Lesson Proper for Week 14

7. Computer Systems Analysts

Computer systems analysts, or systems architects, create new systems and procedures to optimize an organization's computer needs. Computer systems analysts often have both a sophisticated understanding of IT and a strong background of industry-specific knowledge like healthcare, finance or marketing. For example, in a healthcare setting a computer systems analyst may be tasked with modifying or designing a system used for storing and sharing patient medical records. That information may require special legal considerations, so analysts who understand the laws governing patient information and how this system will be used by providers are critically important.

Computer Systems Analyst Skills & Competencies

In addition to the technical knowledge necessary for the job, computer systems analysts need to possess certain soft skills to be effective at their tasks.

· **Problem-solving and critical thinking:** These abilities are necessary to identify problems and then evaluate alternative solutions to determine which one is best.

· **Communication:** Excellent listening skills allow analysts to understand clients' or colleagues' needs. Strong verbal communication skills make it easier to convey information effectively.

· **Reading comprehension:** Computer systems analysts have to read manuals and technical reports to keep up with advances and implement new technology that meets employers' or clients' needs.

· **Writing:** Expect to produce written reports of recommendations.

· **Analytical skills:** The ability to analyze large amounts of data quickly and efficiently is necessary.

· **Creativity:** Computer systems analysts must be able to continually generate new ideas.

Database Administrator Skills & Competencies

Here's a list of database administrator skills that employers seek in candidates for employment. Skills will vary based on the job for which you're applying:

- **Analytical skills:** DBAs must monitor the database performance and evaluate complex information coming from a variety of sources.
- **Communication skills:** Most DBAs work on teams and must communicate effectively with managers, developers, and other workers.
- **Detail-oriented:** Working with a database requires the administrator to have an understanding of complex systems, and how a minor error can cause major problems. For example, if customer credit card information gets mixed up, it can cause people to be charged for purchases they didn't make.
- **Problem-solving skills:** When problems come up, administrators must troubleshoot them and resolve the problems.

Typical duties:

8. Database Administrators

Businesses and organizations generate and collect a massive amount of data in order to fuel their daily operations. Database administrators are the professionals who help store, secure and organize that data. They are tasked with building databases that logically store information in a way that works well with the systems that may accessing this information. They may also be responsible for data recovery efforts and creating data backups.

9. Network Systems Administrators

Network and computer systems administrators are responsible for an organization's networks. While a computer network engineer designs an organization's network, a network system administrator is more responsible for the day-to-day operation of those networks and ensuring they're working as intended. Network systems administrators may provide direct user support or supervise computer support specialists. This role is often a logical next step in the career ladder for user support specialists, and often their work focuses on larger scale or more complex network issues.

Network Administrator Skills & Competencies

Although the technical skills you can obtain through formal training and certifications are critical to getting a job, network administration also requires certain soft skills and personal qualities.

· Problem-solving skills: Strong problem-solving skills will allow you to identify problems within an organization's computer network.

· Critical thinking skills: Excellent critical thinking skills will let you weigh all possible options and determine which will be most effective solutions to a problem.

· Listening and speaking skills: These skills will help you communicate with your colleagues.

· Reading comprehension skills: You'll need very good reading comprehension skills to understand written documentation.

10. Data Scientist

A data scientist analyzes and organizes data to determine trends that can influence business decisions. Their methods and

IT tools use statistics and machine learning to help collect and process a company's data such as financial records, sales, prospects and lead generation. Some duties vary for specific industries. For example, data scientists in the healthcare industry keep electronic health records (EHRs) intact for hospitals to have access to confidential medical information. They may also use data to help healthcare organizations make sound business decisions.

11. IT Technician

- Working alongside managers and other subject matter experts to assess an organization’s IT needs
- Researching and analyzing the potential benefits and drawbacks of new technologies
- Choosing and configuring new hardware and software to meet organizational needs
- Managing the installation of new computer systems
- Training end users and creating instruction manuals or other key documentation

Typical duties:

- Creating back-ups of data and recovering lost data
- Ensuring user permissions for data use are valid and up to date
- Merging existing databases into new databases
- Identifying user needs in order to create new databases
- Maintain proper function of all databases

Typical duties:

- Making upgrades and repairs to networks
- Securing network and computer systems
- Adding users to a network
- Training users on hardware and software
- Troubleshooting user problems

An IT technician collaborates with support specialists to analyze and diagnose computer issues. They also monitor processing functions, install relevant software and perform tests on computer equipment and applications when necessary. They may also train a company's employees, clients and other users on a new program or function as well.

12. Quality Assurance Tester

Quality assurance testers are technicians or engineers who check software products to see if they're up to industry standards and free of any issues. This role is common for gaming systems, mobile applications and other technology that needs further testing and maintenance when recommended.

Other IT Jobs

Here are other related positions to explore in the IT industry:

· **Management information systems director:** A management information systems director spearheads the implementation of software, equipment installation and other projects to improve the quality of a company's information systems.

· **Web administrator:** A web administrator sets up an organization's web host, grants access for specific users, creates mail servers and helps users understand the basic functions of the system they're using.

· **Applications engineer:** An application engineer is a liaison between engineers and customers. They review customer sales data and to assist in producing and testing complex software programs. They also present engineers' findings to the public to render feedback on changes that need to be made.

· **Data quality manager:** A data quality manager manifests data practices for an organization. For example, they can establish processes with a customer relationship management (CRM) system to keep the operational quality high for its users.

· **Help desk technician:** A help desk technician renders technical support to address issues with a company's hardware or software equipment. They can serve as in-house or remote employees and must convey issues to employees in a clear and understandable way.

· **IT coordinator:** An IT coordinator completes administrative tasks to help maintain an organization's computer networks. Some tasks include giving IT advice to users, providing training to new employees and applying new IT practices to computer hardware or software.

· **Cloud system engineer:** A cloud system engineer estimates the amount of database storage a company has and measures the availability of programs for the user. They also evaluate if data is being processed correctly within an organization's cloud infrastructure.

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