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RESILIENT ECONOMIES AND COMMUNITIES

Distance LAB

DISTANCE LAB PILOT: REMOTE LEARNING OPPORTUNITIES AND SKILLS FULFILMENT

MS Learn Learning Platform



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1. Microsoft Learn platform

1.1. General information about the platform

1.1.1. Purpose and objective

[MS Learn](#) is an online learning platform where individuals can get free, interactive, and hands-on learning experiences in developing skills and knowledge related to Microsoft technologies, products, and services, starting from beginner level up to advanced level. After completion of the module, learning path, or instructor-led training a certification of completion is awarded.



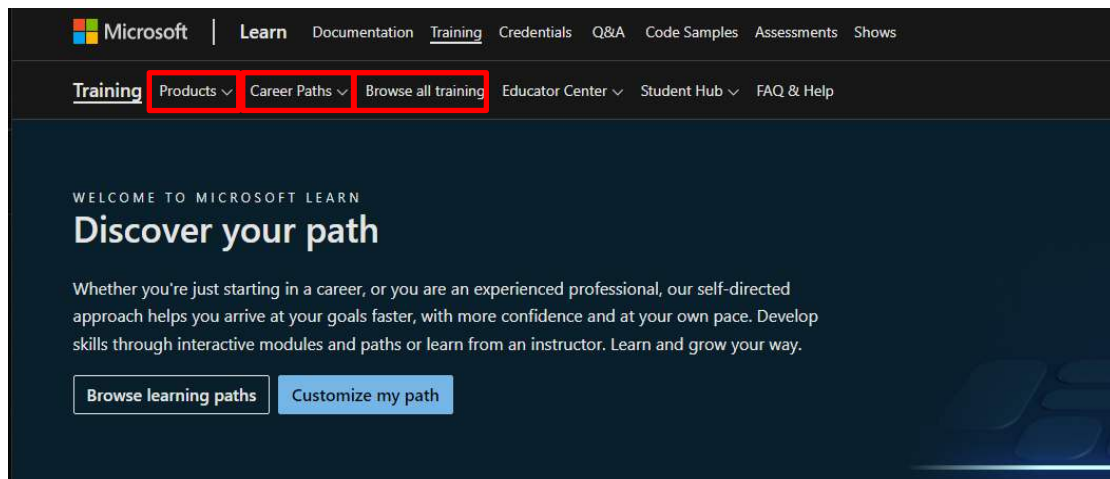
1.1.2 Benefits for applicants

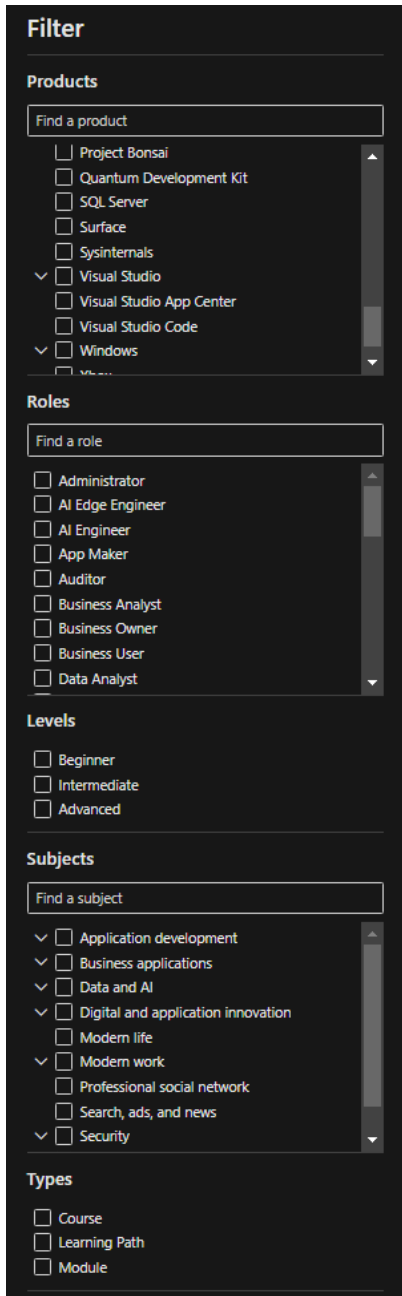
- All learning material available on the platform is free of charge.
- Possibility to learn at own pace and come back to the last learning point at any time.
- Many modules offer environments for learners to test the actual tool of interest in real-world scenarios.
- Learning opportunities for all levels and backgrounds.
- Learning paths prepare students for MS certification exams.
- Community guidelines and forums for individuals to seek help and support

1.1.3 Application process

The learning journey in the MS Learn platform starts with [account creation](#). If the user already has an MS account, then that account can be used for signing in the MS Learn and creating an MS Learn profile which will record and store learning activities. For more information and customization of the profile refer to [MS Learn profile setting guide](#).

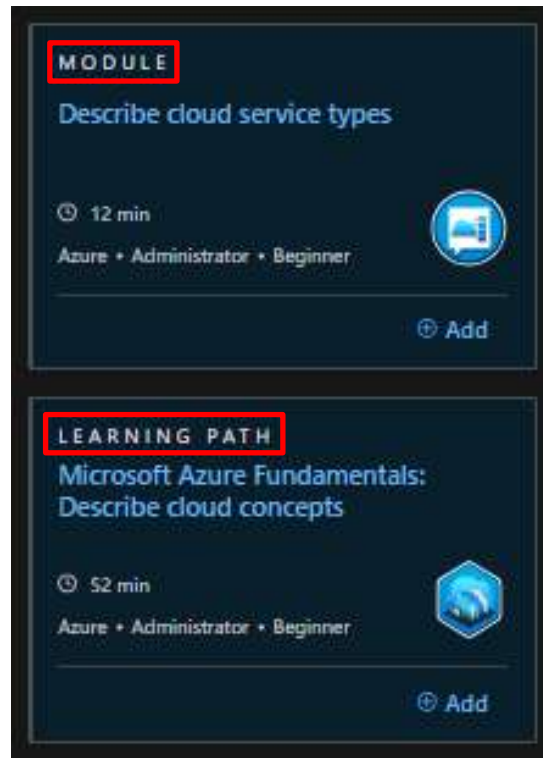
In the platform, individuals can [browse](#) modules, instructor-led training, and learning paths by career paths that individual is pursuing or by MS products of interest. To see all available modules, instructor-led training and training paths go to [browse all training](#).



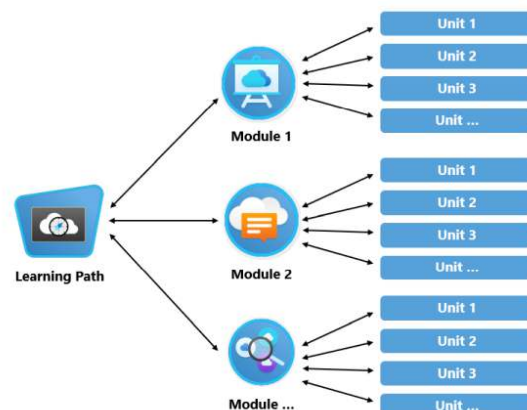


In the [browse all training page](#), at the left side of the page, you can filter the training by product of MS, by roles the individual intends to master, levels of individual, subjects of IT field, and types of training.

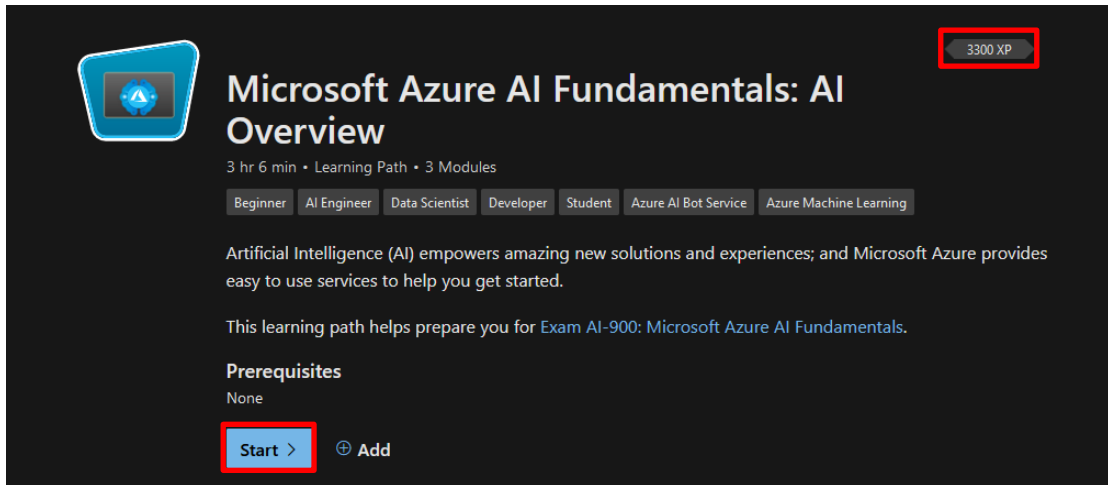
In the catalogue of all available trainings, you will see three different types of training: **module**, **instructor-led training**, and **learning path**.



which are webpages of actual training content provided in various forms (text, video, knowledge checks, interactive experiences). Each module is a part of one or several *Learning paths*, which is a collection of related modules. (See picture below)



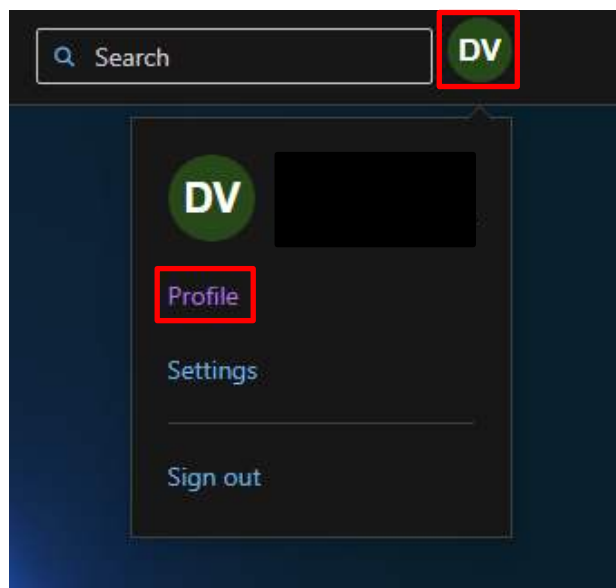
After selecting either a module, instructor-led training, or learning path you can start your learning journey by clicking on the desired course and pressing the *Start* button. (see picture below)



Each module, instructor-led training, and learning path has assigned experience points you can get after completion, which can be seen on the top right corner of the training page. The experience points contribute to your experience level. (see the example in the picture below)



More information on your achievements, completed courses, and credentials can be found on your profile page, which can be accessed by clicking on the top right corner badge of credentials and pressing the *Profile* button. (See picture below)



2. Artificial intelligence

In the rapidly evolving digital landscape, Artificial Intelligence (AI) has emerged as a transformative force, redefining the way businesses operate, innovate, and compete. The integration of AI technologies into business processes is no longer a futuristic concept but a strategic approach for companies seeking to gain a sustainable competitive advantage by enhancing operational efficiency, minimizing costs, and delivering exceptional customer experiences.

Microsoft product catalogue includes AI tools that can be used for enhancing business practices such as Azure, Power BI, and Dynamics 365. MS Azure AI offers a wide range of AI services and cognitive APIs that enable businesses to build intelligent applications capable of seeing, hearing, speaking, understanding, and interpreting human needs. Power BI leverages AI to transform data into actionable insights, facilitating informed decision-making across all levels of an organization. Dynamics 365, with its AI-driven insights, optimizes customer engagement and streamlines operations, enabling businesses to anticipate customer needs and deliver personalized experiences.

2.1. Artificial intelligence for beginners

2.1.1. What the course is about and its format

In the course, participants will learn core concepts and principles of AI, ML, regression models, Azure machine learning tools, and more. At the end of modules, students will have a self-check questionnaire to assess and test their knowledge.

2.1.2. For whom it is and its difficulty, benefits of the course

The course is for beginners who want to learn more about AI, and ML and how to use these technologies with MS provided tools such as MS Azure.

2.1.3. Brief content of the course

The course is divided into 4 blocks :

- Introduction to data, AI, ML, and Python.
- Machine learning models and data.
- Machine learning in MS Azure, regression models.
- Natural language processing, computer vision and Azure Open AI.

2.1.4. Duration of the course

Sel-paced learning, around 40 hours of material.

2.1.5. Course Content

Introduction to AI, and ML

1. [How does artificial intelligence \(AI\) work?](#)
2. [What is machine learning?](#)

3. [Artificial intelligence \(AI\) vs. machine learning \(ML\)](#)
4. [What Is Deep Learning?](#)
5. [Enable business users with key AI use cases](#)
6. [Responsible AI principles](#)

Machine learning models and data

7. [Introduction to data for machine learning](#)
8. [Refine and test machine learning models](#)
9. [Cross Validate Model](#)
10. [Confusion matrix and data imbalances](#)

Machine learning in MS Azure, regression models

11. [What is Azure Machine Learning?](#)
12. [What is Azure Machine Learning designer \(v1\)?](#)
13. [Use Automated Machine Learning in Azure Machine Learning](#)
14. [Download: Machine Learning Algorithm Cheat Sheet](#)
15. [How to select algorithms for Azure Machine LearningURL](#)
16. [Train and understand regression models in machine learning](#)
17. [Train and evaluate regression models](#)
18. [Tutorial: Designer - train a no-code regression model](#)
19. [Clean Missing Data component](#)
20. [Evaluate Model component](#)
21. [Two-Class Decision Forest component](#)
22. [Two-Class Support Vector Machine component](#)
23. [Linear Regression component](#)

Natural language processing, computer vision and Azure Open Ai

24. [Explore natural language processing](#)
25. [Explore computer vision](#)
26. [Explore decision support](#)
27. [Explore fundamentals of knowledge mining](#)
28. [Develop AI solutions with Azure OpenAI](#)

2.2. Artificial Intelligence with Python

2.2.1. What the course is about and its format

In the course, participants will learn core concepts and principles of AI, ML, regression models, Azure machine learning tools, and more. At the end of modules, students will have a self-check questionnaire to assess and test their knowledge.

2.2.2. For whom it is and its difficulty, benefits of the course

The course is for intermediate level who want to learn more about AI, ML and how to use these technologies with MS provided tools such as MS Azure.

2.2.3. Brief content of the course

The course is divided into 4 blocks :

- Introduction to AI, and ML.
- Machine learning models and data.
- Machine learning in MS Azure, regression models.
- Natural language processing, computer vision and Azure Open AI.

2.2.4. Duration of the course

Sel-paced learning, around 50 hours of material

2.2.5. Course content

1. Introduction to AI, and ML

1. [Introduction to machine learning: types, algorithms and lifecycle](#)
2. [Working with quality data](#)
3. [Data exploration and preparation with Python](#)

2. Machine learning models and data

4. [Introduction to regression analysis](#)
5. [Classical machine learning model blueprint](#)
6. [Train, evaluate, and refine a model](#)

3. Machine learning in MS Azure, regression models

7. [Create and understand classification models in machine learning](#)
8. [Confusion matrix and data imbalances](#)
9. [Measure and optimize model performance with ROC and AU](#)

4. Natural language processing, computer vision and Azure Open Ai

10. [Train and evaluate clustering models](#)
11. [Introduction to Natural Language Processing \(NLP\)](#)

3. Data analysis and visualization tools

Data analysis and visualization tools are an important part of the business decision making process. With proper techniques used and tools at hand, business managers can make informed decision making. Moreover, these tools can be valuable not only for top managers but also for employees who have data driven jobs such as financial analysts, business analysts, marketing and sales employees, supply chain analysts and others. Being able to use raw data, transform and visualize it is a valuable ability that companies should possess to gain sustainable competitive advantage.

One of the most used tools for data analysis and visualization is MS Excel and MS PowerBI, which complement each other. Excel is an ideal space for creating, manipulating and performing complex calculations for small to medium-sized data sets, whereas PowerBI is a tool that can transform those data sets into visual material such as Key Performance Indicators, dashboards and graphs. The following course will give participants the necessary skills to start using PowerBI.

3.1 Business and Data Analysis

3.1.1. What the course is about and its format

The course is designed to give participants both theoretical and practical knowledge in business and data analysis using Power BI and other MS applications.

3.1.2. For whom it is and its difficulty, benefits of the course

The course is set to have materials that participants can go through and learn all the necessary information without prior experience. This beginner to intermediate level course will give participants knowledge on how to import data, clean data, model data and visualize it.

3.1.3. Brief content of the course

The course material is divided into 8 blocks:

1. What is Power Platform and Power BI?
2. Basics of Power BI reports and dashboards
3. Start to work with data
4. Power BI from a DevOps point of view
5. Power Query, calculated fields and data risk mitigation
6. DAX
7. Visuals
8. Publish and Share

3.1.4. Duration of the course

The course takes approximately **2 months at 10 hours per week** to complete.

3.1.5. Course Content

1. What is Power Platform and Power BI?

1. [Discover Data analysis](#)
2. [Introduction to Power Platform](#)
3. [Introduction to Common Data Service](#)
4. [Cloud Concepts - Principles of cloud computing](#)
5. [Introduction to Power BI](#)
6. [Explore what Power BI can do for you](#)
7. [Get started building with Power BI](#)

2. Basics of Power BI reports and dashboards

1. [Create and share your first Power BI report](#)
2. [Create a data-driven story with Power BI reports](#)
3. [Create dashboards in Power BI](#)
4. [How to build a simple dashboard](#)

3. Start to work with data

1. [Get data in Power BI](#)
2. [Perform analytics in Power BI](#)
3. [Analyze data in Power BI](#)
4. [Add measures to Power BI Desktop models](#)
5. [Manage datasets in Power BI](#)
6. [Explore data in Power BI](#)
7. [Get data with Power BI Desktop](#)

4. Power BI from a DevOps point of view

1. [Introduce the foundation pillars of DevOps: Culture and Lean Product](#)
2. [Describe Power BI Desktop models](#)
3. [Model data in Power BI](#)
4. [Design a data model in Power BI](#)
5. [Analyze DevOps Continuous Planning and Continuous Integration](#)
6. [Define the foundation pillars of DevOps: Architecture and Technology](#)

5. Power Query, calculated fields and data risk mitigation

1. [Clean, transform and load data in Power BI](#)
2. [Add calculated tables and columns to Power BI Desktop models](#)
3. [Implement row-level security](#)
4. [Back up and restore databases](#)

6. DAX

1. [Optimize a model for performance in Power BI](#)
2. [Write DAX formulas for Power BI Desktop models](#)
3. [Introduction to creating measures using DAX in Power BI](#)
4. [Modify DAX filter context in Power BI Desktop models](#)
5. [Use DAX iterator functions in Power BI Desktop models](#)
6. [Use DAX time intelligence functions in Power BI Desktop models](#)

7. Visuals

1. [Design with inclusivity in mind](#)
2. [Work with Power BI visuals](#)
3. [Use visuals in Power BI](#)
4. [Work with AI visuals in Power BI](#)

8. Publish and Share

1. [Publish and share in Power BI](#)
2. [Create paginated reports](#)
3. [Introduction to Power Apps](#)
4. [Introduction to Power Apps portals](#)
5. [How to build a model-driven app](#)

4. Programming languages

Programming languages have been the core of computer science and technology since it was first created by IBM corporation in 1957. Since then, a lot has changed, and various programming languages for various purposes have been introduced. One of the most relevant programming languages recently has been Python.

Python is an open-sourced programming language that is widely used nowadays in the development of web applications, game and software development, internet of things applications, AI and ML applications, and also for data analysis and task automation. Python syntax is easier to understand than other programming languages, it has multipurpose use cases and large libraries, which contributes to the gain in popularity of the language. MS Learn platform offers courses in Python for beginners who want to learn basic principles and use cases in the MS ecosystem.

4.1. Python for beginners

4.1.1. What the course is about and its format

The course provides information about the basic concepts and principles of Python programming language.

4.1.2. For whom it is and its difficulty, benefits of the course

The course is for those with little or no experience in programming and Python. After completion of the course, participants will be able to use the Python interpreter to execute statements and scripts, build a simple Python app that takes input and produces output, and understand and use Python basic for code writing.

4.1.3. Content of the course

1. [Set up your Python beginner development environment with Visual Studio Code](#)
2. [Take your first steps with Python](#)
3. [Visualize Python code execution](#)
4. [Branch code execution with the if and else statements in Python](#)
5. [Iterate through code blocks by using the while statement](#)

4.1.4. Duration of the course

The course is estimated to take 30 hours of work to complete.

Disclaimer

This information provided for the Distance Lab project is based on the information, pictures and sources available on the MS Learn platform (<https://learn.microsoft.com/en-us/training/>) and Virtual Internships in Baltics platform (<https://balticinternships.eu/>). It contains links to other websites or content belonging to or originating from third parties or links to websites. Such external links are not investigated, monitored, or checked for accuracy, adequacy, validity, reliability, availability or completeness by us. We do not warrant, endorse, guarantee, or assume responsibility for the accuracy or reliability of any information offered by third-party websites linked through the site or any website and feature linked in any banner or other advertising, we will not be a party to or in any way be responsible for monitoring any transaction between you and third party providers of products or services.