue Data Academy (Greece)
7. CYPRUS COMPUTER SOCIETY (Cyprus)
8. Asociatia ETIC (Romania)
9. Le Techspace (Belgium)
10. HOCHSCHULE HANNOVER (Germany)
11. Factoria F5 (Spain)

### Associated partners

1. AMAZON WEB SERVICES EMEA SARL
2. RANDSTAD NEDERLAND BV
3. FUJITSU SERVICES LTD
4. DIGITALEUROPE AISBL

### Subcontractors

Schuman SA

Revision History			
Version	Date	Modified by	Comments
1.0	July 16, 2024	Simplon.co	First stable version
1.1	July 29, 2024	V2	Ready for review
1.2	July 30, 2024	V3	Feedback from quality assurance by Asociatia ETIC

## Legal Disclaimer

The European Commission's support for the production of this publication does not constitute an endorsement of the contents, which reflect the views only of the authors. The Commission cannot be held responsible for any use which may be made of the information contained therein.

## Disclosure statement

The information in this document is the property of the Femme Forward Consortium and shall not be reproduced, disclosed, modified or communicated to any third parties without the prior written consent of the entities mentioned above.

## Table of Contents

About Femme Forward	2
Project partners	2
Authors & contributors	4
<b>Introduction</b>	<b>5</b>
<b>Source of Training Materials &amp; Content</b>	<b>5</b>
<b>Development of Training Materials</b>	<b>6</b>
<b>Developing Project Exercises and Briefs</b>	<b>7</b>
<b>Moodle Platform</b>	<b>9</b>
Utilisation of the Platform	11
<b>Challenges</b>	<b>14</b>
<b>Conclusions</b>	<b>14</b>

## Authors & contributors

### Authors:

Timothée Leenhardt, Theo Biddulph (Simplon.co)

### Reviewers:

Ionela Rusu (Asociatia ETIC known as Simplon Romania)

## Introduction

The Femme Forward project aims to empower women to transition into the tech industry and support the creation of successful female-led startups. As part of this mission, Deliverable D5.2, titled "Sustainable Future Tech Careers training materials," has been developed. This deliverable builds on the outputs of D2.1, D3.1, and D5.1, providing a comprehensive and ready-to-use training program designed to equip the female trainees in integrating tech careers in cloud computing.

The Sustainable Future Tech Careers training materials encompass a wide range of resources meticulously curated to equip participants with the knowledge and skills necessary to start a career in the tech industry, either entering further training or directly into employment.

A wide variety of types of training materials are included, including external resources, project briefs and videos which are available for trainers to use and develop themselves for their trainees.

## Source of Training Materials & Content

The training materials originate from the curricula of the partners who conducted the Femme Forward Future Tech Careers Track.

Often developed by the trainers themselves, the training materials act as a database which can be picked through by the different training partners. They act as examples of types of projects that can be given to trainees, and either directly copied or adapted by each of the trainers to cover the needs of their class.

Each conducting partner covered the same main topics which were developed in D2.3 in the training curricula for the cloud practitioner program:

- INTRODUCTION, CLOUD FOUNDATIONS
- LINUX
- NETWORKING

- NETWORKING, SECURITY
- PYTHON PROGRAMMING
- PYTHON PROGRAMMING & DATABASES
- DATABASES
- CLOUD PLATFORM ARCHITECTURE, SYSTEMS OPERATIONS OVERVIEW, TOOLING AND AUTOMATION, COMPUTE SERVERS
- COMPUTING CLOUD SERVICES
- NETWORKING, STORAGE AND ARCHIVING
- MONITORING AND SECURITY, MANAGING RESOURCE CONSUMPTION, CREATING AUTOMATED AND REPEATABLE DEPLOYMENTS
- CERTIFICATION PREPARATION

For further details regarding the content of each of these topics, please refer to deliverable D2.3 “*Curricula Plans for both training tracks - Future Founders and Future Tech Careers*” which is available on the Femme Forward website at the following address: <https://femmeforward.eu/deliverables/>

Depending on the mode of delivery (online and/or in-person) and the involved trainers and instructors (internal or external), the materials were prepared differently (detailed in the next section). This modular approach resulted in comprehensive materials that complement each other and ensure diverse regional perspectives on the various teaching modules.

## Development of Training Materials

The objective of the Femme Forward partners was not to provide a day by day, exercise by exercise learning pathway, as this is deemed to be first of all too constraining for partners and trainees with different training needs and contexts, and furthermore wouldn't adhere to the active pedagogy style proposed and developed by the consortium.

Rather, using the skillset and training programme developed within work package two, trainers are invited to develop their own training materials based upon the needs of their trainees. This allows trainers to develop specific activities for the needs of their trainees. On top of this process, training materials are primarily activity based and therefore do not resemble traditional lessons given in a training context. This is a deliberate choice, made to

put trainees in a professional context right from the start of their training period, working on projects which target specific skills rather than the more traditional top-down learning.

For this type of training to be successful, trainers are therefore of utmost importance. All of the sessions and workshops were taught and facilitated by experts in their respective fields, with professional work experience being just as important as teaching skills. The inclusion of external experts is crucial for several reasons. Firstly, these professionals bring a wealth of up-to-date knowledge and insights directly from the industry, ensuring that the content is highly relevant and reflects the latest trends and practices. This relevance is essential for providing participants with the most current and applicable skills needed to thrive in the tech and startup ecosystems.

Depending on the partner, trainers were either external collaborators contracted specifically for the course, or internal trainers who followed training of trainers and Q&A sessions to prepare them for the different training sessions. On top of these sessions, as the cloud practitioner program developed aimed at taking the AWS certification provided by Associate Partner AWS at the end of the course, trainers were invited to take part in specific preparation for the exams.

The overall aim of the trainer is therefore to help bridge the gap between theoretical concepts aimed at in the skillset and their practical application within the training, making it highly effective and impactful. Training materials were therefore developed over the course of the project lifetime by the different trainers in participating partners during their courses and shared between partners when needed. As stated above, the objective of the training materials was not to provide an hour by hour exercise path for each trainer, but a database in which they could pick examples of exercises and projects to develop for trainees. Depending on their individual experience, trainers are invited to use the database as much or as little as they wish, with the focus being on them developing their own materials for the training.

## Developing Project Exercises and Briefs

Though trainers are free to develop exercises and projects for their trainees as they wish, it is worth further investigating how project exercises (often called briefs within work package 2) can be developed by trainers for their course.

As per the objective of the Femme Forward project, we aim for the training itself to help put trainees within a professional environment, therefore all training projects are based on real life professional situations and skills needed within a professional context.

Once a trainer has a specific skill that he or she wishes to work on with the trainees - such as “Setting up a cloud environment”, they set out a number of objectives for the exercise and link those objectives directly to the skillset. This link is important, as it means each exercise is based on the curricula and allows trainees to know precisely why they are working on a particular project. Exercises can, of course, link to multiple skills at the same time, as this is more realistic than only working on one specific skill. Putting the exercise in a particular professional situation (i.e. for example telling a story within a company for the exercise) makes the whole process more real for trainees.

However the exercise is set out by the trainers, the objective is to therefore to include when possible the following information for the trainees:

- The skills developed during the exercise
- The evaluation criteria
- A professional situation within which the project is developed
- How to complete the exercise (for example, alone or in a group)

This can be seen in the example set out below, which was used by partner Simplon.co. The objective of the exercise is to learn the fundamentals of setting up a cloud based server, to secure it, and then to administer it. The professional situation used gives the example of setting up the server for a startup, and trainees must create the users and set up permissions for those users. The exercise brings in previously acquired knowledge from the course, such as Linux fundamentals.



The screenshot shows a training activity interface. At the top, there is a header image of server racks. Below it, the activity title is "Building cloud based server for a startup" with a language indicator "EN" and a flag. The activity is assigned to "Davit Hayrapetyan" and was created on "01/02/24". A brief description states: "This project requires you to use a cloud service provider of your choice to build and secure a server which will be hosted for a website".

The right-hand side of the interface shows a "Professional situation" section with the title "Performing initial steps for a startup to set up necessary...". It includes a "Target need or problem" section: "What boss needs: secured and working cloud environment for all the Developers/QA and Project managers to use", with a note "2 skills targeted".

Below this, the "Target skills" section lists two skills: "Administer and secure the corporate network" and "Administer and secure a virtualised server infrastructure". Each skill has three level indicators: "level 1..." (with a dropdown arrow), "level 2..." (with a dropdown arrow), and "level 3..." (with a dropdown arrow).

The left-hand side of the interface contains several sections: "Frameworks" (with "Secure Infrastructure Administrator"), "Project context" (describing the role of a cloud security engineer), "Learning methods" (groups of 4-6 people), "Assessment methods" (presentation and documentation), "Deliverables" (PDF/docs), and "Performance criteria" (fully functional server).

Figure 1: Example of training activity for trainees developed by Simplon.co

## Moodle Platform

To make the content of the Femme Forward program publicly available and easily accessible for trainers to share training content, we have chosen the Moodle platform and this is the link to it:

<https://femmeforward-moodle.simplon.co/>

The following criteria played a significant role in this decision:

### **User-Friendliness**

Moodle is renowned for its intuitive user interface, which makes it easy for both trainers and learners to access materials and navigate the system. This is particularly important to ensure a seamless learning experience and promote platform acceptance.

### **Flexibility and Customizability**

Moodle offers high flexibility and customizability, allowing the platform to be tailored to the specific needs of the Femme Forward program. This includes the ability to integrate various modules, learning paths, and assessment methods which can be individually adapted during the course of the programme.

### **Extensive Features**

Moodle provides a wide range of features essential for a comprehensive learning management system. These include course management capabilities, communication tools like forums and chats, and tools for monitoring and evaluating learning progress.

### **Open-Source Nature**

As an open-source platform, Moodle allows for greater control over the customization and integration of additional tools and plugins. This open-source nature also means there are no licensing fees, making it a cost-effective solution for educational programs like Femme Forward.

### **Scalability**

Moodle is highly scalable, capable of supporting a large number of users simultaneously. This scalability is crucial for a program like Femme Forward, which aims to reach a wide audience across multiple regions.

### **Security**

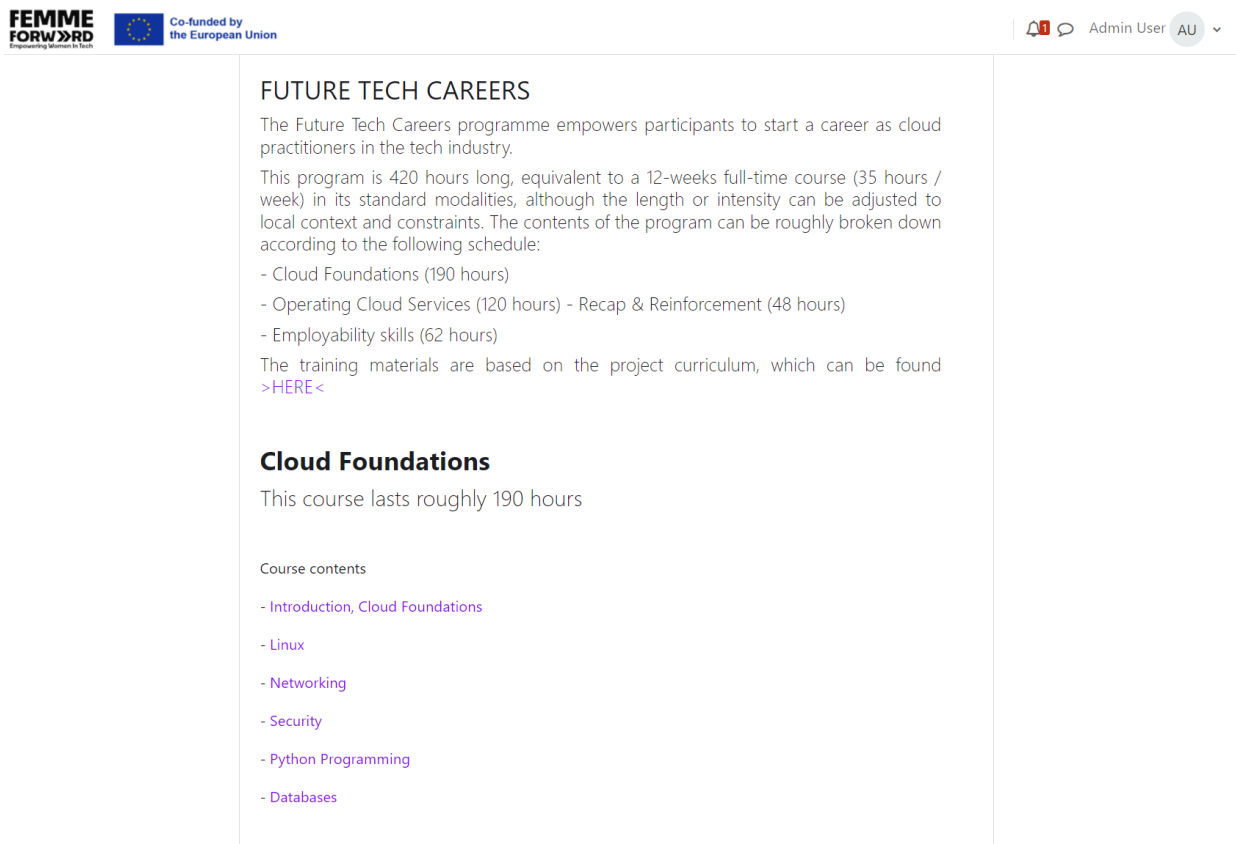
Moodle places a strong emphasis on security, ensuring that all user data is protected. This is particularly important for maintaining the trust of participants and safeguarding sensitive information.

By choosing Moodle, we ensure that the Femme Forward program benefits from a robust, flexible, and user-friendly platform that can effectively support the diverse needs of our participants and trainers.

## Utilisation of the Platform

The Femme Forward Future Tech Careers program has made its content publicly available on the Moodle platform. The platform is designed to be user-friendly and easily navigable, making it simple for users to explore and utilise the training materials.

In order to access the platform, prospective users can go through the Femme Forward website, via this link <https://femmeforward.eu/moodle/>. There, users can contact the project to receive a login.



The screenshot shows the Moodle course page for 'FUTURE TECH CAREERS'. At the top left, there are logos for FEMME FORWARD and the European Union. At the top right, there is a notification bell icon, a chat icon, and a user profile for 'Admin User AU'. The main content area has the following text:

### FUTURE TECH CAREERS

The Future Tech Careers programme empowers participants to start a career as cloud practitioners in the tech industry.

This program is 420 hours long, equivalent to a 12-weeks full-time course (35 hours / week) in its standard modalities, although the length or intensity can be adjusted to local context and constraints. The contents of the program can be roughly broken down according to the following schedule:

- Cloud Foundations (190 hours)
- Operating Cloud Services (120 hours) - Recap & Reinforcement (48 hours)
- Employability skills (62 hours)

The training materials are based on the project curriculum, which can be found [>HERE<](#)

### Cloud Foundations

This course lasts roughly 190 hours

Course contents

- Introduction, Cloud Foundations
- Linux
- Networking
- Security
- Python Programming
- Databases

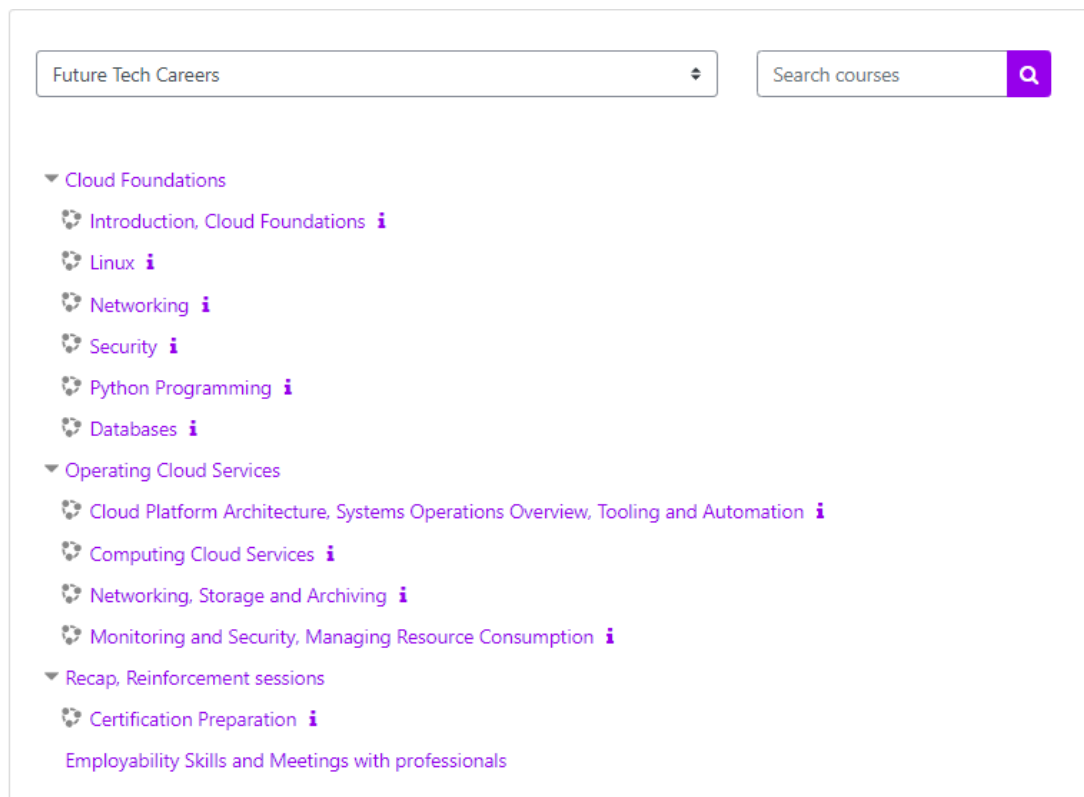
Once there, they will find the content organized into four main areas:

- **Cloud Foundations**
- **Operating Cloud Services**
- **Recap, Reinforcement Sessions (including certification preparation)**
- **Employability Skills**

Within the four main categories mentioned above, the content is organised by topic. For example, the *Operating Cloud Services* section contains 4 topics, including:

- .Cloud platforms architecture, systems operations overview
- Computing Cloud Services
- Networking, Storage, Archiving
- Monitoring and Security

It must be noted that the curriculum structure in each participating country has been tailored to meet local needs, so the content of the individual subcategories may vary accordingly, with partners contributing differing amounts to the different topics.



Future Tech Careers

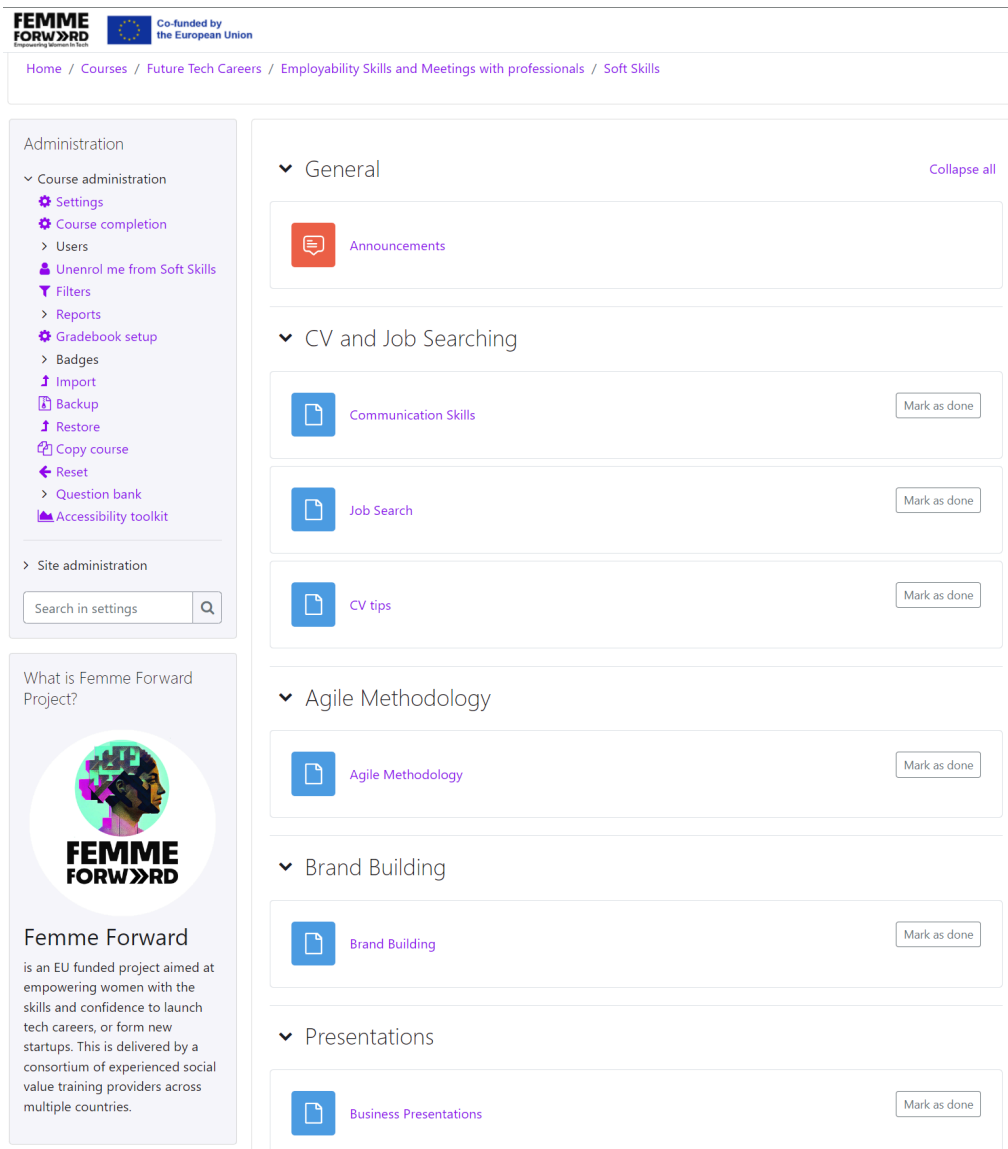
Search courses

- ▼ Cloud Foundations
  - Introduction, Cloud Foundations
  - Linux
  - Networking
  - Security
  - Python Programming
  - Databases
- ▼ Operating Cloud Services
  - Cloud Platform Architecture, Systems Operations Overview, Tooling and Automation
  - Computing Cloud Services
  - Networking, Storage and Archiving
  - Monitoring and Security, Managing Resource Consumption
- ▼ Recap, Reinforcement sessions
  - Certification Preparation
- Employability Skills and Meetings with professionals

*Presentation of course structure*

By making the training materials freely accessible, Femme Forward ensures that VET training providers can benefit from the program’s curricula, training materials, insights and expertise. This open access approach supports a wider community of aspiring tech training providers, and by proxy women interested in training as cloud practitioners.

In summary, the Femme Forward Moodle platform is an invaluable resource that democratises access to high-quality training materials. By simply clicking through the modules and subcategories, users can easily navigate the content and take advantage of the comprehensive resources provided.



The screenshot shows the Moodle course interface for 'Soft Skills'. At the top, there is a breadcrumb trail: Home / Courses / Future Tech Careers / Employability Skills and Meetings with professionals / Soft Skills. On the left, there is an 'Administration' sidebar with options like 'Course administration' (Settings, Course completion, Users, etc.) and 'Site administration'. Below this is a section titled 'What is Femme Forward Project?' with a circular logo and a brief description of the project. The main content area is organized into several expandable sections: 'General' (containing 'Announcements'), 'CV and Job Searching' (containing 'Communication Skills', 'Job Search', and 'CV tips'), 'Agile Methodology' (containing 'Agile Methodology'), 'Brand Building' (containing 'Brand Building'), and 'Presentations' (containing 'Business Presentations'). Each item in these sections has a 'Mark as done' button.

Example of course content (Soft skills section)

## Accessing the platform for VET providers and instructors

Each project partner who has conducted the Future Tech Careers track has individual login credentials for the platform. This allows them to independently upload, maintain, and modify the content as needed.

## Support and Troubleshooting

For support and troubleshooting, the project team can be reached at [info@femmeforward.eu](mailto:info@femmeforward.eu) and is available at any time for questions and further assistance.

## Challenges

The involvement of numerous partners, both within the project and including many external trainers and instructors, presented a variety of demands on the platform and its usage. To address these diverse requirements, we decided, after intensive discussions, to make access to the platform as simple and straightforward as possible. For the Future Tech Careers Tracks, the division into the four main categories — Cloud Foundations, Operating Cloud Services, Recap & Reinforcement, and Employability skills—served as our guiding framework, which all contributors adhered to.

Despite this overarching structure, we also paid close attention to the individual needs and expectations of all participants. The close collaboration between the organisers and the external trainers with the participants, coupled with the personalised support provided, ensured that the platform could cater to a wide range of learning styles and requirements.

The main challenge faced by training partners was the languages used in training. With a number of participating countries and languages used across the consortium, not all exercises and projects could be translated. In order to minimise this challenge, a number of resources in English were used by various partners.

## Conclusions

The Femme Forward Future Tech Careers program has successfully developed and implemented a comprehensive training platform that supports aspiring women in their journey towards establishing tech careers. By leveraging the expertise of numerous internal and external partners, the program has curated a rich repository of training materials that

are both current and highly applicable to real-world scenarios.

Basing the training materials - both in content and organisation - on the skillset developed within the WP2 curricula deliverable was fundamental in providing the necessary structure for the training courses. This structure, coupled with the adaptability of the platform to meet individual needs, has created an inclusive learning environment. The collaborative efforts and personalised support from trainers and organisers have ensured that the platform is user-friendly and accessible to all participants.

The emphasis on developing training materials based on the structure of the skillset allowed training partners to freely develop materials based on their country specific context, training calendar organisation, and the specific needs of the trainees. This allows for individualisation of training, both on a partner level and a trainee level while remaining grounded within the structure set out in the curricula and all trainees aiming for the same certification.

Looking ahead, the Femme Forward program is poised to expand its reach and impact. The platform's design allows for scalability, making it suitable for adoption by educational institutions, training providers, and individual educators globally. This adaptability will enable the program to support a wider audience of women aspiring to enter the tech industry or launch their own startups.

By continuing to refine the training materials and incorporating feedback from participants, the program can evolve to meet the changing needs of the tech industry. Future iterations of the program can also explore new modules and topics to stay ahead of technological advancements and industry trends.

In summary, the Femme Forward program has established a strong foundation for empowering women in tech careers. The innovative training materials and flexible platform will continue to support and inspire future generations of female tech leaders, fostering a more inclusive and dynamic tech industry.