

Cloud computing for IoT

Learning Outcomes

- To evaluate the main strengths and weaknesses among different technologies and virtualization and Cloud platforms.
- To design IoT application architectures that meet flexibility, scalability and performance requirements using technologies and virtualization and Cloud platforms.
- To develop applications for IoT using the main support frameworks for software construction.
- To use the most important Cloud platforms to develop and deploy IoT applications.

Contents

The exponential growth of the data generated by IoT-based systems makes it necessary to use cloud services that process such data satisfying flexibility, scalability and performance requirements. This course is focused on the study of architectures, emerging technologies and Cloud Computing implementations applied to IoT systems. Both the theoretical basis and different application scenarios will be addressed.

1. Introduction to virtualization.
2. Virtualization based on containers.
3. Introduction to Cloud Computing
4. Cloud service models
5. Cloud deployment models
6. Platforms and Cloud Providers
7. Need to integrate IoT and Cloud.
8. Cloud services for IoT: connectivity, data ingestion, storage, real-time analysis, and presentation.
9. Cloud architectures for IoT apps.
10. Analysis of technology maturity