

**Specification of Competency Standards**  
**for the Information & Communications Technology Industry**  
**Unit of Competency**

Functional Area - Architecture

Title	Develop the microservices architecture
Code	111128L5
Range	Develop a microservices architecture reference model from various viewpoints to align with the business requirements as well as requirements from higher level architecture
Level	5
Credit	3 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Review the benefits and challenges of a microservices architecture</p> <ul style="list-style-type: none"> <li>• Be able to <ul style="list-style-type: none"> <li>○ understand the benefit of decomposing an application into microservices, such as modularity, scalability, integration, etc</li> <li>○ understand the protocols that microservices communicate with each other <ul style="list-style-type: none"> <li>▪ Synchronous</li> <li>▪ Asynchronous</li> <li>▪ UI integration</li> </ul> </li> <li>○ address the challenges of embarking on a microservices architecture <ul style="list-style-type: none"> <li>▪ Complexity</li> <li>▪ Lack of governance</li> <li>▪ Latency</li> <li>▪ Data integrity</li> <li>▪ Versioning</li> </ul> </li> </ul> </li> </ul> <p>2. Understand various microservices architecture reference models</p> <ul style="list-style-type: none"> <li>• Be able to <ul style="list-style-type: none"> <li>○ understand the development processes for building a microservices architecture</li> <li>○ identify the boundaries of the microservices</li> <li>○ understand the strategy of decomposing and decoupling a monolithic application into a series of microservices</li> </ul> </li> </ul> <p>3. Develop the microservices architecture by evaluating business capabilities, and the software and hardware environment.</p> <ul style="list-style-type: none"> <li>• Be able to <ul style="list-style-type: none"> <li>○ choose suitable hosting model for the computing resources</li> <li>○ depict the microservices that enable reasoning about critical requirements and constrains all subsequent refinements.</li> <li>○ conduct the evaluation and perform the analysis of the microservices</li> </ul> </li> </ul>
Assessment Criteria	The integrated outcome requirements of this UoC is the ability to develop a microservice architecture in alignment with the business capabilities, and software and hardware environment as well as the business requirements from higher level architecture
Remark	