



Australian Government

ICTCLD401 Configure cloud services

Release: 1

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Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 6.0.

Application

This unit describes the skills and knowledge required to configure core cloud services including compute, storage, databases and autoscaling according to business needs and workload.

The unit applies to cloud computing architects, developers and cloud engineers utilising cloud services and those engaged in deploying cloud computing solutions for a business.

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. Select and secure access to cloud environment	1.1 Discuss and compare different cloud computing solutions, models and services according to business requirements and needs 1.2 Identify impact of shared security responsibility models 1.3 Select best cloud computing solution and service according to business requirements and needs 1.4 Access account on cloud platform according to business requirements and needs 1.5 Identify user access protocols and policies according to business requirements and needs 1.6 Configure access functions within cloud environment according to users, groups and required permissions

ELEMENT	PERFORMANCE CRITERIA
	1.7 Identify and assign security responsibilities according to security policies, business protocols and work function 1.8 Define workload according to business requirements and needs
2. Deploy virtual network	2.1 Create users and groups to create and manage infrastructure according to business requirements and needs 2.2 Create virtual multi-tier network to support core services and autoscaling 2.3 Create virtual machine according to business processing and operating system requirements 2.4 Define, add and expand storage on virtual machine according to business requirements and needs 2.5 Deploy a managed database within virtual network according to business requirements and needs 2.6 Test external network access and access between resources within virtual network and fix errors
3. Set up automatic scaling	3.1 Configure and apply autoscaling to virtual machines to scale according to business defined metrics 3.2 Test automatic scaling and fix errors as required
4. Finalise virtual network infrastructure	4.1 Document and communicate work to required personnel 4.2 Seek and respond to feedback as required 4.3 Save and store user documentation according to 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	Analyses and consolidates information and data from a range of sources against defined criteria and requirements, and checks for accuracy and completeness
Writing	Records required information and prepares documentation outlining work performed using appropriate language
Learning	Identifies ideas for other applications and considers them in current contexts
Planning and	Plans and implements routine tasks and workload, making limited decisions on sequencing, timing and collaboration, and seeks

SKILL	DESCRIPTION
organising	assistance in setting priorities
Self-management skills	• Makes low-impact decisions within familiar situations, based on a range of predefined or routine solutions, and evaluates effectiveness of outcome

Unit Mapping Information

No equivalent unit. New 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 ICTCLD401 Configure cloud services

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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, and to:

- build at least one simple virtual network capable of supporting a workload using cloud services
- configure compute, storage, database and autoscaling resources within virtual network
- conduct simple tests to confirm access to resources.

Knowledge Evidence

The candidate must demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit. This includes knowledge of:

- industry technology standards used in cloud computing solutions and services
- industry standard hardware and software products, their general features, capabilities and application, including storage technology
- principles and functions of cloud computing solutions and technologies, including:
 - Infrastructure as a Service (IaaS)
 - Platforms as a Service (PaaS)
 - Software as a Service (SaaS)
- different cost models and cloud economic theories as they apply to different cloud services and non-cloud services, and benefits to each
- functions, features and uses of different virtual machine, networking and scaling options, including:
 - virtual machine sizing including CPU, memory, storage and network bandwidth
 - load balancing and autoscaling
 - performance monitoring and alarms
 - storage backups and lifecycle
 - virtual networks and traffic routing
- functions, benefits and differences of:

- vertical and horizontal scaling
- virtual and physical machines
- relational, data warehouse and no SQL databases
- self-hosted, managed and cloud-native database solutions
- storage options including:
 - block storage
 - object storage
 - archive storage
 - network filesystems
- user, business and vendor responsibilities according to shared security responsibility models
- user access protocols and policies according to organisation hierarchy and job function
- security policies, protocols and mechanisms as they relate to cloud technologies and methodologies including:
 - securities as it applies to limiting network traffic within virtual networks
 - security responsibilities as it applies to different work functions and user access
- purpose of domain name system (DNS) required to connect remote servers when web browsing
- functions, uses and differences of cloud models, including:
 - on-premise and private cloud
 - hybrid cloud
 - public cloud.

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:

- cloud vendor service provider
- cloud managed database service
- internet and web browser
- data to gather information from to determine output and user requirements, including user access and business protocols.

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

Links

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