SKILLS FRAMEWORK FOR INFOCOMM TECHNOLOGY
SKILLS MAP – SYSOPS ENGINEER

Sector	Infocomm Technology
Track	Infrastructure
Sub-track	Build and Maintain
Occupation	Infrastructure Engineer
Job Role	**SysOps Engineer**
Job Role Description	The SysOps Engineer is responsible for the configuration, reliability and efficiency of systems. He/She optimises the capacity and performance of infrastructure, using knowledge of coding and scripting to automate the resolution of recurring issues and elimination of tasks, as well as enabling scalable and distributed systems. He also supports system installation and upgrades, performs continuous monitoring of infrastructure and ensures security and compliance in leveraging cloud platforms. He possesses a high level of proficiency in scripting and programming languages. He is familiar with cloud platforms, scaling and management of infrastructure. He works well with a variety of internal and external stakeholders. He is able to work on an on-call and shift basis, with the ability to prioritise effectively and operate under pressure. The SysOps Engineer enjoys hands-on problem-solving and is driven by investigating challenging, complex problems. He is a resourceful and self-directed individual who performs independently with minimal guidance. He is also an analytical thinker who demonstrates strong interpersonal skills in cross-team collaboration.

	Critical Work Functions	**Key Tasks**
Critical Work Functions and Key Tasks	**Develop infrastructure architecture and standards**	Develop processes and standards for system or application reliability in areas of availability, performance, latency, capacity, emergency response, capacity planning, change management, security and monitoring
		Translate business needs into cloud architectural requirements
		Design scalable, robust systems using cloud architecture
		Create procedures and documentation for site reliability and incident management
	Configure and deploy infrastructure	Build and run large-scale, massively distributed and fault-tolerant systems
		Perform provisioning of cloud resources
		Configure infrastructure environment for software development and prototyping
		Conduct pre-deployment testing of systems to ensure reliability
		Implement operational cost control mechanisms for cloud infrastructure
		Identify and resolve deployment issues
	Monitor infrastructure and resolve issues	Oversee configuration of operational systems to ensure alignment with technical and security requirements
		Conduct measurement and monitoring of overall performance, system health, system availability, and latency
		Provide proactive updates or alerts on infrastructure availability to relevant stakeholders
		Address gaps in performance or availability based on identified metrics
		Carry out testing and release procedures to ensure rigour of infrastructure and services
		Resolve service operation issues and prevent recurrence using automation
		Perform regular tuning of infrastructure and services
	Automate infrastructure operations and optimise performance	Conduct capacity planning for cloud infrastructure and systems performance analysis
		Identify opportunities to enhance operational workflows, systems and processes through automated deployment

		Develop tools and scripts to automate deployments and optimise performance
		Create an operating environment for monitoring, alerting, self-healing and automated recovery
	Embed scalability into infrastructure	Devise strategies and roadmap for scaling of infrastructure operations
		Design and write code for scalable systems
		Scale systems through automation to manage recurring tasks
		Propose suggestions to enhance infrastructure architecture
	Manage data, security and compliance	Configure cloud platforms and applications in alignment with organisational cyber security policies
		Implement identity and access management controls
		Execute procedures to ensure data protection and encryption
		Monitor compliance of data management and retention processes

Skills and Competencies	**Technical Skills and Competencies**		**Generic Skills and Competencies**	
	Agile Coaching	Level 4	Problem Solving	Advanced
	Applications Development	Level 4	Service Orientation	Intermediate
	Applications Integration	Level 4	Resource Management	Intermediate
	Budgeting	Level 3	Teamwork	Basic
	Business Agility	Level 4	Sense Making	Intermediate
	Business Environment Analysis	Level 3		
	Business Innovation	Level 4		
	Business Needs Analysis	Level 3		
	Business Requirements Mapping	Level 3		
	Business Risk Management	Level 3		
	Change Management	Level 3		
	Cloud Computing	Level 4		
	Configuration Tracking	Level 3		
	Continuous Integration and Continuous Deployment	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		

	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
	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.