Minnesota Dual-Training Pipeline
Competency Model for Information Technology
Occupation: Database Administrator

Employer-Specific Requirements

Occupation-Specific Competencies*
- Monitor systems and platforms
- Database system issue resolution
- Administer database projects
- Infrastructure support
- Database performance and reliability
- Database standards

Industry-Sector Technical Competencies*
- Network, system configuration and management
- Data backup, disaster recovery
- Network support and security
- Hardware devices, platforms
- Database updates and collaboration

Industry-Wide Technical Competencies
- Principles of information technology
- Databases, applications compliance
- Networks, telecom, wireless and mobility
- Software development and management
- User and customer support
- Digital media and visualization
- Risk management, security and information assurance

Workplace Competencies
- Business fundamentals
- Teamwork
- Innovative thinking
- Planning and organizing
- Problem solving and decision making
- Working with tools and technology

Academic Competencies
- Reading
- Writing
- Mathematics
- Science
- Communication
- Critical and analytic thinking
- Fundamental IT user skills

Personal Effectiveness Competencies
- Interpersonal skills and teamwork
- Integrity
- Professionalism
- Initiative
- Dependability and reliability
- Adaptability and flexibility
- Lifelong learning

*Pipeline recommends the Industry Sector Technical Competencies as formal training opportunities (provided through related instruction) and the Occupation-Specific Competencies as on-the-job training opportunities.

Based on: Information Technology Competency Model Employment and Training Administration, United States Department of Labor, September 2012.
Competency Model for Database Administrator

**Database Administrator** – An individual responsible for directing or performing all activities related to maintaining a successful database environment. This professional ensures an organization’s database, and its related applications operate functionally and efficiently. Plans, coordinates, and implements security measures to safeguard computer databases.

**Industry-Sector Technical Competencies**

- **Network/system configuration and management** – Understand the design of a computer network, the framework for the specifications of a network's physical components and their functional organization and configuration, principles, procedures, and data formats.
- **Data backup, disaster recovery** – Know how to document maintenance, organize duplicated documents and tools in safe places, and a documented process or set of procedures to recover and protect a database infrastructure in the event of a disaster.
- **Cloud** – Understand a scalable content database running on a cloud computing platform.
- **Network support and security** – Know the policies adopted to prevent and monitor unauthorized access, misuse, modification, or denial of a computer network and network-accessible resources. Network security involves the authorization of access to data in a network, which is controlled by the database administrator.
- **Database updates and collaboration** – Understand the integration of various communications methods with collaboration tools such as virtual white boards, real-time audio and video conferencing, and enhanced call control capabilities.
- **Systems analysis** – Know the act and process of analyzing complex processes or operations to improve efficiency, especially by applying a computer system.
- **Hardware devices/platforms** – Able to use compatible hardware on which software applications can be run.
- **Monitoring** – Understand the established process to identify and react to potentially malicious activity.

**Occupation-Specific Competencies**

- **Monitor systems and platforms** – Understand the established process to identify, assess, adjust, maintain, and support databases and platforms.
- **Database system issue resolution** – Know how to identify, scrutinize, and rectify problems with databases.
- **Administer database projects** – Able to organize a process of initiating, planning, executing, controlling, and closing the work of a team to develop and maintain a database.
- **Infrastructure support** – Understand and work with end business users to ensure seamless infrastructure operation.
- **Database performance and reliability** – Able to verify that the database network and systems are performing well and seamlessly.
- **Database standards** – Understand how to set and maintain database standards.
# Database Administrator Training Plan

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<th>Related Instruction Competencies</th>
<th>List Course/Training Name and Title</th>
<th>Description of Courses and/or Training Program</th>
<th>List Responsible Provider: Company, College, Trainer, or other</th>
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## On-The-Job Training Competencies

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