Nazwa w jęz. angielskim: Cloud Computing on AWS

Dane dotyczące zajęć:
Information on course:

Jednostka oferująca: Wydział Matematyki Stosowanej // dr inż. Adrian Kapczyński
Course offered by: Faculty of Applied Mathematics // dr inż. Adrian Kapczyński

Język wykładowy:

angielski

Language:

English

Strona WWW:
Course homepage:

Skrócony opis:

This course is designed to provide students with a comprehensive understanding of Amazon Web Services (AWS). This course covers fundamental and advanced concepts of cloud computing, focusing on the key components and services provided by AWS, such as EC2, S3, VPC, IAM, and AWS databases, among others.

Short description:

Opis:

Description:

Lecture:

1. Opening lecture.
2. Overview of cloud computing, service models (IaaS, PaaS, SaaS), and deployment models (public, private, hybrid, community). Introduction to Cloud Computing and AWS. AWS architecture.
3. Regions, Availability Zones, and Edge Locations.
4. Amazon Elastic Compute Cloud (EC2). EC2 instance types, purchasing options, and lifecycle.
5. Amazon Simple Storage Service (S3). Overview of S3, buckets, and objects. Data lifecycle management and security in S3.
6. Amazon Virtual Private Cloud (VPC). Concepts of VPC, subnets, gateways, route tables, and security. Designing and building a custom VPC.
7. AWS Security and Identity Services. Understanding AWS Cognito and AWS Shield.
8. Databases on AWS. Overview of Amazon RDS, DynamoDB, and Elasticache.
9. AWS Elastic Load Balancing and Auto Scaling. Configuring Elastic Load Balancers and understanding types. Implementing auto-scaling for EC2 instances.
10. Introduction to serverless computing. Building and deploying AWS Lambda functions.
11. Monitoring and Management Tools. Using Amazon CloudWatch for monitoring. Overview of AWS CloudTrail and AWS Config.
12. Demos.
13. Case studies.
14. Summary.

Lecture:

- **full-time studies: 30 h**
- **part-time studies: 18 h**

Number of ECTS credits: 2

Literatura:

Bibliography:

1. https://helion.pl/ksiazki/amazon-web-services-w-akcji-wydanie-ii-andreas-wittig-michael-wittig,amwes2.htm#format/d.
2. https://helion.pl/ksiazki/aws-dla-architektow-rozwiazan-tworzenie-skalowanie-i-migracja-aplikacji-do-chmury-amazon-web-servi-saurabh-shrivastava-neelanjali-srivastav-alberto,awsar2.htm#format/d
3. https://www.awseducate.com/

Efekty uczenia się:

Knowledge about the functionalities of AWS platforms.
Practical skills needed to design and implement cloud solution using AWS platform.

Learning outcomes:

Metody i kryteria oceniania:

Assessment methods and assessment criteria:

Lecture
Passing the course in the form of project.

Przynależność do grup przedmiotów w cyklach:
Element of course groups in various terms:

Opis grupy przedmiotów Course group description	Cykl pocz. First term	Cykl kon. Last term
przedmioty obieralne studia stacjonarne i niestacjonarne stopień studiów – dowolny kierunek studiów – dowolny, semestr dowolny elective courses full-time and part-time studies degree - any field of study - any semester - any	2024/2025	