

Services for teaching, research and co-innovation

SAP University Alliances is a global program that provides more than 3,000 universities with free SAP software licenses for academic purposes. Within this program the SAP University Competence Centers (UCC) host SAP solutions for teaching, research and co-innovation.

In addition UCCs develop and manage academic teaching materials to assist lecturers and researchers. While UCCs assure 24/7 availability of complex system landscapes and support users closely, faculty members can fully concentrate on their core competences: teaching and research.

By using our scenario-based and practical curricula on latest SAP solutions, lecturers and students can reach their full potential. Our comprehensive teaching materials consist of presentations, case studies and hands-on exercises. Additional teaching tools facilitate continuous student assessments and foster group discussions.

Our experts can support you through all phases.

Contact

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Internet of Things

Teaching and Learning Environment
SAP UCC

Also available:



Main features of the IoT curriculum

With the Internet of Things teaching and learning environment, we provide access to a SAP HANA Smart Data Streaming server and to comprehensive scenario-based teaching material.

Users access a connected SAP HANA database to save and redefine loaded data. The learning environment is reserved for 30 users with an exclusive main storage capacity.

Lecturers can use presentations, exercises and case studies in academic courses and/or research projects. All materials are designed especially for SAP HANA and are based on up-to-date SAP applications.

Topics of the curriculum

Introduction to Internet-of-Things (IoT)

Students learn basic principles of the Internet of Things by hands-on exercises. Using their smartphones with SAP HANA Smart Data Streaming, they transfer acceleration data into the SAP HANA database and can visualize this live data stream.

Introduction to Stream Processing

With the second exercise, students create their first streaming project to analyze real-time data. Using the playback functionality of the SAP HANA Smart Data Streaming Server, they add temperature data to the stream in a SAP HANA database table. During the loading process, they apply an easy data cleansing filter.

Predictive Maintenance / Complex Stream Processing

In this case study a manufacturing process of a machine is simulated with the aid of different sensors. By monitoring and analyzing the real-time data stream with SAP HANA Smart Data Streaming, condition changes can be predicted throughout the process. If the continuation of the manufacturing process becomes precarious, an alarm is generated and the maintenance team is alerted automatically.

Sensor integration to SAP HANA with Raspberry Pi

- A Raspberry Pi provides a pre-configured library to connect to SAP HANA
- Learn how to connect a Raspberry Pi to temperature, humidity and motion sensors
- Learn how to connect a Raspberry Pi to a SAP HANA streaming project
- Learn how to analyze and visualize sensor data with SAP HANA

Integration of the Predictive Maintenance scenario with SAP S/4HANA

- Learn how to create a malfunction report in SAP S/4HANA using streaming analytics and simulated sensor data
- Learn how to connect streaming analytics to SAP S/4HANA using RFC adapters
- Case study in the SAP S/4HANA system on how to handle failures and create a malfunction report depending on the event

Additional curricula

With access to a SAP HANA database, you can also use the complete range of the in-memory SAP HANA teaching and learning environment:

- Introduction to SAP HANA
- Data Mining
- Native Web Development
- SAP Fiori Apps Development
- Geospatial Processing
- Text Analysis (incl. sentiment analysis with twitter data)
- Introduction to Graph Processing

Trial Account

SAP UCC offers one-month trial access to SAP IoT free of charge. If you are interested in a trial account, please register at trial@ucc.ovgu.de.