|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **SKILLS FRAMEWORK FOR INFOCOMM TECHNOLOGY SKILLS MAP – INFRASTRUCTURE ENGINEER** | | | | | | |
| **Sector** | Infocomm Technology | | | | | |
| **Track** | Infrastructure | | | | | |
| **Sub-track** | Build and Maintain | | | | | |
| **Occupation** | Infrastructure Engineer | | | | | |
| **Job Role** | **Infrastructure Engineer** | | | | | |
| **Job Role Description** | The Infrastructure Engineer is responsible for the implementation, testing, optimisation and virtualisation of infrastructure across on-premise, cloud and network infrastructure. He/She performs activities pertaining to infrastructure deployment and performance to ensure delivery of infrastructure solutions in alignment with service standards. He oversees major maintenance and troubleshooting issues, and is responsible for executing upgrades to infrastructure systems.  He is familiar with various types of infrastructure systems and platforms, including networks, servers, systems and applications.  The Infrastructure Engineer takes a critical and methodical approach towards implementing infrastructure projects performance monitoring. He also maintains high standards of quality and collaborates with team members to resolve complex issues. | | | | | |
| **Critical Work Functions and Key Tasks** | **Critical Work Functions** | **Key Tasks** | | | | |
| **Oversee infrastructure deployment** | Assist in the design and implementation of infrastructure solutions across on-premise and cloud infrastructure that adhere to current architecture standards | | | | |
| Evaluate the feasibility of integrating or adopting emerging cloud and infrastructure technologies | | | | |
| Lead the testing of implemented infrastructure solutions to ensure requirements are met | | | | |
| Manage the integration of third-party technologies into cloud infrastructure | | | | |
| Develop documentation on administration, installation, configuration and troubleshooting | | | | |
| Develop system and service deployment scripts | | | | |
| Conduct technical analysis of complex software, hardware and infrastructure equipment | | | | |
| Oversee adherence to security requirements for infrastructure operations | | | | |
| **Optimise infrastructure performance and systems** | Monitor metrics for performance, reliability, availability, security and billing of infrastructure systems to proactively right-size infrastructure load | | | | |
| Analyse and present findings on infrastructure capabilities and limitations | | | | |
| Tune infrastructure and cloud systems to ensure optimal performance | | | | |
| Conduct technical analysis to determine the extent to which solutions perform “as required” to ensure that future solutions meet anticipated demand | | | | |
| Support initiatives to improve the infrastructure systems and service delivery through automation and virtualisation | | | | |
| Develop reports on performance, reliability and availability of infrastructure systems by review of service uptime, utilisation and throughput | | | | |
| **Resolve infrastructure-related incidents** | Resolve escalated or major issues relating to infrastructure operations | | | | |
| Simulate user problems to perform end-to-end diagnosis for infrastructure incidents | | | | |
| Assist senior management in disaster recovery planning and testing | | | | |
| Implement improvements to infrastructure resolution methods and techniques | | | | |
| Maintain controls and documentation to ensure compliance with audit requirements | | | | |
| Analyse audit trails to detect systematic security violations related to infrastructure | | | | |
| Oversee compliance to procedures and policies for infrastructure-related incidents | | | | |
| Guide and/or train teams to resolve infrastructure-related incidents | | | | |
| **Manage infrastructure upgrades** | Identify key infrastructure operations issues and maintenance priorities | | | | |
| Manage the implementation of agreed infrastructure change requests and maintenance routines | | | | |
| Organise schedules for planned maintenance and system back-up processes | | | | |
| Oversee improvements to maintenance capability by using automation for upgrades, enterprise back-up and storage | | | | |
| **Skills and Competencies** | **Technical Skills and Competencies** | | | **Generic Skills and Competencies** | | |
| Applications Integration | | Level 4 | Service Orientation | | Intermediate |
| Budgeting | | Level 3 | Problem Solving | | Advanced |
| Business Environment Analysis | | Level 3 | Resource Management | | Intermediate |
| Business Innovation | | Level 4 | Teamwork | | Basic |
| Business Needs Analysis | | Level 3 | Sense Making | | Intermediate |
| Business Requirements Mapping | | Level 3 |  | | |
| Business Risk Management | | Level 3 |
| Change Management | | Level 3 |
| Cloud Computing | | Level 4 |
| Configuration Tracking | | Level 3 |
| Contract Management | | Level 3 |
| Cyber and Data Breach Incident Management | | Level 4 |
| Emerging Technology Synthesis | | Level 4 |
| Infrastructure Deployment | | Level 4 |
| Infrastructure Design | | Level 4 |
| Infrastructure Support | | Level 4 |
| Network Administration and Maintenance | | Level 3 |
| Network Configuration | | Level 3 |
| Network Security | | Level 4 |
| Partnership Management | | Level 3 |
| Performance Management | | Level 4 |
| Problem Management | | Level 3 |
| Process Improvement and Optimisation | | Level 3 |
| Procurement | | Level 3 |
| Quality Engineering | | Level 4 |
| Security Administration | | Level 3 |
| Service Level Management | | Level 3 |
| Software Configuration | | Level 3 |
| Solution Architecture | | Level 4 |
| Stakeholder Management | | Level 3 |
| Test Planning | | Level 3 |
| Vendor Management | | Level 4 |
| **Programme Listing** | For a list of Training Programmes available for the ICT sector, please visit: www.skillsfuture.sg/skills-framework/ict | | | | | |  |
|  |  |  | |  |  | |
| The information contained in this document serves as a guide. | | | | | | |  |  |
|  | | | | | | |  |  |
|  | | | | | | |  |  |
|  | | | | | | |  |  |
|  | | | | | | |  |  |