

Tárgytematika / Course Description Cloud Computing

GKNM_MSTA051

Tárgyfelelős neve /

Teacher's name: dr. Takács Gábor

Félév / Semester: 2023/24/1

Beszámolási forma /

Assesment: Vizsga

Tárgy heti óraszám /

Teaching hours(week): 2/2/0

Tárgy féléves óraszám /

Teaching hours(sem.): 0/0/0

OKTATÁS CÉLJA / AIM OF THE COURSE

The goal of the course is to introduce the fundamental concepts of cloud computing and to introduce a specific cloud based platform (Google Cloud Platform) via practical exercises.

TANTÁRGY TARTALMA / DESCRIPTION

- Definition and basic concepts of cloud computing. Motivational examples. Cloud providers.
- Service models (IaaS, PaaS, SaaS). Overview of the Google Cloud Platform. Regions and zones. Creating projects.
- Virtual machines in the cloud. Compute Engine. Basic operations.
- Interaction with the cloud: Web based, command based and API based control.
- App Engine. Traffic splitting. Cloud Functions, comparison against App Engine and Compute Engine.
- Virtual networking. Firewall rules. Identity and Access Management (IAM).
- Cloud based storage. Storage options and their characteristics. Working with Cloud Storage buckets.
- Distributed queues. Pub/Sub. Cloud Scheduler.
- NoSQL databases. Bigtable.
- Data warehouses. BigQuery.
- Setting up an efficient development environment. Infrastructure as code.
- Designing and building a cloud based web crawler.

SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESSMENT'S METHOD

During the semester, the students solve a project problem that is related to the course material. Then, in an oral exam, they present their work and answer questions about the details of their solution.

KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL

- B. Sosinsky: Cloud Computing Bible, Wiley, ISBN: 9780470903568.
- B. Furht, A. Escalante (editors): Handbook of Cloud Computing, Springer, ISBN: 9781441965240.

AJÁNLOTT IRODALOM / RECOMMENDED MATERIAL