Computers

Database Administrators

Database Administrators work with database management software and determine ways to effectively store, organize, analyze, use, and present electronic data. They identify user needs and set up new computer databases. In many cases, database administrators must integrate data from old systems into a new system. They also test and coordinate modifications to the system when needed, and troubleshoot problems when they occur.

An organization's database administrator ensures the optimal performance of the system, preserves data integrity, understands the various platforms on which databases run and adds new users to the system. Because many databases are connected to the Internet, database administrators must plan and coordinate security measures with network administrators to secure the database from unauthorized access.

Apart from training employees and management personnel in database use and maintaining database systems, they are responsible for upgrading systems in compliance with changing technologies and design techniques. Much of the job involves the analysis of data quality and usage and the identification of user requirements in order to tailor the system to the needs of the business. Many database administrators specialize in the design, support or programming of a specific database structure. The more marketable professionals in the field develop expertise in more than one type of database. Others may specialize in areas such as database security.

Database administrators normally work in well-lighted, comfortable offices or computer laboratories. Many work about 40 hours a week, but some work more than 50 hours a week. In addition, some of these workers may be required to be "on call" outside of normal business hours in order to resolve system failures or other problems. Database administrators are increasingly able to perform their duties from remote locations, reducing or eliminating the need to travel to the customer's workplace. Like other workers who spend long periods in front of a computer terminal typing on a keyboard; these workers are susceptible to eyestrain, back discomfort, and hand and wrist problems such as carpal tunnel syndrome.

Education/Training

How to Obtain:

Database administrator positions will occasionally require only a 2-year degree or certificate. However, more advanced positions require completion of a four year bachelor's degree program (BA/BS), generally in a computer related field. Employers in a technical or scientific environment look for applicants who have a degree in a

technical field, such as computer science, information science, applied mathematics, engineering, or the physical sciences. For jobs in a business environment, employers often seek applicants with a degree in a business-related field such as management information systems (MIS).

A Master's Degree (MA/MS), in one of these fields may be necessary for more complex jobs or for career advancement (completion time is generally 2 years). A two year Master's Degree in Business Administration (MBA) with a concentration in information systems is preferred by some employers.

Some employers require specific certifications which are generally offered by product vendors, software firms or specialized certification organizations. Major product vendors and software firms offering certification include but are not limited to Microsoft Oracle, IBM, and MySQL. The basic Database Administrator Certifications offered by these companies are:

- Microsoft: Microsoft Certified Technology Specialist (MCTS) - This certification is in a specific application or program. MCTS certification in a specific application or program is granted to a candidate who takes and passes the corresponding MCTS examination.

- Microsoft: Microsoft Certified Database Administrator (MCDBA) - This certification requires a candidate to take and pass four exams.

- Oracle: Oracle Database Administrator Certified Associate (ODA) - This certification requires a candidate to take and pass two exams.

- IBM: One of the various DB2 administrator certifications. These certifications each require a candidate to take and pass two exams.

- MySQL: MySQL Certified Associate. This certification requires a candidate to take and pass one exam.

The ICCP offers the Certified Computing Professional (CCP) designation. To earn this certification, a candidate must:

- Pass the core exam and

- Pass two specialty exams.

Examples of specialty exams include:

- Information Systems - CORE

- Business Information Systems

- Business Process Management

- Data Management

- Database Administration

- Data and Information Quality

More Information on Certification:

- ICCP Certified Computing Professionals (CCP):
  http://www.iccp.org/iccpnew/ccp.html

- Microsoft Certified Technology Specialist (MCTS):
  http://www.microsoft.com/learning/en/us/certification/mcts.aspx#tab2

- Microsoft Certified Database Administrator (MCDBA):
  http://www.microsoft.com/learning/en/us/certification/mcdba.aspx

- Oracle Database Administrator Certified Associate (ODA):
  http://education.oracle.com/pls/web_prod-plq-
  dad/db_pages.getpage?page_id=198&p_org_id=&lang=

- IBM DB2 Administrator:
  http://www-03.ibm.com/certify/certs/dm_index.shtml

- MySQL Certified Associate:
  http://www.mysql.com/certification/

Average Costs:

Tuition and fees for a master's degree earned at a public university in the following areas average per year* as follows: Computer science, information science, applied mathematics, engineering: $12,800; Physical Sciences: $10,200; Management information systems: $11,400; Business Administration (MBA): $16,000. Completion time is generally two years.

Total Cost of Certification Exams, not including the cost of exam study aids:

- Microsoft Certified Technology Specialist (MCTS): $125 per application or program

- Microsoft Certified Database Administrator: $500

- ICCP Certified Computing Professional (CCP): $855

- Oracle Database Administrator Certified Associate (ODA): $250 - $390

- IBM DB2 Administrator: $400

- MySQL Certified Associate: $500

*Note: This figure does not include federal, state, or university financial aid resources such as grants, fellowships, scholarships or work study. It also does not include

vocational rehabilitation or other state resources available specifically to people with disabilities. Out-of-pocket expense may be significantly less.