



Australian Government

Department of Education, Employment and Workplace Relations

ICAB4247A Link an RFID system to a database

Release: 1

ICAB4247A Link an RFID system to a database

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit defines the competency required to transfer RFID data to a database. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.
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Application of the Unit

Application of the unit	
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Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units		
	ICAB4136B	Use structured query language to create database structures and manipulate data

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Determine data mapping and integration requirements	1.1. Identify and document the format of the data from the RFID system including data schema 1.2. Collect required data, target database requirements and implementation details ensuring uniqueness of entries
2. Perform data transition	2.1. Write and test conversion programs and use conversion tools 2.2. Ensure clean data take-on by converting according to database requirements 2.3. Utilize database adaptors and interfaces for data transition
3. Check data transition	3.1. Verify that data transition has been completed in accordance with requirements 3.2. Document programs, procedures and processes in accordance with clients requirements 3.3. Provide conversion reports to client for signoff

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- ISO/IEC standard 15962:2004 used as reference
- Database data formats
- RFID data formats
- Data conversion programs
- Sample data conversion program used as model to write program
- Data base reports discussed and sample reports generated
- Analysis skills to determine data objects required, data structures, business requirements
- Registering a data source name (DSN)
- Use of website administration software and site server utilities
- Ability to build a database using a commercially available database product, including: MS SQL server 7.0, Oracle, Sybase
- HTML/XML

REQUIRED SKILLS AND KNOWLEDGE**Required knowledge**

- Knowledge of clients database data structures
- Broad knowledge of the client's data management and data security policies and procedures
- Broad knowledge of system data requirements
- Knowledge of software tools
- Detailed knowledge of the system's current functionality (e.g. when performing data transition)
- Programming skills
- Broad knowledge of quality assurance practices (e.g. when checking data integrity)
- Data analysis, particularly in determining data types and data structures and query and report design
- CGI
- Primary files and transaction logs
- Open database connection (ODC)
- Website foundations
- Data source names (DSN)

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- Assessment must confirm the ability to identify formats of RFID system output and data fields in database.
- Assessment must confirm the ability to analyse, write, install and test conversion programs.
- Identify format of output from RFID system
- Identify format of data fields of database
- Write or obtain, and install conversion software
- Compile entries in database reports

Context of and specific resources for assessment

The integration of databases with web connectivity is of fundamental importance to e-commerce transactions.

This competency requires a breadth, depth and complexity of knowledge and would cover a broad range of varied activities.

The breadth, depth and complexity covering planning and initiation of alternative approaches to skills or knowledge applications across a broad range of technical and/or management requirements, evaluation and coordination would be characteristic.

The demonstration of competency may also require self-directed application of knowledge and skills, with substantial depth in some areas where judgement is required in planning and selecting appropriate equipment, services and techniques for self and others.

To demonstrate competency in this unit the person will require access to:

- RFID equipment specifications

EVIDENCE GUIDE	
	• Conversion tools • Database software • Organisational guidelines • Networked computers
Method of assessment	The purpose of this unit is to define the standard of performance to be achieved in the workplace. In undertaking training and assessment activities related to this unit, consideration should be given to the implementation of appropriate diversity and accessibility practices in order to accommodate people who may have special needs. Additional guidance on these and related matters is provided in ICA05 Section 1. The following assessment method is appropriate for this unit: • Competency in this unit should be assessed using summative assessment to ensure consistency of performance in a range of contexts. This unit can be assessed either in the workplace or in a simulated environment. However, simulated activities must closely reflect the workplace to enable full demonstration of competency. • The assessment of this unit of competency will usually include observation of RFID system and database configuration and equipment selection for a variety of scenarios. • Assessment will usually include observation of real or simulated work processes and procedures and/or performance in a project context as well as questioning on underpinning knowledge and skills. • The questioning of team members, supervisors, subordinates, peers and clients where appropriate may provide valuable input to the assessment process.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. An individual demonstrating this competency would be able to: • Demonstrate understanding of a broad knowledge

EVIDENCE GUIDE

	base incorporating theoretical concepts, with substantial depth in some areas • Analyse and plan approaches to technical problems or management requirements • Transfer and apply theoretical concepts and/or technical or creative skills to a range of situations • Take responsibility for own outputs in relation to broad quantity and quality parameters • Take some responsibility for the achievement of group outcomes • Maintain knowledge of industry products and services
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Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Database may include:

- relational databases
- object relational databases
- proprietary databases
- commercial off-the-shelf (COTS) database packages
- Software, e.g.
 - Oracle
 - Sybase
 - Microsoft SQL Server
 - Access connected to a SQL server
 - Ingres
 - DB2
 - Informix
 - mSQL
 - MySQL
 - SQL Server

RANGE STATEMENT	
Conversion programs may be in:	• object-oriented language • procedural programming language
Conversion tool may include tools for:	• analysis of data quality, e.g. • QDB/Analyze • WizRule • Unitech Systems Inc) • extraction and transformation, e.g. • ETI Extract • Passport • Warehouse Manager • InfoPump, InfoHub, InfoRefiner, InfoSuite • cleansing data, e.g. • Integrity • Enterprise/Integrator • data mart management

Unit Sector(s)

Unit sector	Build
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Co-requisite units

Co-requisite units		

Competency field

Competency field	
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