



Australian Government

MEM29008 Analyse and manage data in cloud-based systems

Release: 1

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Modification History

Release 1. New unit.

Application

This unit defines the skills and knowledge required to analyse and manage data in cloud-based systems associated with implementation of Industry 4.0 systems and technologies in a workplace.

It requires the ability to identify sources of data, use and manage data storage and access and process data. It also includes the analysis of collected and stored data. The unit does not address data analytics.

This unit applies to individuals who work within an Industry 4.0 workplace environment and as part of their role, capture, store, and analyse structured and unstructured data using technologies such as cloud-based systems and techniques to support and optimise processes.

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

Pre-requisite Unit

Nil

Competency Field

Applied technologies

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Manage data storage	1.1 Identify sources of data within the organisation 1.2 Identify big datasets useful for later data analytics and data intensive Industry 4.0 applications 1.3 Identify computing and network infrastructure used in the organisation to access cloud storage 1.4 Store, record, and access data according to organisational requirements 1.5 Apply data security and backup measures to manage risk in

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	accordance with organisational risk management plan and procedures 1.6 Identify cyber security system alerts and take action according to workplace procedures 1.7 Identify and troubleshoot data discrepancies and anomalies 1.8 Work with relevant personnel to apply mitigation strategies for any identified data discrepancies and anomalies
2. Access and process data	2.1 Identify systems in use within the workplace to access and process data 2.2 Confirm protocols, permissions, and organisational requirements for accessing and processing data 2.3 Identify different levels of data access and permissions based upon cyber security and organisational requirements 2.4 Use system controls to interface with cloud 2.5 Locate and retrieve the required data according to organisational policies and procedures 2.6 Export data in appropriate format according to task and data system requirements
3. Analyse and interpret data	3.1 Identify data analysis tools and technologies in use at organisation 3.2 Assess quality and relevance of data based on task requirements 3.3 Analyse data to identify patterns, trends and relationships 3.4 Interpret patterns, trends or relationships in data to identify actionable insights 3.5 Record findings and insights and refer to appropriate personnel, according to organisational policies and procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Industry 4.0 related systems include one or more of the following:

- industrial internet of things (IIoT) devices
- collaborative robots
- networked and cloud connected traditional robots and other industrial automation
- networked and cloud connected supervisory control and data acquisition systems (SCADA)
- networked and cloud connected enterprise resource planning (ERP) systems
- networked and cloud connected CAD and CAM systems
- digital twins
- augmented and virtual reality systems
- networked and cloud connected CNC and additive manufacturing machines
- networked and cloud connected data storage and processing facilities
- networked and cloud connected edge devices
- other networked and cloud connected digital devices and systems relevant to the workplace

Sources of data include one or more of the following:

- radio frequency identification (RFID) tags
- barcoded items
- sensors
- programmable logic controllers (PLCs)
- supervisory control and data acquisition system (SCADA) output
- historical process data

Computing infrastructure includes:

- on demand services
- products
- virtual servers
- virtual PCs
- virtual switches
- storage clusters
- networking

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>