

SKILLS FRAMEWORK FOR INFOCOMM TECHNOLOGY SKILLS MAP – DATABASE SUPPORT ENGINEER		
Sector	Infocomm Technology	
Track	Operations and Support	
Sub-track	Database Support	
Occupation	Database Support Engineer	
Job Role	Database Support Engineer	
Job Role Description	<p>The Database Support Engineer undertakes complex projects requiring additional technical knowledge and makes decisions on ambiguous administrative and support issues. He/She applies highly developed specialist knowledge and skills in database administration. He implements database improvements and provide the necessary advice on setting up new databases, optimising database performance, and resolving issues that arise during the set-up and update on databases. He is also responsible for resolving database related incidents and ensuring database security and integrity controls are in place.</p> <p>He works in a team setting and is proficient in database administration, database management-related tools and techniques required by the organisation. He is also familiar with the relevant software platforms on which the database is deployed on.</p> <p>The Database Support Engineer is able to methodically identify causes of complex issues, evaluate it and develop solutions in collaboration with the team. He is able to communicate effectively and displays high service level standards.</p>	
Critical Work Functions and Key Tasks	Critical Work Functions	Key Tasks
	Oversee service level agreements and service improvements	Manage the development of service-level objectives and targets
		Monitor service level objectives to ensure that requirements are met or exceeded
		Develop client satisfaction metrics and service procedures
		Propose recommendations to improve performance and client satisfaction
	Oversee database administration	Advise senior management on database concepts and functional capabilities and implementation procedures
		Perform upgrades of databases, new structures or elements
		Build scripts to automate the daily operations of database management
		Install, configure and maintain the database management systems software
		Manage the migration of databases
	Design and develop new database	Develop database requirements based on requirements and business needs analysis
		Conduct risk assessments and analysis of proposed database designs
		Interpret internal or external business issues and recommends solutions and/or best practices
		Test new databases to ensure performance and smooth operations during deployment
		Verify stored procedures and functions for accessing, maintaining and populating databases
		Lead research initiatives to explore advances and automated approaches for database administration
		Translate logical data models into physical database designs
	Optimise database performance	Explore opportunities to optimise the delivery of database services with emphasis on availability, reliability, scalability, and security
		Conduct database audits and maintenance
		Develop automated processes to define, measure, and report on service quality, stability and capacity

		Monitor, analyse and calibrate DBMS parameters to ensure database is tuned for optimal performance			
		Forecast utilisation patterns and propose modifications or upgrades			
		Conduct application transaction volume and traffic analysis, and interpret the impact on database performance			
	Resolve database incidents	Investigate escalated of database issues to determine potential solutions			
		Ensure 24 x 7 production support and/or database access			
		Oversee adherence to organisational database procedures, policies and protocols			
	Manage database security	Design security and data integrity controls			
		Maintain and monitor database security, integrity and access control			
		Recommend and implement database solutions to support data integrity efforts			
		Implement required security controls designed around data and databases			
		Provide audit trails to detect potential security violations			

Skills and Competencies	Technical Skills and Competencies		Generic Skills and Competencies	
	Business Needs Analysis	Level 3	Communication	Intermediate
	Business Continuity	Level 4	Interpersonal Skills	Intermediate
	Configuration Tracking	Level 3	Problem Solving	Basic
	Cyber and Data Breach Incident Management	Level 3, Level 4	Service Orientation	Basic
	Data Engineering	Level 3	Teamwork	Intermediate
	Data Migration	Level 4		
	Database Administration	Level 4		
	Infrastructure Support	Level 3		
	IT Asset Management	Level 3		
	IT Strategy	Level 4		
	Learning and Development	Level 4		
	People and Performance Management	Level 3		
	Performance Management	Level 4		
	Problem Management	Level 3		
	Process Improvement and Optimisation	Level 4		
	Procurement	Level 3		
	Project Management	Level 4		
	Stakeholder Management	Level 4		
	Strategy Implementation	Level 3		
	Security Administration	Level 4		

Programme Listing	For a list of Training Programmes available for the ICT sector, please visit: www.skillsfuture.sg/skills-framework/ict
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The information contained in this document serves as a guide.

