

Teaching reform of database security course in higher vocational colleges based on enterprise demand

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Abstract: With the advent of the era of big data, data security has entered a new mode of rapid development, and the demand for data security talents has multiplied. Database security is a very strong practical professional course, the traditional teaching model can not meet the requirements of the course. Combining with the needs of enterprises, this paper adopts the teaching mode of the skill-based database security technology course based on the needs of enterprises, and deeply analyzes and studies the problems existing in the database security course and the necessity of reform. After determining the positioning of database security course in talent training objectives, the teaching plan is designed for different students in different groups, and the practical operation ability of students is enhanced through project practice. Finally, the students participating in the competition are encouraged to "promote learning by competition, take the test by certificate", and the course teachers cooperate with the enterprise tutors to evaluate the course. Cultivate students' ability to put forward, think and solve problems.

Key words: Database security technology; Enterprise demand; Cultivation goal; Curriculum reform

1. Introduction

With the rapid development of information, big data processing technology has been widely applied to all walks of life, and data security has entered a rapid development mode. Data as a kind of information resources, its universality, sharing, value-added, can handle and multi - utility, so that it has important special significance to human beings. The essence of data security is to protect the data resources in the network from various types of threats, interference and damage, that is, to ensure the effectiveness and security of data. In the era of big data, data is more and more complex, processing is more and more high, data reliability, security requirements are also higher and higher.

Database security technology course is one of the core courses of information security related majors. In the current era of big data, the data becomes more and more complex and the data is disorganized, which leads to the security problem of the database, as well as how to better protect and classify the data, the status of database system security is also increased. Data security engineer is not a simple technical job. Is a compound position, the need to be equipped with personnel need to have a variety of abilities. The field of data security is relatively new, and fewer personnel are trained in this field in China, which is also the key task to be improved gradually. At present, most higher vocational colleges carry out few courses related to database security, and few majors related to data security. The cultivation of talent ability is also in the initial stage. However, with the gradual improvement of the public's attention to data security, the construction of the relevant curriculum system is becoming more and more strong requirements, so how to build a complete database security system, information security and enterprise data security management is facing major security and urgent problems.

In order to further study the database security courses of higher vocational colleges based on the needs of enterprises and improve the cultivation ability of database and other engineering skills talents, the author recently carried out a one-year visiting study in enterprises. The main goal is to enrich the teaching resources of database security courses by listening to the guidance of enterprise mentors and participating in actual combat projects of enterprises. Provide teachers and students with rich and personalized teaching resources and services to improve the effect of activities before, during and after class. In order to improve the existing teaching methods, optimize the teaching system, improve the quality of professional personnel training, and then database security personnel training mode.

2. Problems existing in database security courses based on enterprise requirements

2.1. The training of information security professionals is divorced from the needs of enterprises

Although the training mode of skilled talents can bring long-term development to enterprises in the selection, training, use and other aspects of enterprise personnel, traditional database security courses have a certain role in promoting the development of enterprises, but from the actual needs of enterprises, information security related personnel training is unsatisfactory, enterprises want to recruit database security engineers to meet the needs of the very difficult. Many enterprises need versatile database security engineers, and very few engineers can meet the requirements of enterprises.

In terms of quantity and quality, there is a big gap between the training of information security professionals in higher vocational colleges and the needs of database security engineers in enterprises. In terms of personnel training programs, there is a problem of separation from the needs of enterprises.

2.2. The teaching content is divorced from the reality of the enterprise

At present, both the teaching content and teaching methods of higher vocational colleges are still in the traditional teaching mode, which is difficult to combine with the actual needs of enterprises, and the teaching content is difficult to play a role in the practical projects of enterprises. The cultivated students' theoretical knowledge is not firm enough, and the practical ability is lacking. The problems of teaching content are mainly manifested in the following aspects: First, the major of information security is a new major in the past ten

years, and its teaching resources are not perfect enough. Most of the teaching resources rely on foreign or domestic research results, and the database security course system has not been formed. Second, with the rapid development of the Internet, emerging data security problems continue to emerge. The teaching content of database security courses in higher vocational colleges is updated slowly, which is divorced from the actual situation of enterprises. Thirdly, the emphasis on practical links in teaching is not enough. At present, theoretical teaching is still the main teaching, and practical teaching is less. The upgrading of teaching experiment environment is too slow, and insufficient capital investment is divorced from the development of enterprise needs.

2.3. Teaching methods out of the pace of The Times

Different teaching methods produce different effects with the same teaching content. Teachers' teaching methods can not keep pace with The Times, and the teaching content in the forefront can not achieve satisfactory results. At present, most higher vocational colleges still use traditional teachers to teach knowledge, and students passively accept knowledge. The classroom is boring, the lack of practical experience, students' interest is not high, and the acceptance of knowledge is relatively low. At the same time, the information security platform introduced by colleges and universities can not be updated in time, lack of technical management experience, most of the teaching platform can not play a maximum role.

3. The necessity of database security curriculum reform based on enterprise demand

Information security major is a computer major that crosses network security and informatics. The database security course is one of the core courses, aiming at cultivating talents who abide by security laws and regulations, have a sense of social responsibility, correct professional ethics, and have solid information security professional knowledge. At present, most colleges and universities have opened database security courses for information security majors, but most of the course content is still to master the basic principles of database, database related technology to teach, and the curriculum system is single, the classroom teaching effect is not ideal, the teaching content is backward, etc. Based on the above problems, it is urgent for the database security curriculum reform to reform and reconstruct the knowledge system of database security courses, further deepen the reform of training skilled talents, combine the online and offline mixed teaching mode and method, introduce the teaching content and assessment method based on enterprise cases, and focus on training database security talents in line with the actual needs of society.

4. Database security course teaching reform scheme based on enterprise demand

4.1. Establish the position of database security course in talent program

By investigating the needs of various IT enterprises for database security talents, the research group optimized and adjusted the training plan of information security major, sorted out the positioning of database security talents plan, and formulated the plan of information security professional talents with the training of skilled talents as the core to meet the needs of continuous adjustment and optimization of data security technology and business. Improve the teaching quality of database security courses, with the cultivation of ability as the core guide. It points out the direction for teachers' teaching and students' learning, establishes a skill-based teaching model, and enables students to combine theoretical knowledge and practical knowledge, thus laying a foundation for the training of skill-based talents. Establish a technology roadmap between enterprise needs and training objectives, and establish an information security personnel training system.

4.2. Combined with real cases of enterprises, the construction of teaching content

The teaching of database security courses cannot be separated from practice. For this reason, the college cooperates with enterprises to establish project teams, project topics, supervision by enterprise tutors, etc., to construct a complete practical teaching system. In the project team, knowledge modules are divided, and enterprise tutors and teachers design modules according to different professional directions and students' learning ability and learning style, so as to ensure the balance of technical ability of each team. Then, corresponding teaching tasks are assigned according to enterprise data security projects, so that students' theoretical knowledge can be accurately connected with enterprise practical projects. And improve the quality of teaching.

4.3. Explore the curriculum assessment standard mechanism that suits the needs of enterprises

At present, the curriculum assessment standards of most colleges and universities are relatively single, pay too much attention to the final examination scores, divorced from the actual situation of enterprises, change the traditional assessment emphasis on examination, light process, emphasis on scores, light ability, vigorously promote the enterprise tutor and teacher dual assessment, increase the assessment method of enterprise tutor process, strengthen the skills training, enhance the practical ability. Student achievement consists of project test and summative test.

4.4. Increase the reward mechanism of student competition, encourage students to participate in the competition, improve the hands-on ability

The realization of data security needs the support of technology and tool platform to complete the construction of security control measures, so as to realize the construction of data security capability. Data security technology is being gradually updated and iterated. Under the environment of big data, technical personnel engaged in the field of data security are required to have all aspects of network security knowledge. In order to promote the reform of innovation and entrepreneurship education, further strengthen the cultivation of students' innovation awareness, practical ability and application ability, and motivate teachers and students to participate in scientific and technological innovation activities, Reward outstanding achievements of the collective and individual, standardize the organization and management of innovation, entrepreneurship competition, encourage obtaining a certificate instead of to promote learning, to, to enhance

students' operation ability.

5.conclusion

This paper first studies the problems existing in the database security course teaching based on the enterprise needs and the necessity of curriculum reform, and puts forward the technical higher vocational database course reform plan based on the enterprise needs. By establishing the talent training objectives, constructing the teaching content, exploring the curriculum assessment standard mechanism combined with the enterprise project, encouraging students to participate in the competition, exercise the ability to solve practical problems. So as to improve students' practical ability.

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