



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **ICAB4057B Manage a reuse library**

**Release: 1**

## ICAB4057B Manage a reuse library

### Modification History

Not Applicable

### Unit Descriptor

<b>Unit descriptor</b>	<p>This unit defines the competency required to store, document and maintain components for reuse.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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### Application of the Unit

<b>Application of the unit</b>	
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### Licensing/Regulatory Information

Refer to Unit Descriptor

### Pre-Requisites

<b>Prerequisite units</b>		
	ICAB4075B	Use a library or pre-existing components

## Employability Skills Information

<b>Employability skills</b>	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. Specify components for reuse library	1.1. Determine <b>component</b> suitability for reuse by checking the quality and uses of the <b>component</b> 1.2. Review the size and complexity of <b>reuse components</b> for generalisation and remove <b>project</b> -specific refinements 1.3. Evaluate <b>components</b> , including patterns, clusters and frameworks and break down into smaller <b>components</b> for greater flexibility or use 1.4. Review <b>components</b> for duplication and remove duplicates
2. Document reuse library	2.1. Document <b>components</b> internally and externally to ensure efficient retrieval 2.2. Document public constants, data structures, <b>component</b> interfaces and limitations 2.3. Document possible relationships between data structures or objects 2.4. Provide example code demonstrating the use of <b>components</b> within the <b>documentation</b> 2.5. Document <b>development environment</b> configuration 2.6. Provide simple test programs to prove the functionality of the library
3. Set up library structure	3.1. Classify data structures or objects in a consistent and logical manner 3.2. Ensure the library has a logical structure to ensure the <b>user</b> is aware of library contents and can understand the logic of how the functionality may be used by another developer 3.3. Develop the structure in a manner that avoids redundancy within the library 3.4. Configure <b>development environment</b> to automate build of <b>reuse components</b> and library 3.5. Take action to ensure interfaces to library <b>components</b> are consistent and abstracted 3.6. Add, update and remove <b>reuse components</b> as development is undertaken

## Required Skills and Knowledge

**REQUIRED SKILLS AND KNOWLEDGE**

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

**Required skills**

- Domain analysis skills in relation to the quality of reuse components for efficient retrieval and use
- Naming in relation to the quality of reuse components for efficient retrieval and use
- Abstraction in relation to the quality of reuse components for efficient use

**Required knowledge**

- Broad knowledge of component libraries
- Broad knowledge of abstraction of code module interfaces
- Broad knowledge of reuse components and metrics
- Broad knowledge of design paradigms
- Broad knowledge of reuse libraries content and structure
- Broad knowledge of patterns, frameworks and idioms

## 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 sufficient knowledge of reuse libraries and the management of components within the library structure.
- Assessment must confirm the ability to store, document and improve the quality of reuse components for efficient retrieval and use. Assessment must confirm the ability to organise, communicate library contents

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

- Software development environment
- Technical requirements

#### Context of and specific resources for assessment

The breadth, depth and complexity of knowledge and skills in this competency would cover a broad range of varied activities or application in a wider variety of contexts most of which are complex and non-routine. Leadership and guidance would be involved when organising activities of self and others as well as contributing to technical solutions of a non-routine or contingency nature.

Assessment must ensure:

- Performance of a broad range of skilled applications including the requirement to evaluate and analyse current practices, develop new criteria and procedures for performing current practices and provision of some leadership and guidance to others in the application and planning of the skills would be characteristic.
- Applications may involve responsibility for, and

<b>EVIDENCE GUIDE</b>	
	limited organisation of, others.
<b>Method of assessment</b>	<p>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.</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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. The interdependence of units for assessment purposes may vary with the particular project or scenario.</li> </ul>
<b>Guidance information for assessment</b>	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p> <p>An individual demonstrating this competency would be able to:</p> <ul style="list-style-type: none"> <li>• Demonstrate understanding of a broad knowledge base incorporating some theoretical concepts</li> <li>• Apply solutions to a defined range of unpredictable problems</li> <li>• Identify and apply skill and knowledge areas to a wide variety of contexts, with depth in some areas</li> <li>• Identify, analyse and evaluate information from a variety of sources</li> </ul>

**EVIDENCE GUIDE**

	<ul style="list-style-type: none"> <li>• Take responsibility for own outputs in relation to specified quality standards</li> <li>• Take limited responsibility for the quantity and quality of the output of others</li> <li>• Maintain knowledge of industry products and services</li> </ul>
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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.

***Project*** may include:

- a business involved in a total organisational change
- a systems-only change
- a business improvement process
- an e-business solution involving the total organisation or part of the organisation

***Component*** may include:

- methods
- classes
- metadata
- design
- code
- documents
- modules
- test cases

***Development environment*** may include but is not limited to:

- operating systems
- target environments
- development tools
- computer language used
- version control systems
- development methodology

***User*** may include:

- a person within a department
- a department within the organisation



<b>RANGE STATEMENT</b>	
	<ul style="list-style-type: none"> <li>• a third party</li> </ul>
<i>Reuse components</i> may include but is not limited to:	<ul style="list-style-type: none"> <li>• code</li> <li>• design patterns</li> <li>• specifications</li> <li>• requirements</li> <li>• metadata</li> </ul>

### Unit Sector(s)

<b>Unit sector</b>	Build
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### Co-requisite units

<b>Co-requisite units</b>	

### Competency field

<b>Competency field</b>	
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