

SKILLS FRAMEWORK FOR INFOCOMM TECHNOLOGY SKILLS MAP – DEVOPS ENGINEER		
Sector	Infocomm Technology	
Track	Software and Applications	
Sub-track	Software Engineering	
Occupation	Software Engineer	
Job Role	DevOps Engineer	
Job Role Description	<p>The DevOps Engineer is responsible for the design and implementation of applications' build, release, deployment and configuration activities, and is a team member for the agile development process. He/She builds the continuous integration and continuous deployment pipeline and prioritises development items in the pipeline. He develops Proof-of-Concepts to evaluate feasibility of the software application and tools for the development team, and develops suitable application and tools. He determines specifications and features for the next iteration of software application development based on user needs and feedback, continuously integrates code changes, and conducts various automated testing to ensure the software application remains functional. He also performs continuous deployment through automating the deployment process, and manages the releases of software application versions and features.</p> <p>He works with internal business partners to gather requirements, prototyping, architecting, implementing and/or updating solutions, building and executing test plans, performing quality reviews, managing operations, and triaging and fixing operational issues. He works in a fast-paced environment and must be able to adjust to constant business change, evolving goals and strategies, and emerging technologies. He is proficient in programming languages required by the organisation, and is familiar with continuous integration and deployment tools, relevant platforms, automated testing tools, and configuration management tools. He is also knowledgeable of crypto primitives, authentication protocols and authorisation standards.</p> <p>The DevOps Engineer is innovative and analytical in nature, possessing strong communication and interpersonal skills to engage with stakeholders. He is a team player with the ability to perform independently with minimal guidance, and thrives in a dynamic environment. He is also a resourceful and self-motivated individual.</p>	
Critical Work Functions and Key Tasks	Critical Work Functions	Key Tasks
	Assess user needs and requirements	Determine software application and feature enhancement requirements based on business needs and user feedback
		Gather, analyse and document client needs and business requirements
		Draft technical and functional specifications
		Formulate solutions, alternatives and design specifications that support business and technical objectives
		Analyse client operations to understand strengths and weaknesses to uncover opportunities for improvement
	Develop applications and tools for development teams	Translate business and technical requirements to test cases, test scenarios and scripts
		Build IT solutions to meet business requirements and develops reusable components
		Install and configure software solutions
		Integrate solutions with other applications and platforms
		Develop program codes and logic for existing and/or new software applications and tools
		Perform script maintenance and updates to accommodate changes in requirements and/or implementation
		Build automation frameworks for the deployment, management, and monitoring of software applications and features
		Review software modules for quality assurance
		Set up and maintain test environment for manual and automated testing
		Determine specifications and features for the next iteration of application development

	Perform continuous integration of application features and enhancements	Automate security and risk management processes to enable continuous and consistent integration		
		Deploy security algorithms, protocols and self-healing features into the system infrastructure to reduce security breaches		
		Develop requirements, methods and procedures for routine maintenance		
		Perform security vulnerability and relevant automated testing to ensure the software application remains functional		
		Troubleshoot existing information systems to identify errors or deficiencies and develop solutions		
	Perform continuous deployment of enhanced applications	Build automated deployment using configuration management technology		
		Deploy new modules, upgrades and fixes to the production environment		
		Perform continuous monitoring of applications and its features		
		Perform automated and/or load tests to address issues		
		Evaluate existing applications and platforms and propose recommendations for improving performance by conducting gap analysis, identifying feasible alternative solutions, and assisting in the scope of modifications		
		Document and complete knowledge transfer to production support		
Skills and Competencies	Technical Skills and Competencies		Generic Skills and Competencies	
	Agile Coaching	Level 4	Computational Thinking	Advanced
	Agile Software Development	Level 3	Problem Solving	Advanced
	Applications Development	Level 4	Lifelong Learning	Intermediate
	Applications Integration	Level 4	Communication	Basic
	Applications Support and Enhancement	Level 3, Level 4	Teamwork	Intermediate
	Business Agility	Level 4		
	Business Environment Analysis	Level 3		
	Business Needs Analysis	Level 4		
	Business Requirements Mapping	Level 3		
	Business Risk Management	Level 3		
	Change Management	Level 4		
	Configuration Tracking	Level 3		
	Continuous Integration and Continuous Deployment	Level 3		
	Data Design	Level 4		
	Database Administration	Level 4		
	Emerging Technology Synthesis	Level 4		
	Network Configuration	Level 3		
	Performance Management	Level 4		
	Problem Management	Level 3		
	Project Management	Level 4		
	Quality Standards	Level 4		
	Security Administration	Level 3		

	Software Configuration	Level 4	
	Software Design	Level 4	
	Software Testing	Level 4	
	Stakeholder Management	Level 4	
	Systems Design	Level 4	
	System Integration	Level 4	
	Test Planning	Level 4	
	User Interface Design	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.