

DB2 Information Management Software

Kaiserslautern University of Technology leverages IBM products for real-world job training.

Overview

■ **Application**

Academic curriculum based on IBM information management software

■ **Business Benefits**

For students: Hands-on instruction with industry-recognized database provides students with superior preparation for IT careers and graduate study

For university: Ability to offer rich, real-world education experience helps attract new students; thousands of dollars saved annually in software and services costs

■ **Software**

IBM DB2® Universal Database™, Version 8.1; IBM Informix Dynamic Server®; IBM WebSphere® Application Server; IBM WebSphere Studio Application Developer

■ **Hardware**

IBM® server xSeries

■ **Services**

IBM Scholars Program



Founded in 1969, Kaiserslautern University offers coursework tailored to real-world business challenges, with an emphasis on information technology.

Located just outside the Palatinate forest, Kaiserslautern University of Technology (Kaiserslautern University) is one of Germany's most distinguished technical institutions, known throughout the country for its outstanding computer sciences, mathematics and physics curriculums.

Kaiserslautern University places a heavy premium on preparing its 9,000 students for immediate careers in the business world. That's why its Databases and Information Systems (DBIS) school is taking advantage

“We’ve reduced our operating costs by thousands of euros annually, by eliminating much of our software and services expenses because of the Scholars Program.”

*—Professor Stefan Dessloch,
Heterogeneous Information Systems
Research Group, Kaiserslautern
University of Technology*



Hands-on experience with DB2 and WebSphere software provides a solid foundation for students pursuing IT-oriented careers.

of the IBM Scholars Program, which provides higher education institutions with access to a wide range of IBM products, including complimentary licenses for software and academic discounts for servers. “We’ve reduced our operating costs by thousands of euros annually, by eliminating much of our software and services expenses because of the Scholars Program,” says Professor Stefan Dessloch, head of the Heterogeneous Information Systems Research Group, Kaiserslautern University.

IBM technology powers DBIS school

The DBIS school was founded and built up over the past 25 years by Professor Theo Härder, a highly regarded member of the database community and recipient of the prestigious Konrad Zuse Medal for his research in database technology. The school consists of two research groups with a total of ten research staff members actively involved in supporting the academic curriculum.

A long-time Informix user, the DBIS school had received several versions of IBM Informix Dynamic Server through its Scholars Program arrangement. Recently the school decided to add DB2 software to its information management platform as part of a strategic academic initiative. Given that DB2 knowledge is becoming more important in the German marketplace, it was imperative that Kaiserslautern students get hands-on experience with the type of technology they will use in their careers.

Through the Scholars Program, the University received IBM DB2 Universal Database, Version 8.1, running on SUSE Linux. The information management solution, running on IBM @server xSeries systems also powered by SUSE Linux, is crucial to the DBIS school for providing students with hands-on training in database systems, covering areas such as object-relational schema design and application development. About 25 to 30 students participate in these classes each semester.

“The IBM Scholars Program closes the gap between academia and the business world by providing students with the skills they need to succeed in today’s working environment. Not only does it position students for lucrative career opportunities, it also helps fill key positions in the technology industry.”

– Professor Stefan Dessloch

"These are practical courses in which students get experience using the techniques and methods common to the workplace," says Dessloch. "One of the areas in particular that the DBIS school focuses on is middleware for distributed and heterogeneous information systems. This addresses how to utilize databases in modern environments, such as e-business and e-commerce solutions."

Hands-on training with e-commerce systems

IBM WebSphere Application Server and IBM WebSphere Studio Application Developer also play a major role in the Kaiserslautern courses. Students use the software to develop working e-commerce Web sites with features such as shopping carts, product catalogs and even auctioning sessions. "Our students learn first-hand how DB2 integrates with WebSphere software to support an e-infrastructure," says Dessloch. Students go through the entire process of configuring and populating the database, and enabling access to it through various types of Java™ technology components, such as JavaServer Pages and Enterprise JavaBeans.



Kaiserslautern University has leveraged the IBM Scholars Program to enhance its academic curriculum with industry-leading information management software from IBM.

"It's a very popular class and fills up fast," says Dessloch. "It's extremely important for students to connect with real product technology and try out what they are going to use in the business world. These students are at an advantage over their peers at other universities that don't have access to such leading-edge technologies."

IBM Böblingen Lab provides 24x7 support

To ensure that the classes run smoothly, the IBM Scholars Program provides Kaiserslautern University with 24x7 technical support from the IBM Böblingen Lab. "We've actually had IBM personnel here on-site to talk about DB2 from various angles, and

we've had both students and research assistants participating in those classes to get a good understanding of DB2," Dessloch explains. Students and faculty can also e-mail technical questions to the Lab whenever they arise. When the IBM Böblingen Lab receives more extensive inquiries, staff members escalate them to the IBM Research Lab in Toronto, Canada, or San Jose, California.

"The continuing technical support provided by consultants from IBM keeps us sharp and is crucial to the success of our data management curriculum," says Dessloch.

DB2 powers education and research

Moving forward, the DBIS school plans to further exploit DB2 through a class covering object-relational schema design and application development. One of the key aspects of the class is query optimization, and the optimizer technology in DB2 combined with its visual query explain capabilities are extremely useful in this context. "DB2 Version 8.1 is a great tool for teaching because students can really see how the query optimizer works and how physical database design choices influence the shape of the query plan," says Dessloch.

For the future, the school plans to offer another practical course to focus on various aspects of data and application integration, as well as the management of semi-structured and unstructured data. "This is where additional products such as IBM DB2 Information Integrator or IBM DB2 Content Manager will fit in," says Dessloch. "The wide breadth of products and services provided by IBM allows students to have a rich learning experience because they see the whole picture of technologies required for a company's end-to-end IT environment."

In addition to its use in education, the IBM Scholars Program is also used in research projects conducted by the DBIS groups. In one of the projects jointly conducted with the University's Town Planning Department, students recently

developed a database application that helps create modeling plans for building new cities. The system simulates a variety of activities, from dimensioning of buildings to the amount of rain at certain times of the year. "What we needed from the database perspective was some knowledge of spatial information and we actually used IBM DB2 Spatial Extender to represent that data consistently," explains Dessloch.

"This program closes the gap between academia and the business world by providing students with the skills they need to succeed in today's working environment," says Dessloch. "Not only does it position students for lucrative career opportunities, it also helps fill key positions in the technology industry."

For more information

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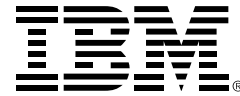
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For more information about the IBM Scholars Program, visit:

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For more information about Kaiserslautern University, visit: www.uni-kl.de/en



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