

Work Process Schedule

WORK PROCESS SCHEDULE ¹		O*NET-SOC Code: 15-1141.00	
Database Technician (Alternate Title: Database Administrator)		RAPIDS Code: 1130CB	
Job Title:			
Level:		Specialization:	
Stackable Program ___yes ___no			
Base Occupation Name:			
Company Contact:			
Address:		Phone:	Email:
Apprenticeship Type:		Prerequisites:	
<input type="checkbox"/> Competency-Based <input type="checkbox"/> Time-Based <input type="checkbox"/> Hybrid			
JOB FUNCTION 1: Installs and configures database management systems and server software for database usage			
Competencies	Core or Optional	OJT	RTI
A. Sets adequate user rights	Core		
B. Develops code using modern programming languages that connect DBS and API	Core		
C. Designs data distribution and data availability and backup procedures	Core		
D. Produces entity relationship and dataflow mapping, database normalization schemata and data table models	Core		

¹ See full framework for certifications and occupational pathways, cross-cutting competencies, and detailed job functions at <https://www.dol.gov/cgi-bin/leave-dol.asp?exiturl=https://www.urban.org/policy-centers/center-labor-human-services-and-population/projects/competency-based-occupational-frameworks-registered-apprenticeships&exitTitle=www.urban.org>.

E. Plans and implement application and data provisioning	Core		
F. Applies basic security measures to configuring databases and servers including sanitization and counter-injection	Core		
G. Uses Data Definition Language and Data Manipulation Language as needed to establish and configure database and servers	Core		
H. Prioritizes work appropriately to meet deadlines, maintain focus, and solve complex tasks, seeking help as needed to address problems as they arise	Core		
I. Integrates measures to ensure privacy, confidentiality and data protection in adherence with state, federal and international rules and legislation and employers' best practices	Core		
J. Monitors organizational policies and procedures ensuring adherence to federal, state and international legislative requirements in order to implement and manage change	Core		
K. Communicates updates and issues with team members and clients in a professional manner, often in clear and non-technical ways	Core		
JOB FUNCTION 2: Supports maintenance of database management systems and server software			
Competencies	Core or Optional	OJT	RTI
A. Designs data distribution and disaster recovery solutions to capture information needed for storage and future troubleshooting	Core		
B. Implements back-up and recovery methodologies to enable restoration capability in the event of an interruption or disaster	Core		
C. Documents and disseminates interruption and disaster recovery procedures	Core		
D. Plans and implements application and data provisioning to appropriate users, exercising high levels of customer service and clear forms of communication, as needed	Core		
E. Researches and stay current on technology	Core		
JOB FUNCTION 3: Optimizes hardware and software performance			
Competencies	Core or Optional	OJT	RTI

A. Optimizes database instances, partitions, and access for performance	Core		
B. Implements and confirms database replication	Core		
C. Tests system and documents process protocols and results	Core		
D. Implements framework for logging and error handling	Core		
JOB FUNCTION 4: Plans and coordinates data migration and conversion between in house and cloud service			
Competencies	Core or Optional	OJT	RTI
A. Identifies and confirms software, hardware, or environmental prerequisites for database conversion and migration	Core		
B. Plans effective strategies for extraction, conversion and loading pipeline	Core		
C. Prepares and transports data between servers and storage devices	Core		
D. Ensures seamless migration and conversion with minimal disruption	Core		
E. Validates data accuracy and integrity of migrated and converted data	Core		
F. Verifies and documents conversion and migration results	Core		
G. Tests and designs user rights	Core		
H. Manages and supports legacy systems	Core		
I. Monitors and optimizes database usage	Optional		
J. Ensures appropriate security standards during migration and conversation processes	Core		
JOB FUNCTION 5: Secures server and network			
Competencies	Core or Optional	OJT	RTI
A. Assesses network security threats and vulnerabilities	Core		
B. Configures perimeter to secure network	Core		

C. Installs, configures, and tests network security	Optional		
D. Reviews logs and audit reports to identify and record security incidents, intrusions, or attempts	Core		
E. Analyzes and monitors server security and implement countermeasures (like patches and fixes) to address existing and potential vulnerabilities and threats	Optional		
F. Determines, implements, and monitors encryption	Core		
G. Develops and implements security and confidentiality protocols	Core		
H. Tests and verifies design performance and user permissions	Core		
JOB FUNCTION 6: Writes SQL statements and subqueries that use functions and selectively retrieve, sort, and calculate data, statistics, and values			
Competencies	Core or Optional	OJT	RTI
A. Reads and comprehends query language SQL and/or NOSQL relational and document storage databases	Core		
B. Writes SQL statements that use functions and selectively retrieve and sort data and values	Core		
C. Writes and executes queries and subqueries	Core		