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| **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** | 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.  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.   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. | | | | |
| **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. | | | | | |