

Basic eLearning ToolSet (BELTS)

Content Manager's Guide

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Basic eLearning ToolSet (BELTS): Content Manager's Guide

by Greg Jones

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Part I. Introduction to BELTS

Chapter 1. About BELTS

The Basic E-Learning Tool Set (BELTS) has been developed by The Learning Federation (TLF) [<http://www.thelearningfederation.edu.au>] to demonstrate the distribution, management and use of online curriculum content and to aid investigation of requirements for e-learning environments by Australian and New Zealand school jurisdictions.

BELTS currently provides a limited set of tools, including:

- A content repository;
- Basic activity creation, using lessons;
- Basic group management, using classes;
- Content to curriculum outcomes matching (the curriculum organiser);
- Downloading of content from The Learning Federation's Exchange repository of online curriculum content;
- Content replication from one BELTS to another, and
- System administration.



Note

BELTS has currently not been developed as a fully featured learning management system. BELTS is, however, an open source project that can be further developed. The Learning Federation encourages Australian and New Zealand education jurisdictions, and others, to consider options for collaborating and contributing to the evolution of BELTS. For more information about the project and how you can participate visit the BELTS project web site [<http://belts.sourceforge.net>]

Chapter 2. About The Le@rning Federation

The Le@rning Federation [<http://www.thelearningfederation.edu.au>], is an initiative delivered on behalf of the Australian Education Systems Officials Committee (AESOC) by a joint venture of education.au limited [<http://www.educationau.edu.au>] and Curriculum Corporation [<http://www.curriculum.edu.au>]

In January 2001, as part of the Backing Australia's Ability: Innovation Action Plan [<http://backingaus.innovation.gov.au>] the Prime Minister announced funding of \$34.1 million over 5 years to support the Initiative to:

- Develop a body of high-quality curriculum content, suitable to each State and Territory;
- Develop a framework which supports distributed access;
- In the long term, use the framework and content to stimulate further contribution to the pool of material.

In July 2001, all Australian States and Territories agreed to match the Commonwealth funds. Following this, New Zealand joined in the Initiative.

Part II. Role Description

Chapter 3. Content Manager

This chapter provides a brief overview of the BELTS functions available to Content Managers.

3.1. The Content Manager Role

The Content Manager is responsible for managing content in the BELTS system:

- download of content available in repositories
- publication of content for use in lessons within schools and by dependent systems
- uploading of local content for use in lessons within schools and by dependent systems

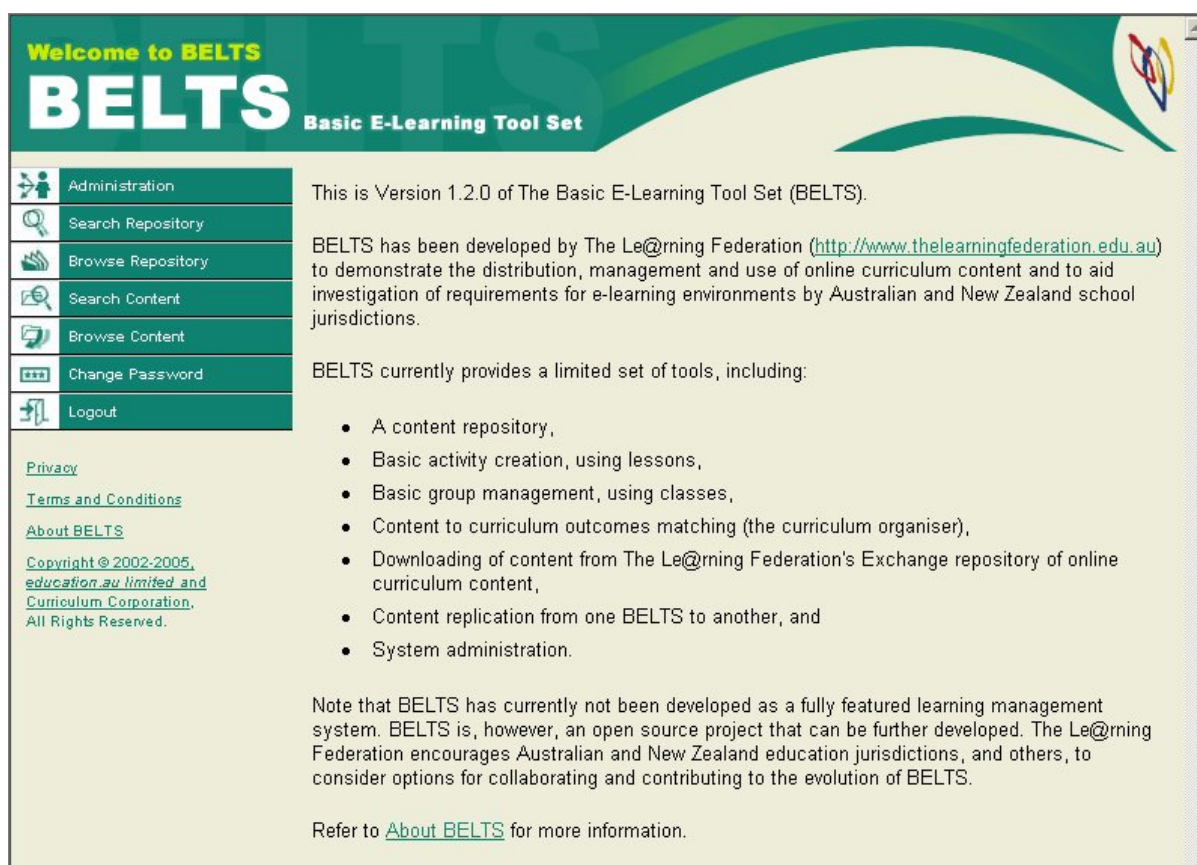


Figure 3.1. Content Manager Main Screen

3.1.1. Common Functions

Common functions available to the Content Manager include:

- Login to BELTS [8]
- Logout from BELTS [9]
- Change Password [9]

3.1.2. Repository Management Functions

Repository management functions available to the Content Manager include:

- Browse Repository [13]
- Search Repository [11]
- Learning Object Download [15]

3.1.3. Content Management Functions

Content management functions available to the Content Manager include:

- Browse Content [21]
- Search Content [18]
- View Content [23]
- Download Content [29]
- Publish Content [30]
- Unpublish Content [31]
- Delete Content [32]
- Upload Local Content [33]

3.1.4. Content Administration Functions

Content Administration functions available to the Content Manager include:

- Retrieve updates from a content provider [36]
- Regenerate XML Cache [37]
- Browse the XML Cache [38]

Part III. Content Manager Functions

Chapter 4. Common Functions

This chapter provides a brief overview of the common functions available to content managers in BELTS.

4.1. Login to BELTS

In order to use BELTS, you must login. In order to login, you must supply a valid username and password. You should have received an email from your BELTS system when you were registered by your administrator. If you do not have a username and password, please contact your BELTS administrator.

Procedure 4.1. Login to BELTS

1. Open the BELTS site at the URL supplied by your administrator.

The Login screen is displayed



Figure 4.1. BELTS Login Screen

2. Enter your username and password. If you have been given a lesson login, enter "l=" followed by the login id.
3. Select **Login** to login to the BELTS system.
4. If your username and password have been entered correctly, you are logged-in to BELTS and the Main window, or the appropriate lesson is displayed.

You can now use BELTS. The BELTS Main window allows you to perform a number of functions. Please refer to the Content Manager [5] section for more information on the functions available to you.

4.2. Logout from BELTS

Logging out of BELTS removes any information about your session in the browser. In order to logout of BELTS, you need to have logged in using the Login to BELTS [8] function.

Procedure 4.2. Logout from BELTS

- From the BELTS main screen, select the **Logout** option from the BELTS Main menu.

4.3. Change Password

This function allows you to change your BELTS password.

Procedure 4.3. Change Password

1. Within the BELTS window, select **Change Password** from the menu.

The Change Password screen is displayed

Belts >

Change Password

- Users
- Classes
- School Administration
- Change Password
- Logout

Current Password:

New Password:

Confirm New Password:

A password may contain the characters a to z, A to Z, 0 to 9, !, @, #, \$, %, ^, &, * (or) and must be at least 5 characters long.

Cancel Save

[Privacy](#)
[Terms and Conditions](#)
[About BELTS](#)
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Figure 4.2. Change Password Screen

2. Enter your existing password in the **Current Password** field.
3. Enter your new password in the **New Password** field.
4. Re-enter your new password in the **Confirm New Password** field.
5. Select **Save** to save your new password.

An email notification will be sent to you to confirm that your password has been changed.

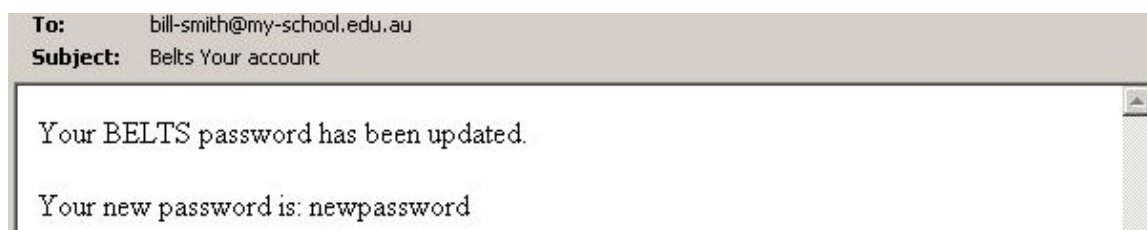


Figure 4.3. Password Changed Email

6. Select **Cancel** to leave your password unchanged.

At the end of this procedure, you will be returned to the BELTS Main Screen.

Chapter 5. Repository Management Functions

This chapter provides a brief overview of the repository management functions available to content managers in BELTS.

5.1. Search Repository

Searching the repository is a good way to find content to match your specific needs, without having to browse through pages of learning objects. This function provides you with a powerful search facility to find the learning objects you are interested in.

Procedure 5.1. Search Repository

1. Within the BELTS window, select **Search Repository** from the menu.

The Repository Search screen is displayed.

The screenshot shows the 'Search Repository' interface. On the left is a navigation menu with options: Administration, Search Repository, Browse Repository, Search Content, Browse Content, Change Password, and Logout. Below the menu are links for Privacy, Terms and Conditions, and About BELTS, along with copyright information for 2002-2005. The main area features a 'Quicksearch' field containing 'fish frog'. Below it is a 'Limit content search to:' section with instructions. The 'Learning Area' dropdown is set to 'Arts', and the 'Year Level' dropdown is set to '0'. There is an empty 'Outcome Code' field and a 'Results per page' dropdown set to '20'. A 'Search' button is located at the bottom right of the search area.

Figure 5.1. Repository Search Screen

2. Enter a phrase in the **Quicksearch** field. This function searches for the phrase in the topic and description fields of the learning object.
3. Select a **Learning Area** if you wish to restrict your results to learning objects in a particular learning area (or multiple learning areas).

4. Select a **Year Level** if you wish to restrict your results to learning objects in a particular year level (or a range of year levels).
5. Type in all or part of a Curriculum Organiser **Outcome Code** to restrict your results to learning objects that match a particular outcome.
6. Select the number of **Results per page** to specify how many results you would like displayed on each page of output once the search is performed.
7. Press the **Search** button to actually perform the requested search.

*The results of the search are displayed on the **Repository Search Results [12]** screen.*



Note

You can select multiple learning areas and year levels by holding down the *control* key (or *apple* key) and clicking on the items.

Clicking on the items in this way acts as a toggle. Clicking again on an item will deselect it.

From this point, the following actions may be performed:

- Select the **Browse Repository** option to perform the **Browse Repository [13]** function.
- Select the **Search Help** option to get help on searching the repository (see Advanced Search Tips [42]).

5.1.1. Repository Search Results

The **Repository Search Results** screen is displayed after the **Search Repository [11]** function is performed. It contains a list of learning objects available in the Repository that match the search criteria. The learning objects are sorted in alphabetic order by title.

The screenshot shows the 'Repository Search Results' interface. At the top, there's a breadcrumb 'Belts > Search Repository >'. The main header is 'Search Results'. On the left, a navigation menu includes: Administration, Search Repository, Browse Repository, Search Content, Browse Content, Change Password, and Logout. Below the menu are links for Privacy, Terms and Conditions, and About BELTS, along with a copyright notice: 'Copyright © 2002-2005, education.au limited and Curriculum Corporation. All Rights Reserved.' The main content area has two tabs: 'Browse Repository' and 'Search Help'. Below the tabs, it says 'You searched on: Quicksearch: fish frog'. There are buttons for 'Download' and 'Download All Results'. A 'Select' button is visible. The search results are displayed in a table-like format. The first result is 'River journey [includes spoken instructions]' by 'The Learning Federation', an 'approved learning object'. It includes a small icon of a frog in a boat and a description: 'Move Frog in his boat downstream along a river. Stop along the way to check: water temperature; salinity; clarity and current speed. Associate four randomly generated animals with different river habitats.' The metadata for this result is: 'Learning Area: Science Strand: Science > Biological science; Earth and space Topic: Rivers; Streams; Freshwater ecology; Estuaries; Turbidity; Animals; Fish; Crabs; Salinity; Water User Level: 0; 1; 2 Outcome Code: 3; 6; 8 Version: 6.0 Size: 1.12Mb'. At the bottom of the results area, it says 'Now showing 1 to 1 of 1 results'.

Figure 5.2. Repository Search Results Screen

From this point, the following actions may be performed:

- Select the **Browse Repository** option to perform the **Browse Repository [13]** function.
- Select the **Search Help** option to get help on searching the repository (see Advanced Search Tips [42]).
- Perform the **Learning Object Download [15]** function for one or more learning objects.
- Select one of the **Next** or **Previous** links at the bottom of the screen to view the next (or previous) page of learning objects.

5.2. Browse Repository

Browsing the repository allows you to scan through all of the learning objects in order to find one that fits your requirements.

Procedure 5.2. Browse Repository

- Within the BELTS window, select **Browse Repository** from the menu.

The list of content categories available in the Repository is displayed

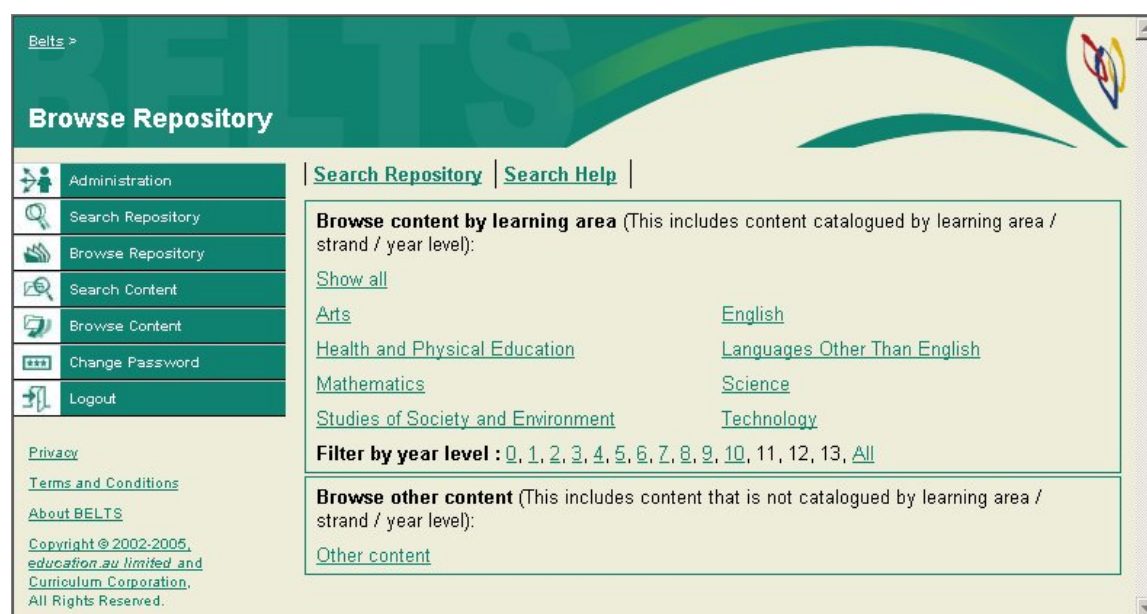


Figure 5.3. Browse Repository Top Level Screen

From this point, the following actions may be performed:

- Select the **Search Repository** option to perform the **Search Repository [11]** function.
- Select the **Search Help** option to get help on searching the repository (see Advanced Search Tips [42]).
- Select **Show All** to show the list of learning objects for all learning areas. *The Browse Repository with Filter [14]iew is displayed, with no filter in place.*
- Select a **Learning Area** link to filter the browse view by learning area. *The Browse Repository with Filter [14]iew is displayed.*
- Select a **Year Level** link to filter the browse view by year level. *The Browse Repository with Filter [14]iew is displayed.*
- Select **Other Content** to filter the browse view to repository content that is not catalogued by learning area,

strand or year level. *The **Browse Other Repository Items [15]** view is displayed.*

Use the **breadcrumbs** on the screen to return to the previous view.

5.2.1. Browse Repository with Filter

The **Browse Repository with Filter** screen is displayed after the **Browse Repository [13]** function is performed. It contains a list of learning objects available in the Repository that match the filter criteria.

Figure 5.4. Browse Repository with Filter Screen

From this point, the following actions may be performed:

- Select the **Search Repository** option to perform the **Search Repository [11]** function.
- Select the **Search Help** option to get help on searching the repository (see Advanced Search Tips [42]).
- Select **Show All** to show the list of learning objects for all learning areas. *The **Browse Repository with Filter [14]** view is redisplayed, with no filter in place.*
- If available, select a **Learning Area** link to filter the browse view. *A more finely filtered **Browse Repository with Filter [14]** view is displayed.*
- If available, select a **Year Level** link to filter the browse view. *A more finely filtered **Browse Repository with Filter [14]** view is displayed.*
- Perform the **Learning Object Download [15]** function for one or more learning objects.
- Select one of the **Next** or **Previous** links at the bottom of the screen to view the next (or previous) page of learning objects.

Use the **breadcrumbs** on the screen to return to the previous view.

5.2.2. Browse Other Repository Items

The **Browse Other Repository Content** screen is displayed after the **Browse Repository [13]** function is performed. It contains a list of repository content that is not catalogued by learning, area, strand and year-level.

The screenshot shows a web interface for 'Browse Repository'. At the top, there is a breadcrumb trail: 'BELTS > Browse Repository >'. Below this is a navigation menu with options: Administration, Search Repository, Browse Repository, Search Content, Browse Content, Change Password, and Logout. The main content area is titled 'Search Results' and contains two items:

Select	Search Results
<input type="checkbox"/>	<p>Banish the budget blues The Learning Federation approved resource</p> <p>This is a song composed by Jack Lumsdaine about the Great Depression in Australia, which began in 1929 and lasted until the outbreak of the Second World War in 1939. The song was recorded in Sydney on 22 July 1930 and was also available as sheet music and on pianola roll. The cover of the sheet music described it as 'an optimistic topical song hit'.</p> <p>Educational Value: typifies attempts to boost confidence and hope for the future - 'good times are coming' - although such hope proved unfounded in the face of worsening economic depression; highlights the rise in indirect taxation (import tariffs) introduced by James Scullin's federal Labor Government in an attempt to balance its 1930 Budget; illustrates that the federal government did not have the power to raise income tax - state governments had the sole power to collect income tax until 1942; gives some indica Version: 1.0 Size: 571Kb</p>
<input type="checkbox"/>	<p>The Bridge we've been waiting for The Learning Federation approved resource</p> <p>This is a song about the opening of the Sydney Harbour Bridge. It was published as sheet music, on piano roll and as a record in 1931 as the long-awaited Bridge was nearing completion.</p> <p>Educational Value: captures the sense of excitement and achievement at the completion of the Bridge; anticipates much of the actual opening celebrations on Saturday 19 March 1932; suggests the opening day would be a holiday - in fact, it was proclaimed a public holiday to allow the maximum number of people possible to attend the opening instead of working on Saturday morning, as usual; evokes national and city pride - includes some music and original words from 'Advance Australia Fair'; identifies the benefits the Version: 1.0 Size: 543Kb</p>

At the bottom of the page, there are links for Privacy, Terms and Conditions, About BELTS, and Copyright information (© 2002-2005, education.au limited and Curriculum Corporation, All Rights Reserved).

Figure 5.5. Browse Other Repository Content Screen

From this point, the following actions may be performed:

- Select the **Search Repository** option to perform the **Search Repository [11]** function.
- Select the **Search Help** option to get help on searching the repository (see Advanced Search Tips [42]).
- Perform the **Learning Object Download [15]** function for one or more content items
- Select one of the **Next** or **Previous** links at the bottom of the screen to view the next (or previous) page of content items.

Use the **breadcrumbs** on the screen to return to the previous view.

5.3. Learning Object Download

Once content is located in the repository, it needs to be copied into the local store. This function downloads the object from the repository into the local store.

The **Repository Learning Object Download** function is performed from the **Browse Repository [13]** or **Repository Search Results [12]** functions.

The screenshot shows the 'Browse Repository' interface. On the left is a navigation menu with options: Administration, Search Repository, Browse Repository, Search Content, Browse Content, Change Password, and Logout. Below the menu are links for Privacy, Terms and Conditions, and About BELTS, along with copyright information for 2002-2005.

The main content area has a header 'Browse Repository' and sub-headers 'Search Repository' and 'Search Help'. It features a section 'Browse content by learning area' with a 'Show all' link and a grid of subject links: Arts, English, Health and Physical Education, Languages Other Than English, Mathematics, Science, Studies of Society and Environment, and Technology. A 'Filter by year level' section lists levels from 0 to 13, with 'All' as an option. Below this are 'Download' and 'Download All Results' buttons.

The 'Search Results' section shows a single result:


Select	Search Results
<input type="checkbox"/>	<p>Bacteria zoo [no spoken instructions] The Learning Federation approved learning object</p> <p> Explore facts about a range of bacteria. Examine a lab collection, and then find more bacteria in a rural environment. Identify bacteria according to their shape, location and type of movement. Find bacteria which match statements such as 'helpful to humans' or 'can't move by themselves'.</p> <p>Learning Area: Science Strand: Science > Life and living Topic: Bacteria; Classification; Microbiology User Level: 5; 6; 7; 8 Outcome Code: 8 Version: 1.0 Size: 414Kb</p>

Figure 5.6. Browse Repository Screen

Procedure 5.3. Download Learning Object

1. Select the checkbox for the learning object you wish to download or press the **Select** button to select all learning objects on the current page for download. Pressing the **Select** button again clears all of the checkboxes and may be used to toggle the state of the checkboxes for all learning objects on the currently displayed page.
2. Press the **Download** button to download the selected learning objects. Press the **Download All Results** button to download all learning objects returned from a search, or available on the browse screen.

The Downloading screen is displayed.

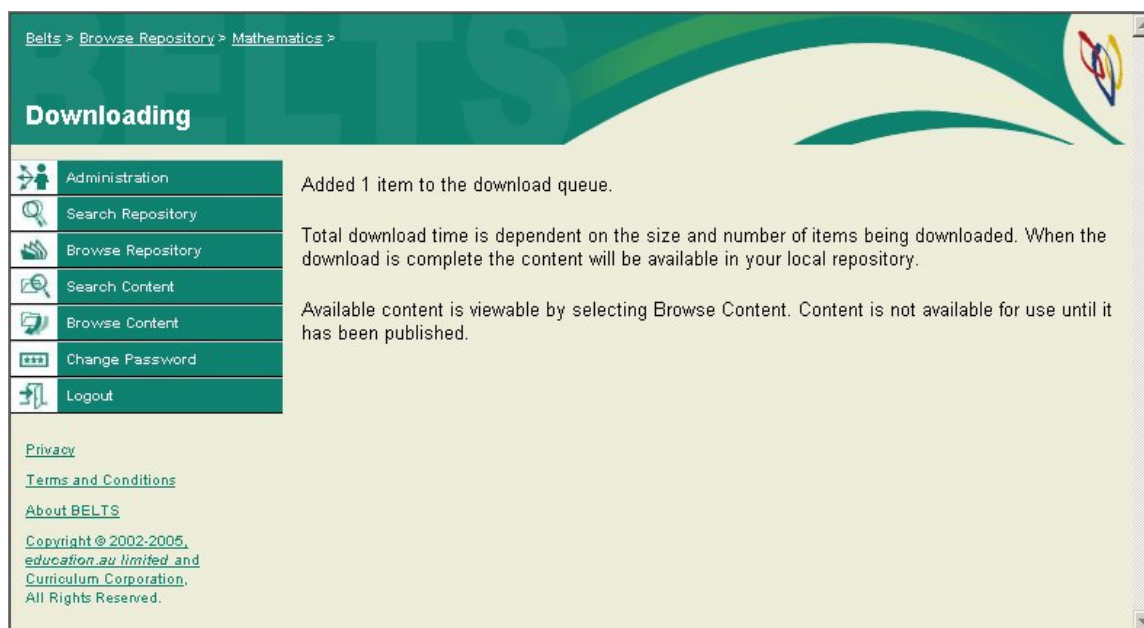
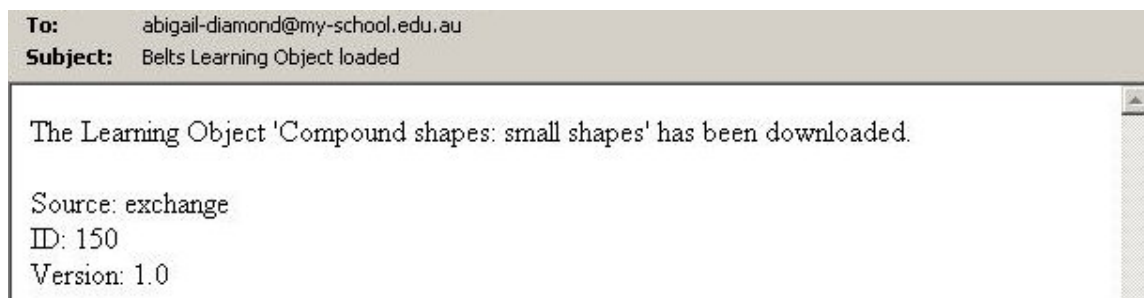


Figure 5.7. Downloading Screen

3. You will receive an email confirmation once the download has completed.



Repository Download Email

Figure 5.8. Repository Download Confirmation Email

Use the **breadcrumbs** on the screen to return to the previous view.

Chapter 6. Content Management Functions

This chapter provides a brief overview of the content management functions available to content managers in BELTS.

6.1. Search Content

Procedure 6.1. Search Content

1. Within the BELTS window, select **Search Content** from the menu.

The Search Content screen is displayed.

Belts >

Search Content

[Administration](#) | [Browse Content](#) | [Search Help](#) | [Upload Content](#)

Use the search to find content, view the content, view the details of the content, and publish, unpublish, delete or download content.

Quicksearch:

Limit content search to:
You can select multiple learning areas and year levels by holding down the *control* key (or *apple* key) and clicking on the items. Search results may only be limited by learning area and year level if content has been catalogued with this information. These fields do not apply when searching a repository external to the local BELTS.

Learning Area:
English
Health and Physical Education

Year Level:
1
2

Outcome Code:

Published state is:

Include content from: BELTS (This is content available from your local BELTS server)
 Australian Government Culture and Recreation Portal
 Australian Government Education Portal
 EdNA Online
 GEM, Gateway to Educational Materials (USA)
 Picture Australia
 VOCED, Vocational Education and Training Research

Results per page:

Figure 6.1. Search Content Screen

2. Enter a phrase in the **Quicksearch** field if you want to find the phrase in a learning object topic or descrip-

tion.

3. Select a **Learning Area** if you wish to restrict your results to learning objects in a particular learning area (or multiple learning areas).
4. Select a **Year Level** if you wish to restrict your results to learning objects in a particular year level (or a range of year levels).
5. Type in all or part of a Curriculum Organiser **Outcome Code** to restrict your results to learning objects that match a particular outcome.
6. Select a **Published state** if you wish to restrict your results to learning objects in a particular published state.
7. Select the repositories to **include content from** by clicking on the checkbox next to the repository name. Selecting only the BELTS repository performs a search against the local BELTS repository and will return results in the quickest time. Selecting an external repository may cause the results to come back more slowly.
8. Select the number of **Results per page** to specify how many results you would like displayed on each page of output once the search is performed.
9. Press the **Search** button to actually perform the requested search.

The Search Wait screen is displayed.

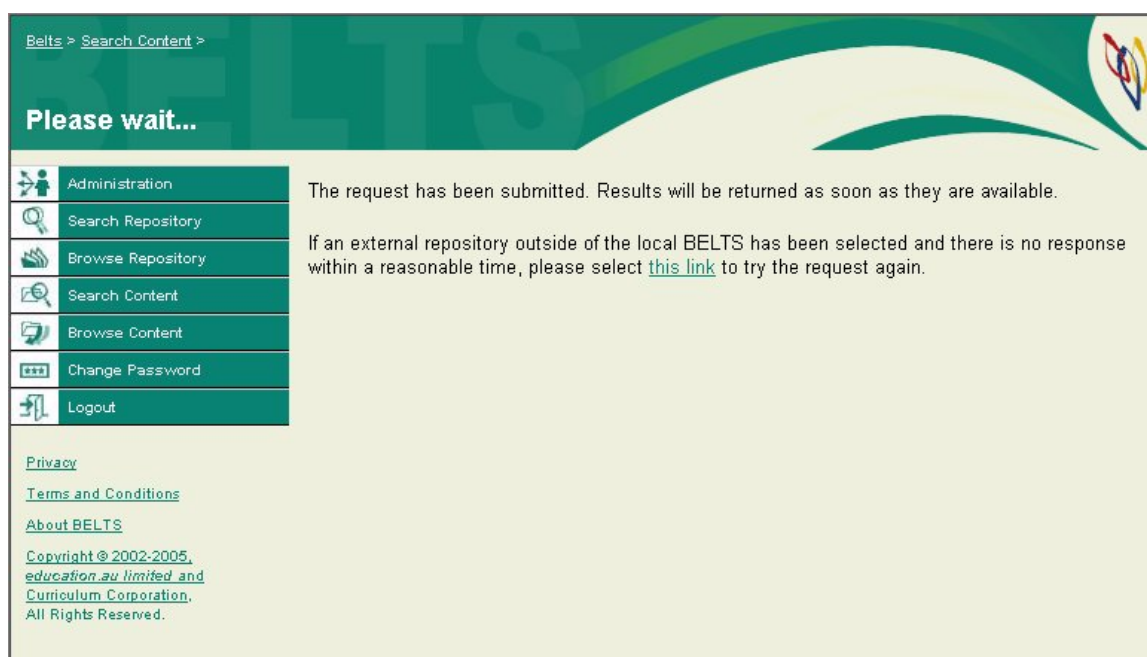


Figure 6.2. Search Wait Screen

*Once the search has completed, the results of the search are displayed on the **Content Search Results [20]** screen.*



Note

You can select multiple learning areas and year levels by holding down the *control* key (or *apple* key) and clicking on the items.

From this point, the following actions may be performed:

- Select the **Browse Content** option to perform the **Browse Content [21]** function.
- Select the **Search Help** option to get help on searching for content (see Advanced Search Tips [42]).

6.1.1. Content Search Results

The **Content Search Results** screen is displayed after the **Search Content [18]** function is performed. It contains a list of learning objects available in the system that match the search criteria.

The screenshot displays the 'Search Results' page. At the top, there is a navigation bar with 'Belts > Search Content >'. Below this is a sidebar menu with options: Administration, Search Repository, Browse Repository, Search Content, Browse Content, Change Password, and Logout. The main content area has tabs for 'Browse Content', 'Search Help', and 'Upload Content'. A search summary box shows 'You searched on: Quicksearch: frog, Published: Any, Collection: BELTS; EdNA Online; Picture Australia'. Below this are 'Publish', 'Unpublish', and 'Delete' buttons. The search results are listed in a table with a 'Select' column and a 'Search Results' column. Two results are shown, both for 'Caving' activities. Each result includes a checkbox, a logo, a title, a description, and detailed metadata (Learning Area, Strand, Topic, User Level, Outcome Code, Size, Version) with links to 'View', 'Details', 'Download', and 'Outcome details'.

Figure 6.3. Content Search Results Screen

From this point, the following actions may be performed:

- Select the **Browse Content** option to perform the **Browse Content [21]** function.
- Select the **Search Help** option to get help on searching for content (see Advanced Search Tips [42]).
- Select the **Upload Content** option to perform the **Upload Local Content [33]** function.
- Perform the **Publish Content [30]** function for one or more learning objects.
- Perform the **Unpublish Content [31]** function for one or more learning objects.
- Perform the **Delete Content [32]** function for one or more learning objects.
- Select the **View** link for a learning object to perform the **View Content [23]** function.
- Select the **Details** link for a learning object to perform the **Content Details [24]** function.

- Select the **Download** link for a learning object to perform the **Download Content [29]** function.
- Select the **Related outcomes** link for a learning object to perform the **View the Related Outcomes for Content [28]** function.
- Select one of the **Next** or **Previous** links at the bottom of the screen to view the next (or previous) page of learning objects.

6.2. Browse Content

Procedure 6.2. Browse Content

- Within the BELTS window, select **Browse Content** from the menu.

The list of content categories available in the BELTS system is displayed.

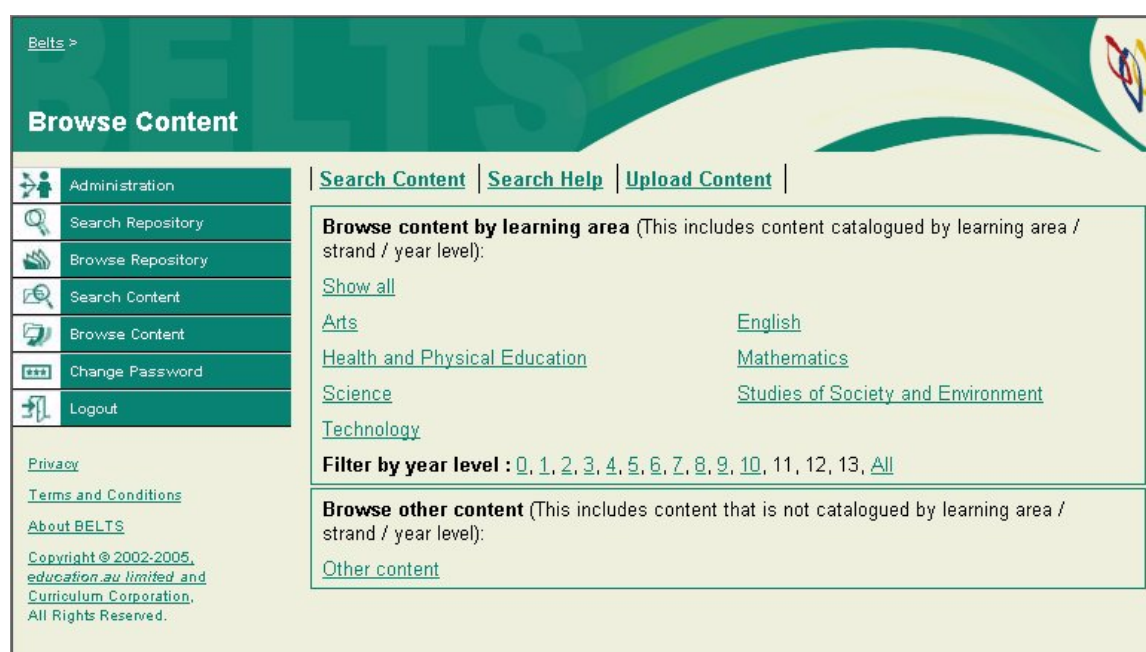


Figure 6.4. Browse Content Top Level Screen

From this point, the following actions may be performed:

- Select the **Search Content** option to perform the **Search Content [18]** function.
- Select the **Search Help** option to get help on searching for content (see Advanced Search Tips [42]).
- Select the **Upload Content** option to perform the **Upload Local Content [33]** function.
- Select **Show All** to show the list of learning objects for all learning areas. *The Browse Content with Filter [22] view is displayed, with no filter in place.*
- Select a **Learning Area** link to filter the browse view by learning area. *The Browse Content with Filter [22] view is displayed.*
- Select a **Year Level** link to filter the browse view by year level. *The Browse Content with Filter [22] view is displayed.*
- Select **Other Content** to filter the browse view to content that is not catalogued by learning area, strand or year level. *The Browse Other Content [23] view is displayed.*

Use the **breadcrumbs** on the screen to return to the previous view.

6.2.1. Browse Content with Filter

The **Browse Content with Filter** screen is displayed after the **Browse Content [21]** function is performed. It contains a list of learning objects that match the filter criteria.

The screenshot shows the 'Browse Content with Filter' interface. At the top, there's a breadcrumb 'Belts > Browse Content >' and a 'Science' header. A navigation menu on the left includes options like 'Administration', 'Search Repository', 'Browse Repository', 'Search Content', 'Browse Content', 'Change Password', and 'Logout'. The main content area has tabs for 'Search Content', 'Search Help', and 'Upload Content'. Below these, there's a section for 'Browse content by learning area' with links for 'Biological science', 'Earth and space', 'Energy and change', 'Life and living', and 'Physical sciences'. A 'Filter by year level' section shows a range from 0 to 13, with 'All' selected. Below the filters are 'Publish', 'Unpublish', and 'Delete' buttons. The 'Search Results' section shows a single result for 'Acne (Not published)', which is a Learning Federation approved learning object. The description for 'Acne' is: 'Look closely at the structure of sweat glands in human skin. Find out how pimples form through interactions between hormones, sweat glands and bacteria. Learn how the body responds to acne, and how it can be prevented or treated. Test your knowledge by answering multiple-choice questions.' The result also includes metadata: 'Learning Area: Health and Physical Education; Science', 'Strand: HPE > Health of individuals and populations; Science > Life and living', 'Topic: Adolescents; Diseases; Health; Hormones; Human body; Skin; Sweating', 'User Level: 5; 6; 7', 'Outcome Code: 3; 8', 'Version: 1.0', and 'Size: 154Kb'. There are links for 'View', 'Details', 'Download', and 'Outcome details'.

Figure 6.5. Browse Content With Filter Screen

From this point, the following actions may be performed:

- Select the **Search Content** option to perform the **Search Content [18]** function.
- Select the **Search Help** option to get help on searching for content (see Advanced Search Tips [42]).
- Select the **Upload Content** option to perform the **Upload Local Content [33]** function.
- Select **Show All** to show the list of learning objects for all learning areas. *The **Browse Content with Filter [22]** view is redisplayed, with no filter in place.*
- If available, select a **Learning Area/Strand** link to filter the browse view. *A more finely filtered **Browse Content with Filter [22]** view is displayed.*
- If available, select a **Year Level** link to filter the browse view. *A more finely filtered **Browse Content with Filter [22]** view is displayed.*
- Perform the **Publish Content [30]** function for one or more learning objects.
- Perform the **Unpublish Content [31]** function for one or more learning objects.
- Perform the **Delete Content [32]** function for one or more learning objects.
- Select the **View** link for a learning object to perform the **View Content [23]** function.
- Select the **Details** link for a learning object to perform the **Content Details [24]** function.
- Select the **Download** link for a learning object to perform the **Download Content [29]** function.
- Select the **Related outcomes** link for a learning object to perform the **View the Related Outcomes for Content [28]** function.
- Select one of the **Next** or **Previous** links at the bottom of the screen to view the next (or previous) page of learning objects.

Use the **breadcrumbs** on the screen to return to the previous view.

6.2.2. Browse Other Content

The **Browse Other Content** screen is displayed after the **Browse Content [21]** function is performed. It contains a list of content that is not catalogued by learning, area, strand and year-level.

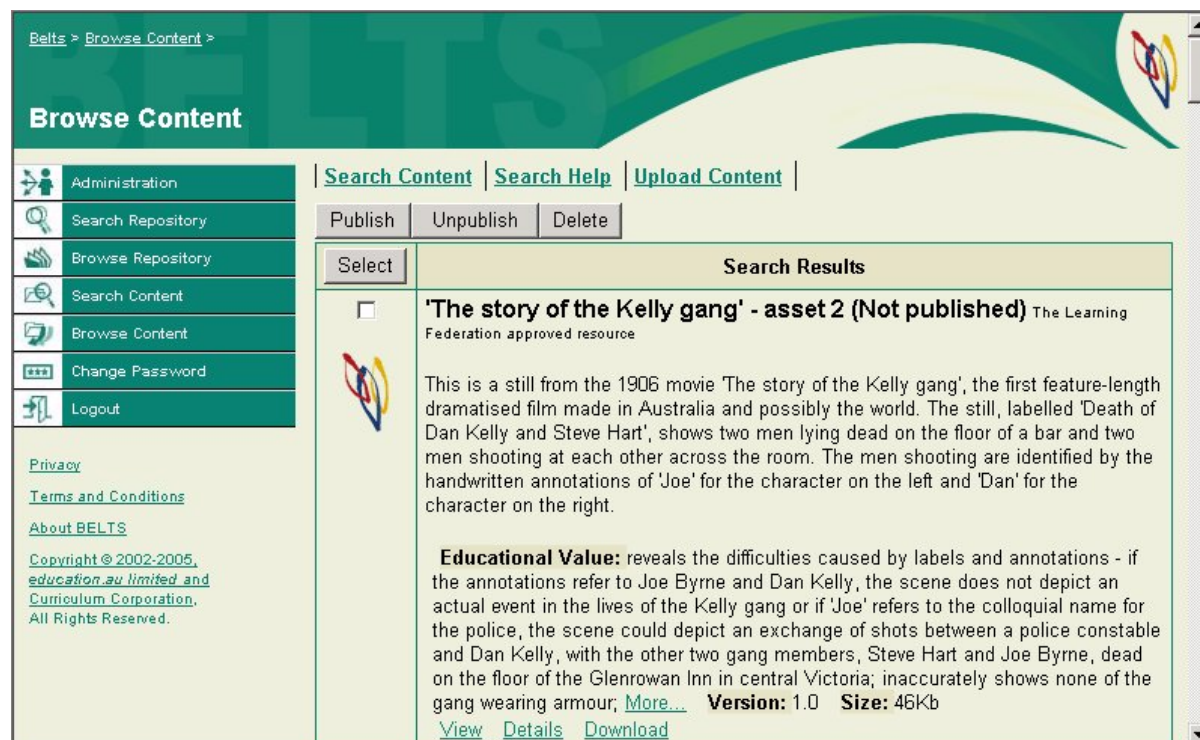


Figure 6.6. Browse Other Content Screen

From this point, the following actions may be performed:

- Select the **Search Content** option to perform the **Search Content [18]** function.
- Select the **Search Help** option to get help on searching for content (see Advanced Search Tips [42]).
- Select the **Upload Content** option to perform the **Upload Local Content [33]** function.
- Perform the **Publish Content [30]** function for one or more content items.
- Perform the **Unpublish Content [31]** function for one or more content items.
- Perform the **Delete Content [32]** function for one or more content items.
- Select the **View** link for a content item to perform the **View Content [23]** function.
- Select the **Details** link for a learning object to perform the **Content Details [24]** function.
- Select the **Download** link for a learning object to perform the **Download Content [29]** function.
- Select one of the **Next** or **Previous** links at the bottom of the screen to view the next (or previous) page of content items.

Use the **breadcrumbs** on the screen to return to the previous view.

6.3. View Content

Procedure 6.3. View Content

- From the **Browse Content [21]** or **Search Content [18]** functions, select the **View** link for the content.
The content is displayed in a new window.

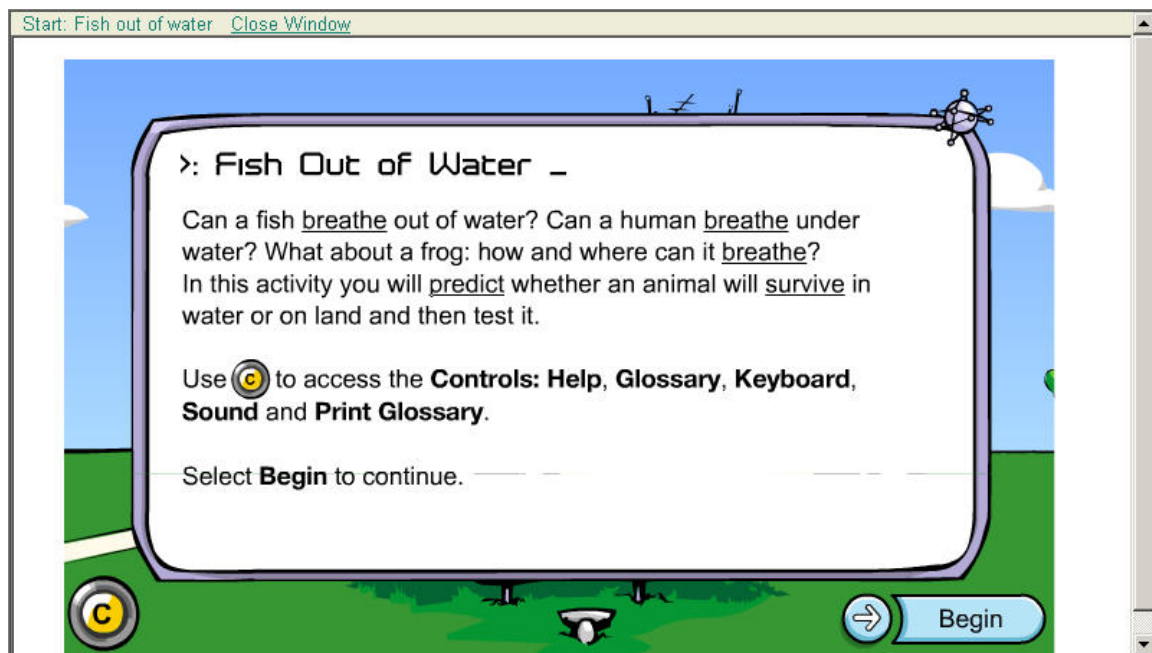


Figure 6.7. Content View Screen

To view the content, follow the instructions provided by the content being viewed. Select the **Close Window** to close the content window and return to the previous window.

6.4. Content Details

The **Content Details** screen is displayed by selecting the **Details** link on the **Browse Content [21]** or **Content Search Results [20]** screens. It contains the details for a particular content.

Belts > Browse Content > Science >

Content Details

-  Administration
-  Search Repository
-  Browse Repository
-  Search Content
-  Browse Content
-  Change Password
-  Logout

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[General](#) | [Educational](#) | [Contributors](#) | [Technical](#) | [Rights Management](#) | [Assurance](#) | [Miscellaneous](#) |

General

General

Catalogue: TLF-LearningObject Entry: L732

Title: Acne

Description : Look closely at the structure of sweat glands in human skin. Find out how pimples form through interactions between hormones, sweat glands and bacteria. Learn how the body responds to acne, and how it can be prevented or treated. Test your knowledge by answering multiple-choice questions.

Keyword: Acne; Skin disorders; Pimples

Aggregation Level: Learning object or aggregation of resources

Educational

Subject

Topic: Adolescents; Diseases; Health; Hormones; Human body; Skin; Sweating

Curriculum:

Figure 6.8. Content Details Screen

From this point, the following actions may be performed:

- Select the **View** option to perform the **View Content [23]** function.
- Select the **Related outcomes** link to perform the **View the Related Outcomes for Content [28]** function.
- Select the **General** link to view general content details.

General
General
<p>Catalogue: TLF-LearningObject Entry: L139</p> <p>Title: Area counting with Coco</p> <p>Description : Find the area of rectangles on a grid. Explore how the formula works for finding a rectangle's area. First, estimate the area of a chosen rectangle or compound rectangular shape on a grid. Second, work out the correct formula for finding area by placing rows and columns of squares inside the rectangles. Then, compare the actual area of the original shape with your first estimate. Practise applying the formula directly to a range of rectangular shapes. Includes finding the area of: 1. Rectangles 2. Polygons made up of rectangles.</p> <p>Keyword: Area models; Arrays; Sums; Calculations</p> <p>Language: En</p> <p>Aggregation Level: Learning object or aggregation of resources</p>

Figure 6.9. Content General Details Screen

- Select the **Educational** link to view content details related to Education.

Educational
Subject
<p>Topic: Area; Arithmetic; Counting; Estimation; Mathematical formulas; Polygons; Rectangles</p> <p>Curriculum:</p> <p style="padding-left: 20px;">Learning Area: Mathematics</p> <p style="padding-left: 20px;">Strand: Mathematics > Measurement</p> <p style="padding-left: 20px;">Content/Concept: Mathematics > Area; Arithmetic; Counting strategies; Estimation; Formulas; Polygons</p> <p style="padding-left: 20px;">Skills/Processes: Analysis; Application; Comprehension; Knowledge</p>
Resource Type
<p>Student Activity: Interactives; Experiment; Analysis; Modelling; Problem solving; Estimation</p> <p>Learning Design: Experiential learning; Independent learning; Problem solving; Visual learning</p>
Audience
<p>Type: Student</p> <p>Sector: Preschool; School</p> <p>User Level: 2; 3; 4</p>

Figure 6.10. Content Educational Details Screen

- Select the **Contributors** link to view details about the contributors to this content.

Contributors

Contributor:
Role: Author
Entity: BEGIN:VCARD REV:2003-02-24T11:08:20+10:30
 ADR:;;;Sydney;NSW;;Australia ORG:CADRE Design URL:http://www.cadre.com.au/
 VERSION:3.0 END:VCARD

Contributor:
Role: Author
Entity: BEGIN:VCARD REV:2003-02-24T11:13:00+10:30
 ADR:;;;Sydney;NSW;;Australia ORG:University of Western Sydney
 URL:http://www.uws.edu.au/ VERSION:3.0 END:VCARD

Contributor:
Role: Publisher
Entity: BEGIN:VCARD REV:2003-02-10T14:16:23+10:30
 ADR:;;;Melbourne;VIC;;Australia ORG:The Le@rning Federation
 URL:http://www.thelearningfederation.edu.au/ VERSION:3.0 END:VCARD

Figure 6.11. Content Contributor Details Screen

- Select the **Technical** link to view technical content details.

Technical

Format: Application/x-shockwave-flash; Text/html; Text/xml

Size: 214 Kb

Requirement:
Type: Operating System
Name: MS-Windows
Minimum Version: 2000

Requirement:
Type: Operating System
Name: MacOS
Minimum Version: X

Requirement:
Type: Browser
Name: Microsoft Internet Explorer
Minimum Version: 6.0 (MS-Windows); 5.2 (MacOS)

Requirement:
Type: Browser
Name: Netscape Communicator
Minimum Version: 6.2 (MS-Windows); 6.2.3 (MacOS)

Figure 6.12. Content Technical Details Screen

- Select the **Rights Management** link to view content details related to Rights Management.



Figure 6.13. Content Rights Management Details Screen

- Select the **Assurance** link to view content details related to Assurance.

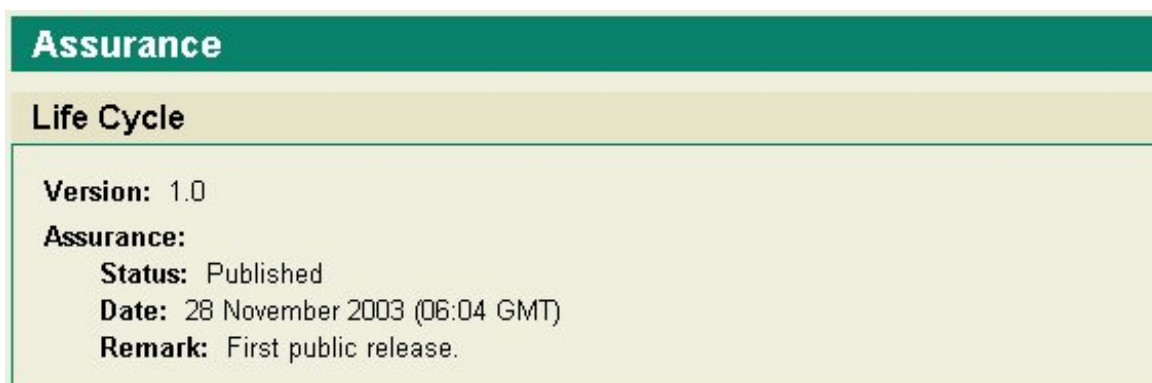


Figure 6.14. Content Assurance Details Screen

- Select the **Miscellaneous** link to view miscellaneous content details.



Figure 6.15. Content Miscellaneous Details Screen

Use the **breadcrumbs** on the screen to return to the previous view.

6.5. View the Related Outcomes for Content

The **Learning Object Related Outcomes** screen is displayed by selecting the **Related Outcomes** option on the **Browse Content [21]** or **Content Search Results [20]** screens. It displays the related outcomes for a particular learning object.

Belts > Browse Content > Science >

Outcome Details

Administration | Search Repository | Browse Repository | Search Content | Browse Content | Change Password | Logout

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[Details](#) | [View](#) |

Acne

The selected content could be used, in conjunction with other classroom resources, to help work towards the following learning outcomes.

Related Outcomes

Science / Applications / 3

Students select and apply scientific knowledge, skills and understandings across a range of contexts in daily life.

Year Level: 0; 1; 2; 3; 4; 5; 6; 7; 8; 9; 10; 11; 12; 13

Science / Biology / Living Things / 8

Students understand their own biology and that of other living things, and recognise the interdependence of life.

Year Level: 0; 1; 2; 3; 4; 5; 6; 7; 8; 9; 10; 11; 12; 13

Figure 6.16. Learning Object Related Outcomes Screen

From this point, the following actions may be performed:

- Select the **Details** link to perform the **Content Details [24]** function.
- Select the **View** option to perform the **View Content [23]** function.

Use the **breadcrumbs** on the screen to return to the previous view.

6.6. Download Content

Procedure 6.4. Download Content

1. From the **Browse Content [21]** or **Search Content [18]** functions, select the **Download** link for the content.

*The **Download Confirmation Screen** is displayed to give you some information about the file you are about to download.*

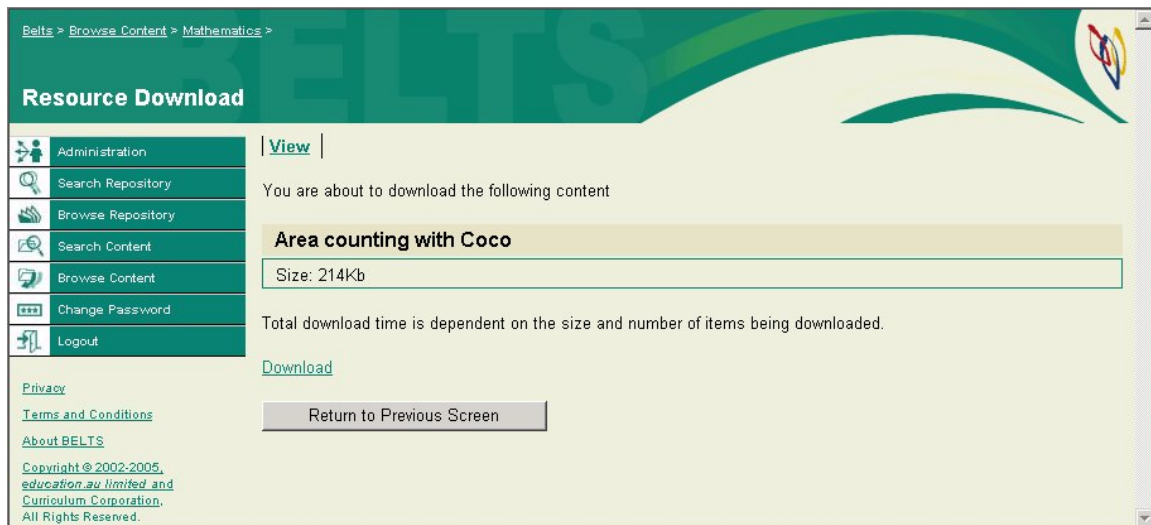


Figure 6.17. Content Download Confirmation Screen

2. Select the **Download** link to perform the download.

The **File Download** confirmation window is displayed to allow you to save the file to your local hard drive.

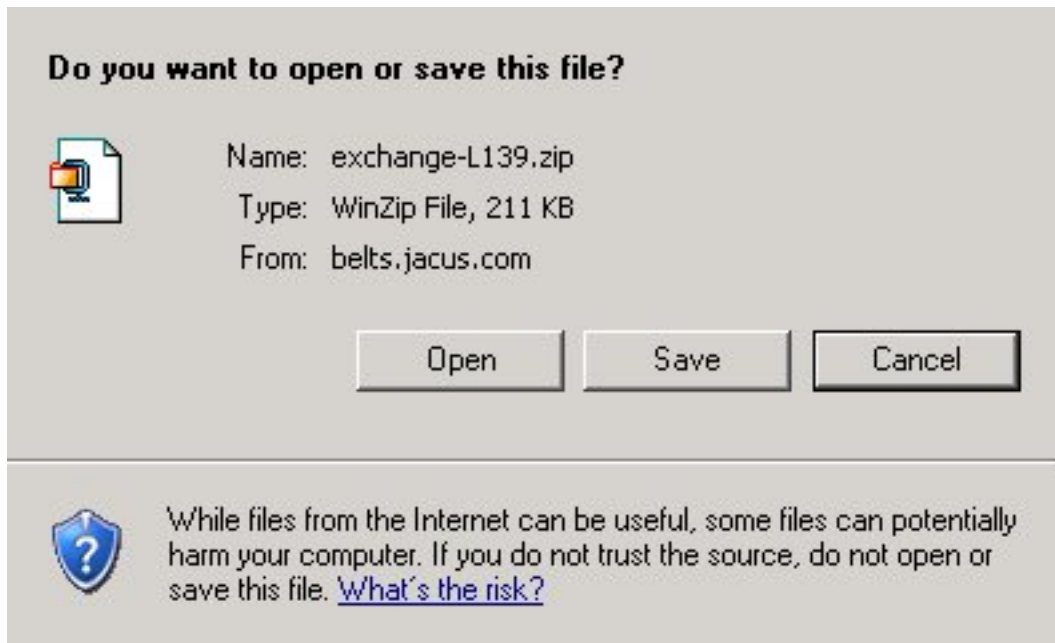


Figure 6.18. Download Content Confirmation Screen

To download the content, press the **Open** or **Save** buttons. To cancel the download, press the **Cancel** button.

6.7. Publish Content

The **Publish Content** function is performed from the **Browse Content** [21] or **Search Content** [18] functions.

The screenshot shows the 'Browse Content' interface. On the left is a navigation menu with options: Administration, Search Repository, Browse Repository, Search Content, Browse Content, Change Password, and Logout. Below the menu are links for Privacy, Terms and Conditions, About BELTS, and Copyright information. The main area has tabs for 'Search Content', 'Search Help', and 'Upload Content'. A section titled 'Browse content by learning area' lists various subjects like Arts, English, Health and Physical Education, Mathematics, Science, Studies of Society and Environment, and Technology. A 'Filter by year level' dropdown is set to '10'. Below this are 'Publish', 'Unpublish', and 'Delete' buttons. A 'Select' button is also present. The search results section shows one item: 'Acne (Not published)', which is currently unpublished. The item description includes details about its learning area, strand, topic, level, outcome code, version, and size.

Figure 6.19. Content Browse Screen

Procedure 6.5. Publish Content

1. Select the checkbox for the learning object you wish to publish or press the **Select** button to select all learning objects on the current page to publish. Pressing the **Select** button again clears all of the checkboxes and may be used to toggle the state of the checkboxes for all learning objects on the currently displayed page.
2. Press the **Publish** button to publish the selected learning objects.

The screen is redisplayed with the state of the previously selected learning objects changed to “published”.

6.8. Unpublish Content

The **Unpublish Content** function is performed from the **Browse Content** [21] or **Search Content** [18] functions.

The **Delete Content** function is performed from the **Browse Content [21]** or **Search Content [18]** functions.

The screenshot shows the BELTS 'Browse Content' interface. On the left is a navigation menu with options like Administration, Search Repository, and Logout. The main area is titled 'Browse Content by learning area' and lists various subjects with links. A 'Filter by year level' section allows filtering by year level from 0 to 13. Below the filters are 'Publish', 'Unpublish', and 'Delete' buttons. A 'Search Results' table displays a single entry for 'Acne (Not published)', which is currently unselected. The entry includes a description of the learning object and detailed metadata such as Learning Area, Strand, Topic, Level, Outcome Code, Version, and Size.

Figure 6.21. Browse Content Screen

Procedure 6.7. Delete Content

1. Select the checkbox for the learning object you wish to delete or press the **Select** button to select all learning objects on the current page to delete. Pressing the **Select** button again clears all of the checkboxes and may be used to toggle the state of the checkboxes for all learning objects on the currently displayed page.
2. Press the **Delete** button to delete the selected learning objects.

The screen is redisplayed with the state of the previously selected learning objects changed to “deleted”.



Note

The content is deleted from this BELTS server as well as any downstream BELTS server that may use this server as a provider. As a consequence, it is no longer available to users on this server, as well as to anyone who may have been using it on the downstream server.

6.10. Upload Local Content

The **Upload Content** function is performed from the **Browse Content [21]** or **Search Content [18]** functions.



Figure 6.22. Upload Content Menu

Procedure 6.8. Upload Local Content

1. Select the **Upload Content** link.

The Upload Content Screen is displayed

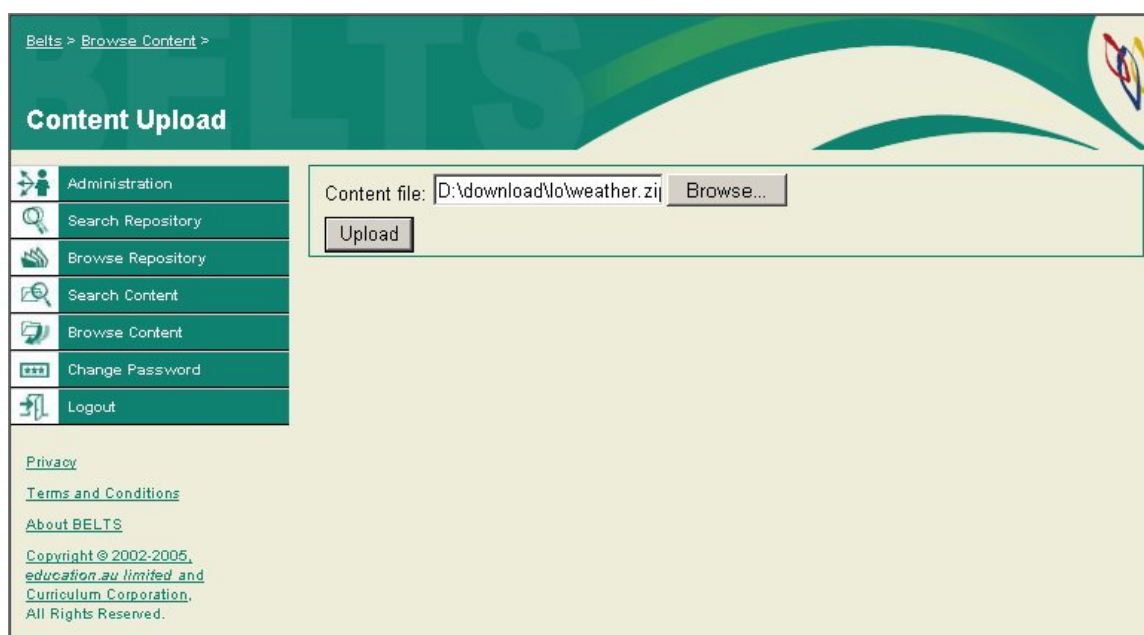


Figure 6.23. Upload Content Screen

2. Press the **Browse** button and select a local file to upload.

The File name appears in the text field.

3. Select the **Upload** button to upload the content to the local content store.

The content now appears in the list of content displayed by the Browse Content [21] and Search Content [18] functions and may be published for use by teachers.

You will also receive an email confirmation to confirm that the content has been uploaded.



Figure 6.24. Repository Download Email

Chapter 7. Content Administration Functions

This chapter provides a brief overview of the content administration functions available to users in BELTS.

Procedure 7.1. Perform Content Administration

- Within the BELTS window, select **Administration** from the menu.

The Administration Tasks Screen is displayed

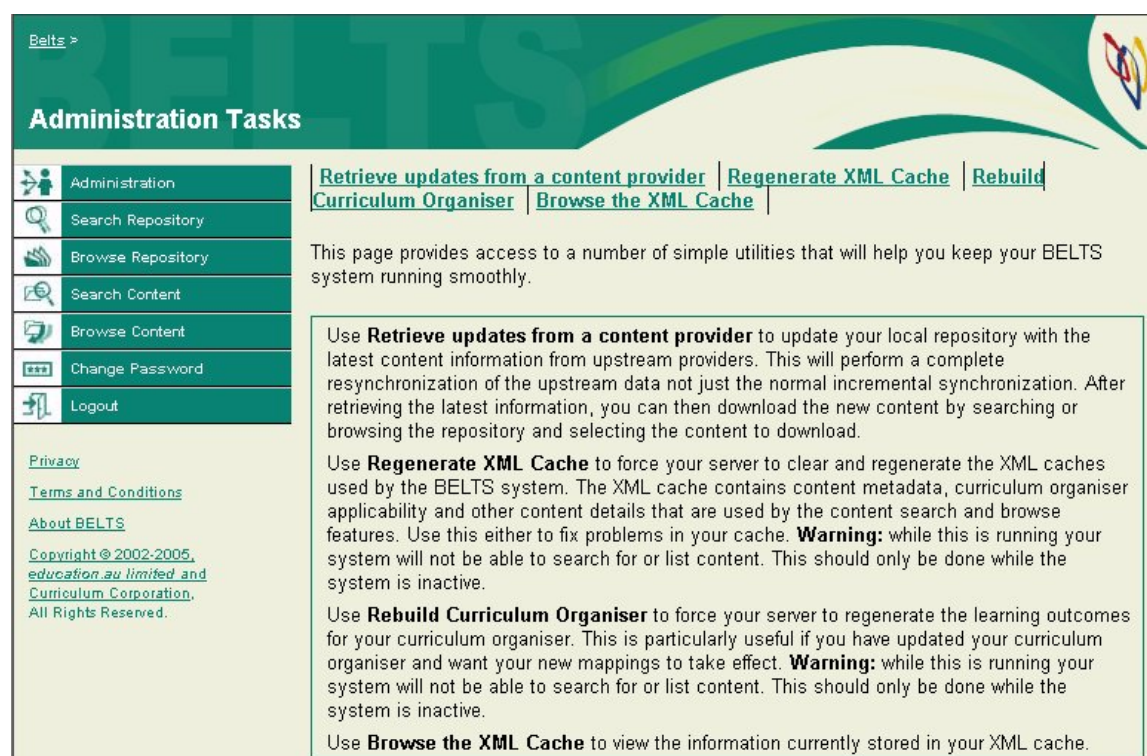


Figure 7.1. Administration Tasks Screen

From this point, the following actions may be performed:

- Select the **Retrieve updates from a content provider** option to perform the **Retrieve updates from a content provider** [36] function.
- Select the **Regenerate XML Cache** option to perform the **Regenerate XML Cache** [37] function.
- Select the **Rebuild Curriculum Organiser** option to perform the **Rebuild Curriculum Organiser** [38] function.
- Select the **Browse the XML Cache** option to perform the **Browse the XML Cache** [38] function.

7.1. Retrieve updates from a content provider

This function allows a BELTS content manager to manually request the latest updates from a content provider, rather than waiting for the next scheduled update. This function is useful, for example, if it is known that new content has been made available upstream and it is desired to access it straight away.

Procedure 7.2. Retrieve updates from a content provider

- Within the Administration Tasks window, select the **Retrieve updates from a content provider** option.

A screen is displayed to allow you to select the provider from a list of those available.

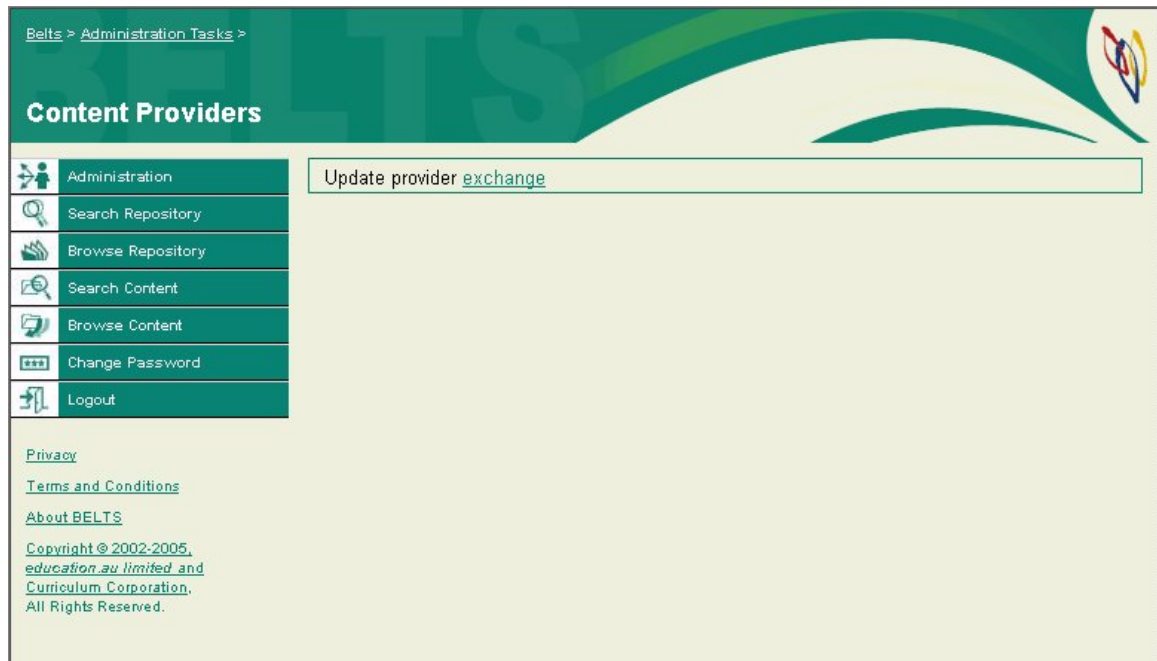


Figure 7.2. Provider Selection List Screen

From this point, the following actions may be performed:

- Select the Provider Id to force a manual update from the selected provider.

A request is sent to the server to update the provider.



Note

This request may take some time to fulfill. Once it is complete, the Administration Tasks screen is redisplayed.

7.2. Regenerate XML Cache

This function is provided as a problem-solving aid in BELTS. It serves to manually regenerate the XML cache created for content as they are made known to the system and may be used if, for some reason, the XML cache is corrupted or out of date.

Procedure 7.3. Regenerate XML Cache

- Within the Administration Tasks window, select the **Regenerate XML Cache** option.

A request is sent to the server to regenerate the XML cache and the Administration Tasks screen is redisplayed.



Note

This request may take some time to fulfill. You will receive an email once the XML Cache has been regenerated.

7.3. Rebuild Curriculum Organiser

This function is provided to enable BELTS to regenerate the internal structures required for a Curriculum Organiser should it require change. Once the updated curriculum organiser file is put in place, this option regenerates the portions of the XML cache that are responsible for the curriculum organiser.

Procedure 7.4. Rebuild Curriculum Organiser

- Within the Administration Tasks window, select the **Rebuild Curriculum Organiser** option.

A request is sent to the server to regenerate the XML cache for the updated curriculum organiser and the Administration Tasks screen is redisplayed.



Note

This request may take some time to fulfill. You will receive an email once the curriculum organiser has been regenerated.

7.4. Browse the XML Cache

This function is provided to give a BELTS user the opportunity to explore the various XML documents stored for content within the system. This functionality is not required for normal use of BELTS, but may be useful for people wishing to develop further functionality on top of BELTS.

Procedure 7.5. Browse the XML Cache

1. Within the Administration Tasks window, select the **Browse the XML Cache** option.

The Browse Cache Screen is displayed

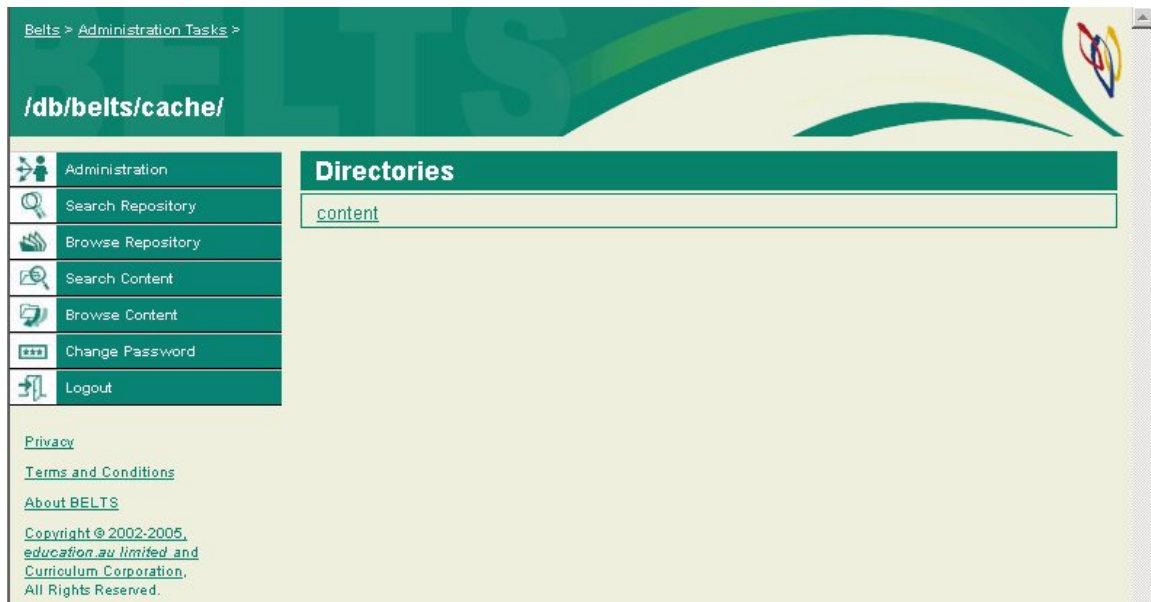


Figure 7.3. Browse Cache Screen

2. Select one of the links in the **Directories** list to drill-down into the XML cache and eventually to view the XML cached for the content.



Figure 7.4. Browse Cache Screen - content

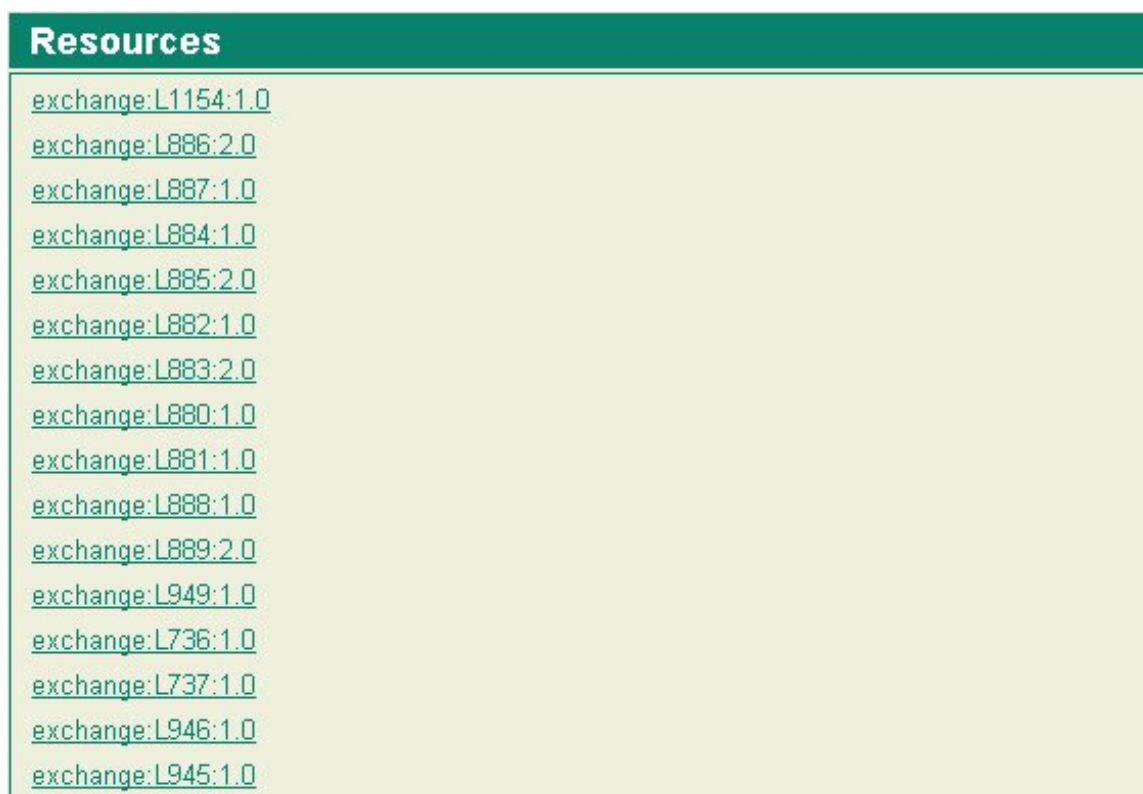


Figure 7.5. Browse Cache Screen - content/status



Figure 7.6. Browse Cache Screen - content/status/exchange:L886:2.0

Part IV. Miscellaneous Topics

Chapter 8. Search Help

8.1. Advanced Search Tips

The search engine in BELTS is built upon Jakarta Lucene [<http://jakarta.apache.org/lucene/>]. This document will provide you with an understanding of the query language and help you target your searches effectively.

8.1.1. Words and phrases

A query revolves around words. For searching purposes BELTS considers a word as an unbroken sequence of letters, numbers, underscores (_), hyphens (-) and single quotes ('). For example:

- “O’Neill” is one word
- “Marlan/O’Neill” is two words; “Marlan” and “O’Neill”
- “education.au” is two words; “education” and “au”
- “test-user_1” is one word; “test-user_1”

Words are the basic building block for query terms. There are two types of terms: single terms and phrases.

1. A single term is a single word such as “Learning” or “Federation”.
2. A Phrase is a group of words surrounded by double quotes such as “The Learning Federation”.

Multiple terms can be combined together with boolean operators such as “OR” and “AND” (see below for more details) to form a more complex query.

8.1.2. Term Modifiers

Query terms support modifiers to provide a wide range of searching options.

8.1.2.1. Wildcard searches

Single and multiple character wildcard searches are supported.

1. To perform a single character wildcard search use the “?” symbol.
2. To perform a multiple character wildcard search use the “*” symbol.

The single character wildcard search looks for terms that match that with the single character replaced. For example, to search for “text” or “test” you can use the search:

```
te?t
```

Multiple character wildcard searches looks for 0 or more characters. For example, to search for test, tests or tester, you can use the search:

```
test*
```

You can also use the wildcard searches in the middle of a term.

```
te*t
```



Note

You cannot use a * or ? symbol as the first character of a search.

8.1.2.2. Fuzzy searches

Fuzzy searches based on the Levenshtein Distance, or Edit Distance algorithm are also supported. To use a fuzzy search use the tilde, “~”, symbol at the end of a Single word Term. For example to search for a term similar in spelling to “roam” use the fuzzy search:

```
roam~
```

This search will find terms like foam and roams.



Note

Terms with a fuzzy search modifier will automatically get a boost factor (see below) of 0.2

8.1.2.3. Proximity searches

Finding words within a specific distance away is also supported. To do a proximity search use the tilde, “~”, symbol at the end of a phrase. For example to search for “calculate” and “speed” within 10 words of each other in a document use the search:

```
"calculate speed"~10
```

8.1.2.4. Boosting a term

You can boost the relevance level of matching documents based on the terms found. To boost a term use the caret, “^”, symbol with a boost factor (a number) at the end of the term you are searching. The higher the boost factor, the more relevant the term will be. For example, if you are searching for “calculate speed” and you want the term “calculate” to be more relevant, you would type:

```
calculate^4 speed
```

This will make matches with the term calculate appear more relevant.

You can also boost Phrase Terms as in the example:

```
"learning object"^4 "learning federation"
```

By default, the boost factor is 1 and although the boost factor must be positive, it can be less than 1 (e.g. 0.2)

8.1.2.5. Boolean operators

Boolean operators allow terms to be combined. “AND”, “+”, “OR”, “NOT” and “-” are supported.

8.1.2.5.1. OR

The OR operator is the default operator. This means that if there is no Boolean operator between two terms, the OR operator is used. The OR operator links two terms and finds a matching document if either of the terms exist in a document.

To search for documents that contain either “learning object” or just “federation” use the query:

```
"learning object" federation
```

or

```
"learning object" OR federation
```

8.1.2.5.2. AND

The AND operator matches documents where both terms exist anywhere in the text of a single document.

To search for documents that contain “learning object” and “learning federation” use the query:

```
"learning object" AND "learning federation"
```

8.1.2.5.3. +

The “+” or required operator requires that the term after the “+” symbol exist somewhere in the document.

To search for documents that must contain “learning” and may contain “federation” use the query:

```
+learning federation
```

8.1.2.5.4. NOT

The NOT operator excludes documents that contain the term after NOT.

To search for documents that contain “learning federation” but not “learning object” use the query:

```
"learning federation" NOT "learning object"
```



Note

The NOT operator cannot be used with just one term as it will return no results

8.1.2.5.5. -

The “-” or prohibit operator excludes documents that contain the term after the “-” symbol.

To search for documents that contain “learning federation” but not “learning object” use the query:

```
"learning federation" -"learning object"
```

8.1.2.5.6. Grouping

Parentheses may be used to group clauses to form sub queries. This can be very useful if you want to control the boolean logic for a query.

To search for either “federation” or “object” and “learning” use the query:

```
(federation object) AND learning
```

8.1.2.5.7. Escaping special characters

Special characters that are part of the query will need to be escaped. The current list of special characters are

```
+ - && | | ! ( ) { } [ ] ^ " ~ * ? : \
```

To escape these characters use the \ before the character. For example to search for (1+1):2 use the query:

```
\(1\+1\)\:2
```

Glossary

Active	A state that indicates a user, school, dependent system, class or lesson is available in the system.
Activate	The act of making a user, school, dependent system, class or lesson active.
Archive	The act of making a user, school, dependent system or class archived or inactive.
Archived	A state that indicates a user, school, dependent system or class is no longer required.
BELTS	Basic E-Learning Tool Set. A simple set of tools developed to demonstrate the distribution, management and use of learning objects and to aid investigation of requirements for e-learning environments by Australian and New Zealand jurisdictions.
Class	An organising mechanism used for grouping lessons and/or students and teachers.
Content	A physical or digital asset (work or material) intended for communication. Content can be static, dynamic or scripted instructions. Content covers learning objects, resources, files and metadata.
Content Manager	The user role that enables searching and downloading content from a parent repository and managing the availability of the content to teachers.
Curriculum Organiser	A tool for assisting teachers to locate online content relevant to learning outcomes. The tool is a list of neutral vocabulary terms, used to describe learning objects, which is mapped to the learning outcomes used within a specific jurisdiction.
Deactivate	The act of making a lesson inactive, so that it is no longer available to students.
Discovery	The act of utilising tools and services to search for and retrieve digital assets from (various) sources (e.g. object repositories, databases, metadata search engines).
Element	A fundamental unit of description used by Metadata. Sometimes referred to as a “field” or “attribute”.
File	An actual and identified digital file.
Filter	To select and display items from a list or search according to specified criteria.

Function	A discreet part of the software that enables a user goal to be carried out, such as “Create a User”.
Inactive	A state that indicates a lesson is no longer available for students to access.
Item	A generic description that encompasses files, learning objects, resources and URLs that can be added to a lesson.
Jurisdiction	School education system (State/Territory) or sector (Independent/Catholic) including all Australian States and Territories and New Zealand.
Dependent System	A downstream system in the content distribution chain that will require access to the BELTS repository. This may be another BELTS system.
Exchange	The name of The Le@rning Federation's content system. It provides the central content management facility within which curriculum content can be submitted, stored, managed and distributed. It is the content repository from where all TLF content will be distributed to jurisdictions.
Learning management system (LMS)	An application that is used for managing the organisation of digital content for presentation to students, provide supporting community tools and may include management of student results.
Learning object	A multimedia learning experience related to a particular educational purpose. Learning objects contain files, organisations, metadata, and other learning objects. The files and sub-ordinate learning objects are used to create the multimedia learning experience. An organisation specifies a navigation path through the learning object. A learning object may have many organisations, and hence many possible navigation paths. Metadata is structured information about the learning object supporting management, description of educational purpose, technical interoperability, digital rights management and accessibility.
Learning outcome	A specific learning objective identified within a jurisdiction’s curriculum framework.
Lesson	A sequence of content and instructions that can be used as part of a learning activity.
LORAX	Learning Object Repository Access and eXchange. The SOAP specification that may be used for searching and downloading learning objects and resources from the Exchange.
Metadata	Metadata is structured information about learning objects and files supporting management, description of educational purpose, technical interoperability, digital rights management and accessibility.
Privilege	A permission that allows a user to perform a specific function in the system.
Repository	A distributed and heterogeneous database of content/metadata that supports

	open information retrieval protocols.
Resource	An actual and identified physical or digital file (referenced in Items as part of learning objects or as individual items) that may be used in a learning activity
Role	A set of functions that can be performed by a user within the system.
School Administrator	The user role that enables managing school details and creating and managing users and classes within the school.
SOAP	Simple Object Access Protocol. This is a platform independent protocol for accessing services, objects and servers.
Student	The user role that enables viewing lessons prepared by teachers.
System	The implemented BELTS software, hardware, and infrastructure.
Teacher	The user role that enables discovering and preparing content (using lessons) for presentation to students.
The Le@rning Federation	An initiative of State and Federal governments of Australia and the New Zealand government to develop online curriculum content for Australian and New Zealand schools. This initiative is managed by a joint venture between education.au limited and Curriculum Corporation.
User	Any authorised party using the system.

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