



Australian Government

ICTCLD514 Create and test cloud-based serverless applications

Release: 1

ICTCLD514 Create and test cloud-based serverless applications

Modification History

Release	Comments
Release 1	This version first released with the Information and Communications Technology Training Package Version 8.0. Newly created unit of competency to address in-demand skills needs.

Application

This unit describes the skills and knowledge required to create and test cloud-based serverless applications. It includes the preparation required to create, test and update serverless applications.

The unit applies to individuals who may work in roles that include cloud computing operators, product managers, software engineers and DevOps engineers.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Cloud computing

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Confirm work tasks and set up serverless functions	1.1 Confirm work brief and tasks according to organisational policies and procedures 1.2 Confirm that application software is appropriate for selected cloud platform according to work brief 1.3 Identify serverless function event triggers and predict serverless application behaviour 1.4 Package application software in correct cloud platform format 1.5 Create serverless functions in cloud platform 1.6 Configure event triggers and invoke required serverless functions according to work brief

ELEMENT	PERFORMANCE CRITERIA
	1.7 Upload and deploy packaged software into serverless functions
2. Test serverless functions	2.1 Define test events for required serverless functions 2.2 Execute test events and confirm functionality 2.3 Rectify any functionality issues
3. Test serverless application	3.1 Configure event trigger for serverless functions 3.2 Execute event trigger for serverless functions 3.3 Analyse application responses, persistent data stores and function logs for accuracy, where required 3.4 Troubleshoot any application issues 3.5 Confirm application functionality according to analysis findings
4. Update application	4.1 Review application update requirements for serverless functions according to work brief 4.2 Deploy update to cloud platform according to work brief 4.3 Predict and test application behaviour change 4.4 Troubleshoot any function issues
5. Finalise documentation	5.1 Complete required documentation according to work brief and organisational policies and procedures 5.2 Save serverless applications in required location according to work brief and organisational policies and procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description
Reading	Organises, evaluates and critiques ideas and information from a range of complex texts
Planning and organising	- Identifies key factors that impact on decisions and their outcomes, drawing on experience, competing priorities, and decision-making strategies - Plans strategic priorities and outcomes in a flexible, efficient and effective context and diverse environment exposed to competing demands
Self-management	Develops and implements strategies that confirm that organisational policies and procedures and regulatory requirements are being met

Unit Mapping Information

No equivalent unit. Newly created unit.

Links

Companion Volume Implementation Guide is found on VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>

Assessment Requirements for ICTCLD514 Create and test cloud-based serverless applications

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- create and test at least two different serverless applications using different event triggers.

In the course of the above, the candidate must:

- report unusual serverless application activities within required timeframes
- apply required organisational policies and procedures.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- functions and features of serverless applications technologies, including:
 - application programming interfaces (APIs)
 - event-driven architectures and applications
 - programming languages
 - software development kits
 - hypertext transfer protocols (HTTPs)
 - uniform resource identifiers (URIs)
- functions and features of event triggers supported by cloud platforms, including:
 - API gateways
 - data streams
 - message queues
 - notifications and alarms
 - object storage

- methods to configure, test and manage serverless applications
- types of serverless packaging and deployment tools supported by cloud platforms
- methods to operate serverless packaging and deployment tools
- types of software and related requirements for serverless applications, including:
 - cloud platform concurrency
 - execution limits
 - functionality and performance review
 - cost models
 - log monitoring
- organisational policies and procedures, and legislative requirements relating to work tasks.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- a platform where serverless applications may be created and deployed
- work brief, resources, and organisational policies and procedures required to demonstrate the performance evidence.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

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