Zasady zaliczenia przedmiotu:

1. **Składowe:**
    - **Wykład**: maks. 35 pkt (test końcowy).
    - **Laboratorium**: maks. 35 pkt (zadania praktyczne w Azure).
    - **Projekt**: maks. 30 pkt.
2. **Warunki zaliczenia:**
    - **Wykład**: min. 18 pkt z testu końcowego.
    - **Laboratorium**: min. 18 pkt z zadań praktycznych w Azure.
    - **Projekt**: ocena na podstawie realizacji wyznaczonego zadania.

Introduction to Cloud Computing

Overview of cloud computing and available services:

- **Cloud Access**: Computing resources accessible over the internet.
- **Major Providers**: Microsoft Azure, AWS, Google Cloud.
- **Cost Model**: Pay-as-you-go, only pay for what you use.
- **Azure Marketplace**: Offers over 1,000 services.

Why Companies Invest in Cloud:

- **Scalability**: Dynamic resource allocation based on needs.
- **Cost Optimization**: No upfront hardware investment.
- **Innovation**: Access to AI, data analysis, blockchain, quantum computing.
- **LLM Integration**: Azure works with Hugging Face for advanced AI models like GPT, BERT.

Azure/AWS/Google Cloud Marketplace/IBM Cloud Catalog/Oracle Cloud Marketplace

Quick overview of Azure Marketplace

- Thousands of services available for deployment.
- Services from both Microsoft and third-party vendors.
- Popular services include web apps, databases, AI, and blockchain.

Creating Resources in Azure

Key steps to deploy resources

- Navigate to Azure Portal at portal.azure.com.
- Use "Create a Resource" to access categorized services.
- Most popular services are listed at the top.

Popular Azure Services

Most commonly used services in Azure

- **Web Apps**: Simplified deployment for web applications.
- **Function Apps**: Execute short, event-driven functions.
- **Logic Apps**: Automate workflows between services.

AI Services

Exploring AI capabilities in Azure

- Text translation into over 100 languages.
- Natural language processing and chatbot services.
- Machine learning models and data processing.

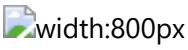
Containers and Compute

Containers and compute services available in Azure

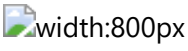
- **Containers**: Multiple container services, including AKS for Kubernetes.
- **Quantum Computing**: Experiment with quantum computing in Azure.
- **Databases**: Options like SQL Server, MongoDB, and Oracle.

Azure Marketplace - Recommendations

Azure Services Dashboard



Creating Resources in Azure



Azure Shared Responsibility Model

Understanding Cloud Responsibilities

- The **shared responsibility model** defines how Microsoft and customers divide responsibilities.
- Key areas: security, infrastructure, and application management.
- Moving to the cloud shifts some responsibilities to Azure.

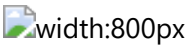
Full Responsibility in On-Premises

Customer's Responsibility On-Premises

- Hosting servers on-premises means full responsibility for:
  - Physical security (building, server room).
  - Network security.
  - OS updates, patches.
  - Application settings, user accounts, devices.

Shifting Responsibilities in Cloud

Cloud Virtual Machine Responsibility



Cloud Computing: Public, Private, and Hybrid Clouds

In this presentation, we will explore:

- Public Cloud
- Private Cloud
- Hybrid Cloud

Public Cloud

- Available to the general public.
- Offered by third-party providers over the internet.

- Services can be rented by anyone (e.g., Microsoft Azure).

Private Cloud

- Owned by a single organization.
- Accessible only to select users.
- Provides more control over hardware and data.

Hybrid Cloud

- Combination of public and private clouds.
- Allows seamless integration of on-premise and cloud resources.
- Example: SQL Stretch Database (deprecated).