
LanguageWare Resource Workbench 7.2

Export an annotator as a PEAR file for IBM Content Analytics V2.2



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Introduction

- **Module overview**
 - How to export an annotator as an UIMA PEAR file for ICA
 - How to deploy the UIMA PEAR file in ICA
 - How to import search fields and create facets in ICA
 - Best practices
- **Target audience:**
 - All audiences
- **Prerequisites:**
 - Install LanguageWare® Resource Workbench (LRW)
 - Complete the examples at the end of the prior training modules to setup the AnalyseHelpline annotator.
 - Create the sample text analytics collection provided with ICA
- **Version Release Date** LRW 7.2, ICA 2.2, released October, 2010

Module objectives

After this course you will be able to:

- Export an annotator as a UIMA PEAR file for IBM Content Analytics (ICA) V2.2
- Deploy the UIMA PEAR file in ICA
- Import search fields and create facets mapped to the annotator in ICA
- View the analytics based on the annotator in ICA.

Module roadmap

- **Export an annotator as a PEAR file for ICA**
 - What is it?
 - How to configure it?
- How to deploy a PEAR file in ICA?
- How to associate a text engine with a collection?
- How to import search fields associated to the PEAR file?
- How to create facets and map them to search fields?
- How to redeploy resources and rebuild index?
- Module summary and best practices
- Sample exercises

Export an annotator as a PEAR file for ICA

What is it?

- **General**

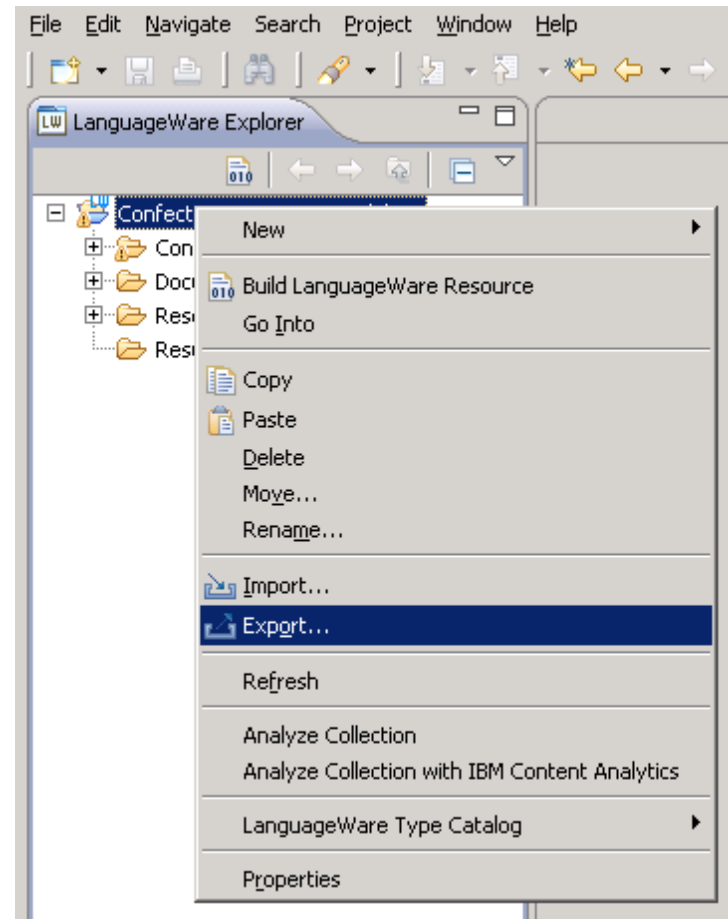
- Export the annotator from LanguageWare Resource Workbench (LRW) as a PEAR (Processing Engine ARchive file) that contains information specific for ICA.

- **Specific**

- An existing AnalyseHelpline annotator that was developed in LRW is exported to the file system as an Apache UIMA PEAR file named AnalyseHelplineICA.pear.
- The exported UIMA PEAR file is deployed in ICA as a text analysis engine.
- The text analysis engine is associated to a collection in ICA.
- This functionality is useful if you want to work with your annotator in ICA to use text analytics and you currently do not have connectivity to ICA in order to deploy it. In particular, a business partner might want to use this option to deliver and deploy a previously created annotator in a customer's environment.

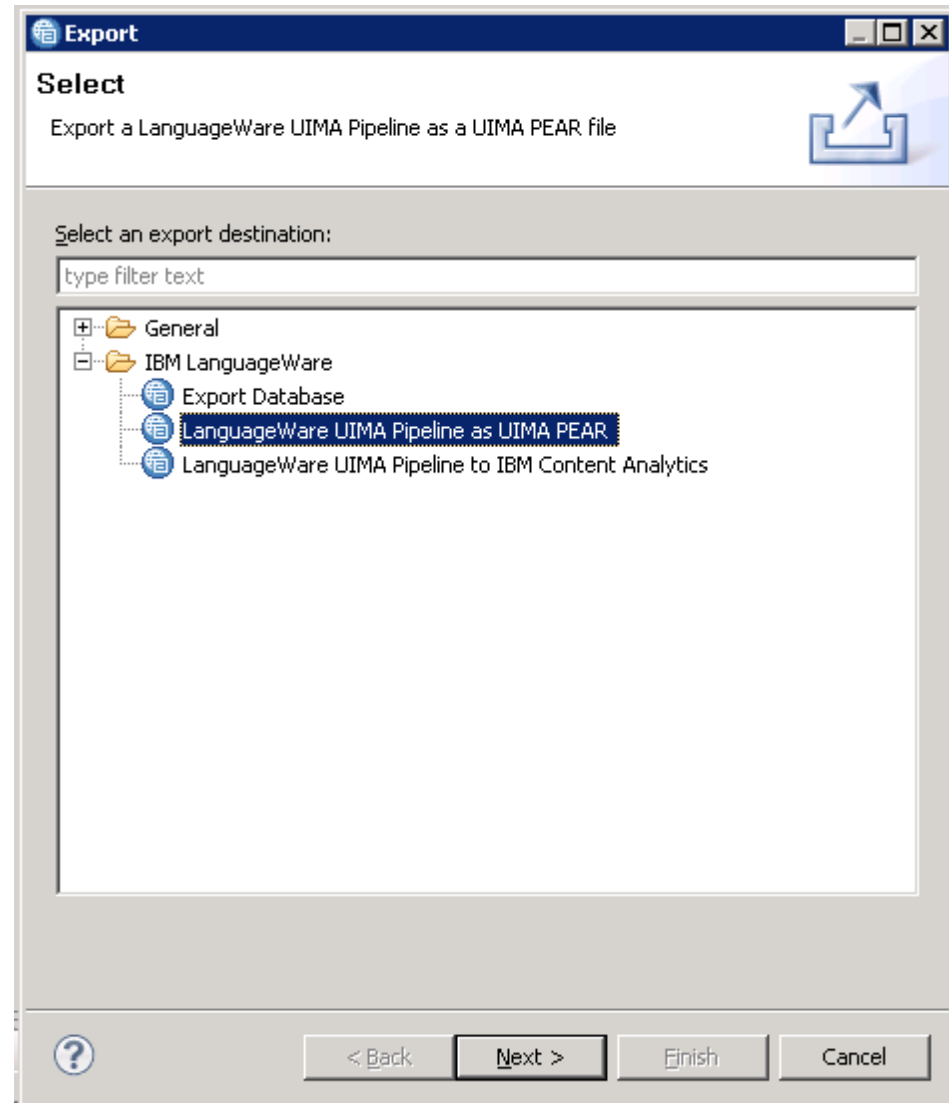
Export an annotator as a PEAR file for ICA how to configure it?

- Right click the project name for the annotator you want to export. For this example, right click **ConfectionaryCompanyHelpline**
- Select **Export**



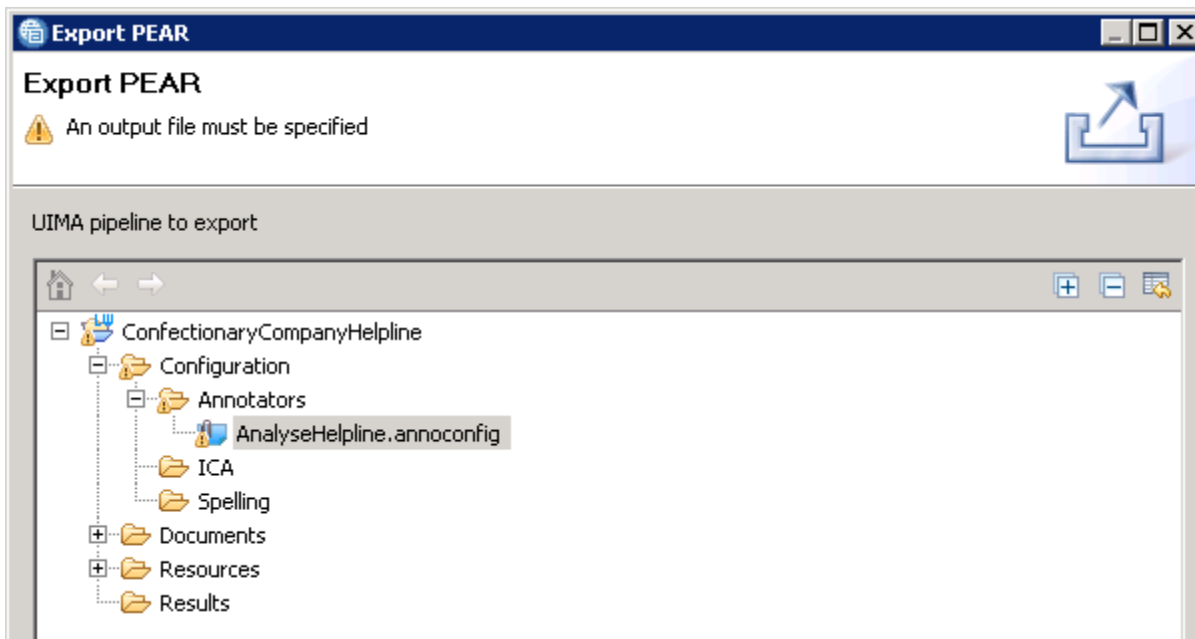
Export an annotator as a PEAR file for ICA how to configure it?

- Expand the **IBM LanguageWare** folder
- Select **LanguageWare UIMA Pipeline as UIMA PEAR**
- Click **Next**



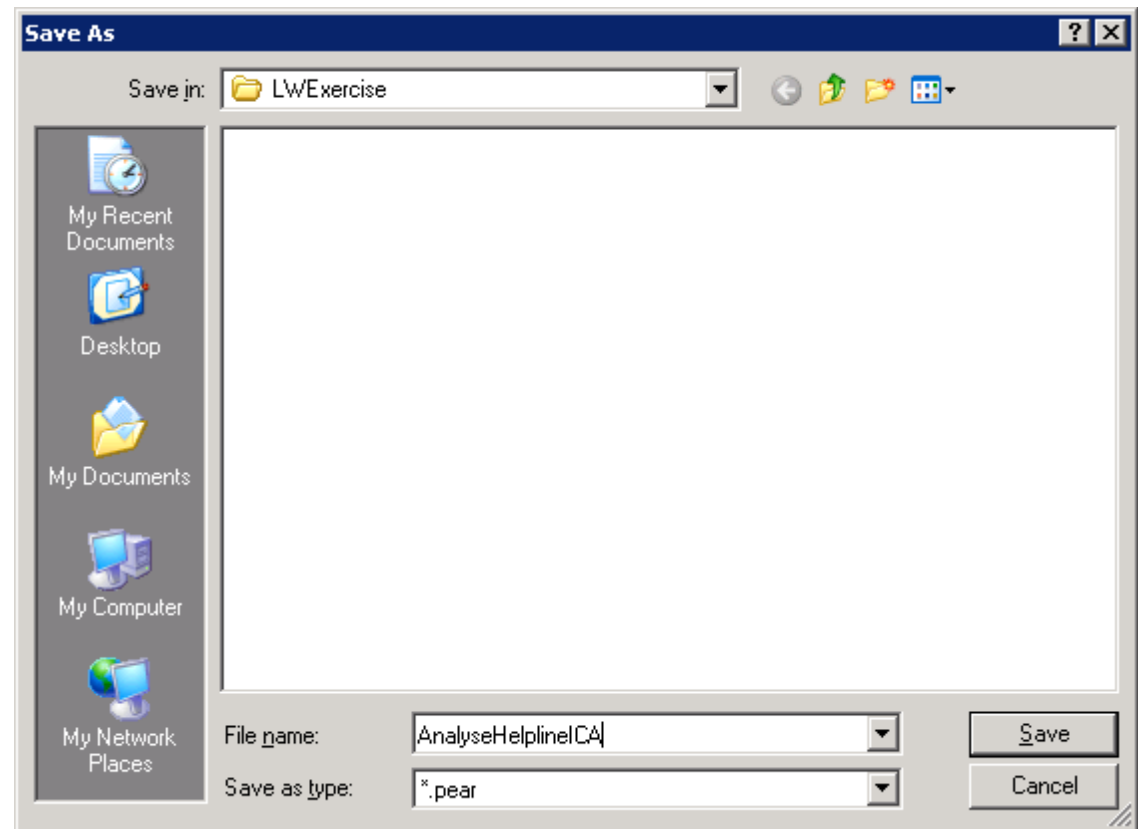
Export an annotator as a PEAR file for ICA how to configure it?

- Expand **ConfectionaryCompanyHelpline**
- Expand **Configuration**
- Expand **Annotators**
- Select **AnalyseHelpline.annoconfig**



Export an annotator as a PEAR file for ICA how to configure it?

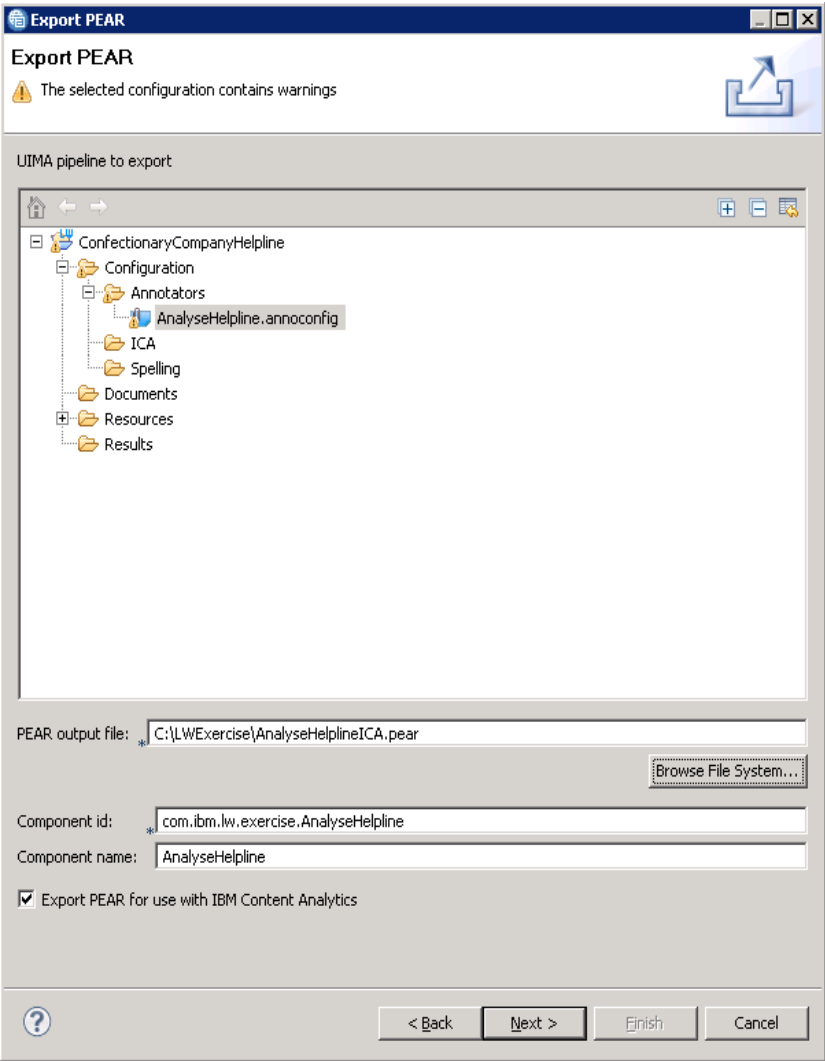
- Click **Browse File System...**
- Change the directory to your desired location of the PEAR file.
- For the File name field, type AnalyseHelplineICA
- Click **Save**



Export an annotator as a PEAR file for ICA how to configure it?

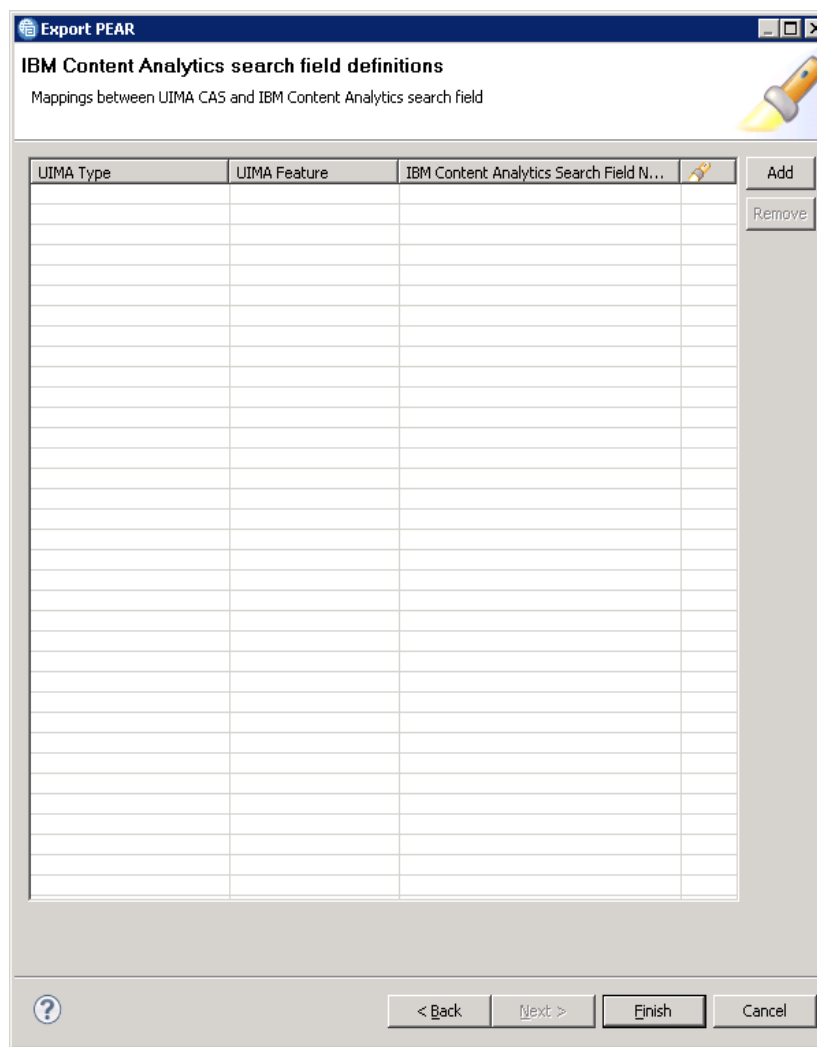
- The PEAR output file field is now populated
- Select the **Export PEAR for use with IBM Content Analytics** check box
- Click **Next**

Note: By selecting **Export PEAR for use with IBM Content Analytics** option, the PEAR includes files to integrate with ICA. In particular, the cas2index.xml and searchfield.xml files are included in the PEAR.



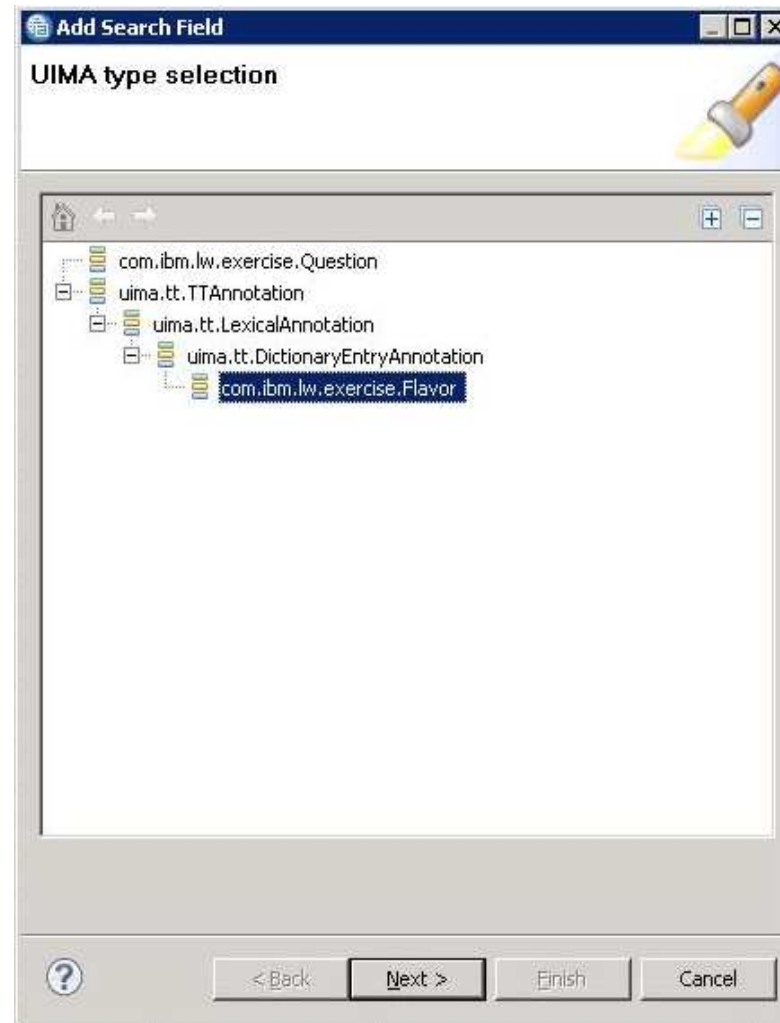
Export an annotator as a PEAR file for ICA how to configure it?

- Click **add** to add a mapping between UIMA CAS and a search field in IBM content analytics
- A dialog box is displayed (see next slide)



Export an annotator as a PEAR file for ICA how to configure it?

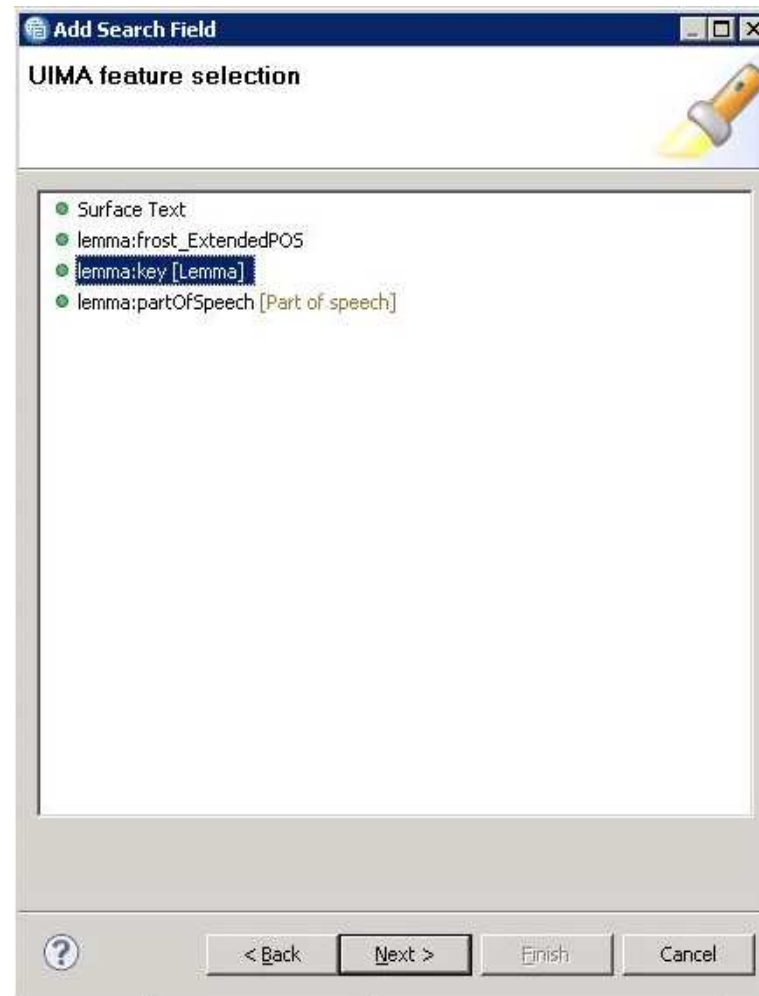
- Select the UIMA type that you want to use for the search field in ICA. For this example, select **com.ibm.lw.exercise.Flavors** as the UIMA type
- Click **Next**



Export an annotator as a PEAR file for ICA how to configure it?


- Select **lemma:key** as the UIMA feature
- Click **Next**

Note: By selecting the lemma:key feature, you are allowing the lemma forms of the word to be included in the search results within ICA. For example, a search on the term “run” returns documents containing run, runs, running, and ran within the ICA text miner application



Export an annotator as a PEAR file for ICA how to configure it?

- Enter the search field name that you want mapped to the UIMA feature. For this example, type **flavor** for Search Field Name
- Select the **Searchable** check box so that the field name is able to be used as search criteria in ICA
- Click **Finish**

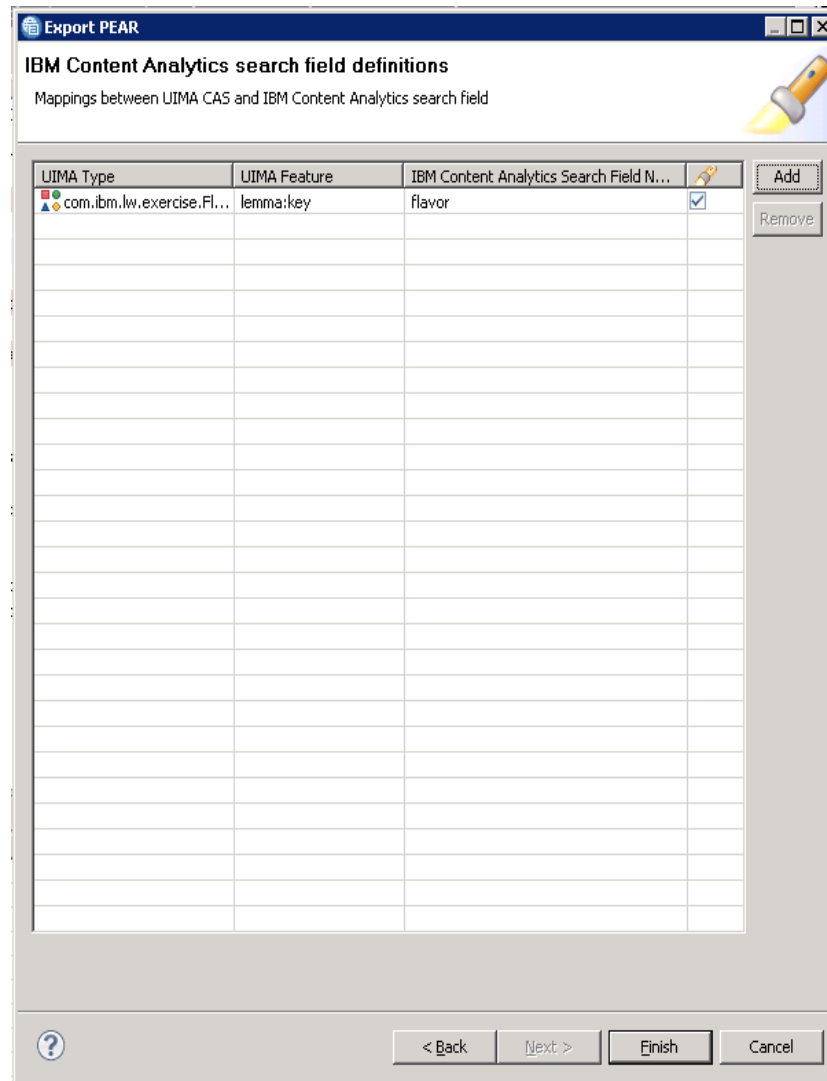


The screenshot shows a dialog box titled "Add Search Field". The main area is titled "Search Field Name" and contains a text input field with "flavor" entered. Below the input field is a checked checkbox labeled "Searchable". At the bottom, there are four buttons: "< Back", "Next >", "Finish", and "Cancel". A help icon (?) is located in the bottom left corner.

Export an annotator as a PEAR file for ICA

how to configure it?

- The mapping between the UIMA CAS and IBM Content Analytics is displayed
- Click **Finish**



Export an annotator as a PEAR file for ICA how to configure it?

- A confirmation message indicating that the export is complete will appear
- Click **OK**



Module roadmap

- **Export an annotator as a PEAR file for ICA**
 - What is it?
 - How to configure it?
- **How to deploy a PEAR file in ICA?**
- **How to associate a text engine with a collection?**
- **How to import search fields associated to the PEAR file?**
- **How to create facets and map them to search fields?**
- **How to redeploy resources and rebuild index?**
- **Module summary and best practices**
- **Sample exercises**

Deploy PEAR file in ICA

- Open IBM Content Analytics administration console. In a web browser, type: `http://<IP Address>:<port>/ESAdmin`
- Log in using the ICA system administrator user ID

The screenshot displays the IBM Content Analytics administration console. At the top, there is a navigation bar with the following tabs: Collections, System, Security, Search Customizer, Analytics Customizer, Log Out, Help, and About. Below the navigation bar, the page title is "Collections". There is a "Help for this page" link and a "Create Collection" button. A status bar indicates "Last refreshed: Friday, February 4, 2011 1:10:15 AM EST" with a "Refresh" button. Below this, there is a "Search Collections" section. The main content area shows a table of "Text Analytics Collections".

Collection name	Crawl	Parse and Index	Search	Monitor Edit
Sample Text Analytics Collection				

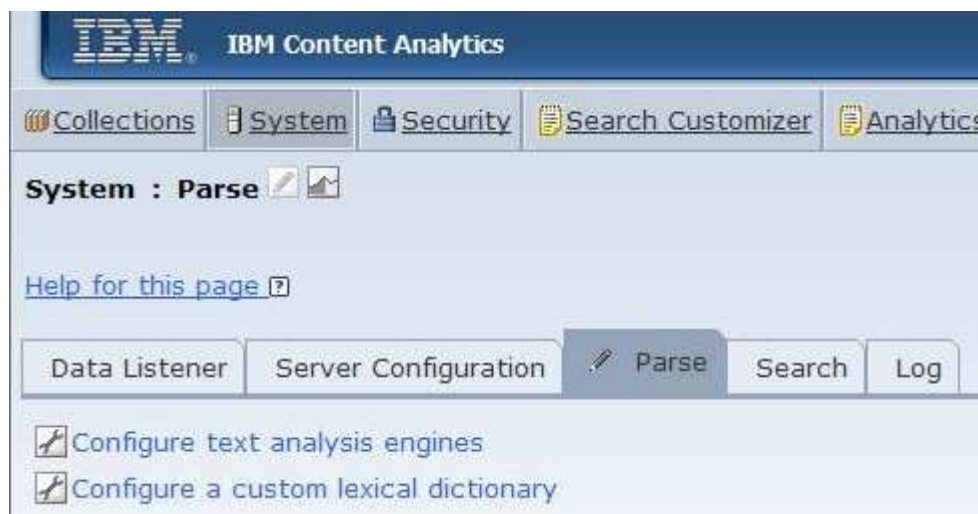
Deploy PEAR file in ICA how to configure it?

- Click the **System** tab.
- Click the **Edit** icon.



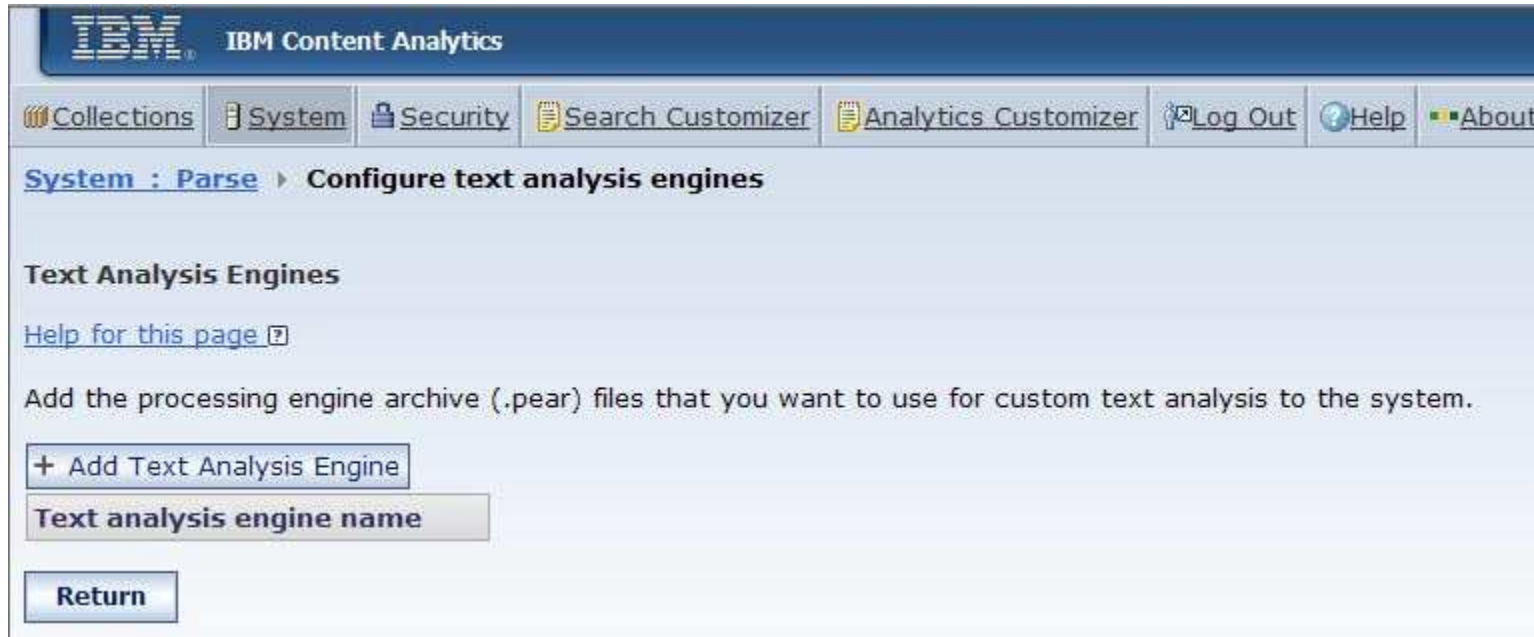
Deploy PEAR file in ICA how to configure it?

- Click the **Parse** tab
- Click **Configure text analysis engines**



Deploy PEAR file in ICA how to configure it?

- Click **Add Text Analysis Engine**



Deploy PEAR file in ICA how to configure it?

- In the Text analysis engine name field, type an unique name for the engine. For this example, type AnalyseHelplineEngine
- Select the **Use processing engine archive descriptor** check box
- Enter the path to the PEAR file that you exported from LRW. If the PEAR file is located on your local machine, select the **Local Path** radio button. If the PEAR file is located on the ICA machine, select the **Index server path** radio button.
- Click **OK**

The screenshot shows a web-based configuration interface for adding a text analysis engine. The breadcrumb trail is 'System : Parse > Configure text analysis engines > Add Text Analysis Engine'. The main heading is 'Add a Text Analysis Engine' with a 'Help for this page' link. The instructions state: 'Type a unique display name for the text analysis engine that you want to add to the system. When you configure text processing options for a collection, you select the engine that you want to use. Specify the file path:'. Two bullet points provide guidance: 'If the processing engine archive (.pear file) is on your local system, you can click Browse to locate' and 'If the .pear file is on the index server, type the fully qualified path for the file.'. The form includes a text input for 'Text analysis engine name:' containing 'AnalyseHelplineEngine'. A checked checkbox is labeled 'Use processing engine archive descriptor'. Under the 'Path' section, the 'Index server path' radio button is selected. The 'File name:' field contains 'C:\LWExercise\AnalyseHelplineICA.pear'. There are 'OK' and 'Cancel' buttons at the bottom.

Deploy PEAR file in ICA how to configure it?

- The text analysis engine name now displays in the list of engines
- Click **Return**
- Record the path to the pear ID that is displayed in the success message at the top of the screen. For this example, you would write down:
e:\oee\test1234\esadmin\data\pearsupport\PearId1 as shown in the image below

System : Parse > **Configure text analysis engines**




i FFQM0229I Your settings were successfully applied. The pear ID is [PearId1] and the installed directory is [e:\oee\test1234\esadmin\data\pearsupport\PearId1]. To associate a text analysis engine with a collection, edit the collection, select the Parse and Index page, and configure text processing options.

Text Analysis Engines

[Help for this page](#) [?]

Add the processing engine archive (.pear) files that you want to use for custom text analysis to the system.

+ Add Text Analysis Engine

Text analysis engine name
AnalyseHelplineEngine   

Return

Module roadmap

- Export an annotator as a PEAR file for ICA
 - What is it?
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Associate a text engine with an ICA collection how to configure it?

- Now that the PEAR file is deployed in ICA, it needs to be associated to a collection so that it can be used for text analytics. Click the **Collections** tab
- Click the **Edit** icon for the collection that you want the PEAR file to be associated with. For this example, use the Sample Text Analytics Collection

Collections

[Help for this page](#)

* Create Collection Last refreshed: Friday, February 4, 2011 1:18:50 PM EST Refresh

Search Collections

Collection name	Crawl	Parse and Index	Search	Monitor Edit
Text Analytics Collections				
Collection name	Crawl	Parse and Index	Search	Monitor Edit
Sample Text Analytics Collection				

Edit

Associate a text engine with an ICA collection how to create and configure it?

- Click the **Parse and Index** tab
- Click **Configure text processing options**



Associate text engine with an ICA collection how to configure it?

- Click **Select a text analysis engine**

[Collections](#) > [Sample Text Analytics Collection : Parse](#) > [Configure text](#)

Text Processing Options

[Help for this page](#)

If no text analysis engines were added to the system, then default text analysis. To use custom text analysis, select the **System > Parse** page and add a text a

Text analysis engine name:

[No custom analysis] **Select a text analysis engine**

CAS (common analysis structure) view for custom text analysis:

Map XML elements to the common analysis structure

[+ Add Mapping](#)

[Display name](#) [View XML source](#)

Map the common analysis structure to the index

This action enables the collection to be searched by semantic search.

Mapping file:

[Select a mapping file](#)

Associate text engine with an ICA collection how to configure it?

- Select the engine that you created using your PEAR file in the Text analysis engine name field. For this example, select **AnalyseHelplineEngine**
- Provide a unique name in the CAS view for custom text analysis field. For this example, type AnalyseHelplineView
- Click **OK**

[Collections](#) > [Sample Text Analytics Collection : Parse](#) > [Configure text processing options](#) > [Edit](#)

Select a Text Analysis Engine for this Collection

[Help for this page](#) [?]

If text analysis engines were added to the system, you can select one to use with this collection.

Important: If you select **No custom analysis**, then the default rules are used.
(All previously configured mappings are reset to the system default values.)

Text analysis engine name:

CAS (common analysis structure) view for custom text analysis:

Associate text engine with an ICA collection how to configure it?

- Click **Select a mapping file**

Text Processing Options

[Help for this page](#)

If no text analysis engines were added to the system, then default text analysis engine will be used. To use custom text analysis, select the **System > Parse** page and add a text analysis engine.

Text analysis engine name:

CAS (common analysis structure) view for custom text analysis:

Map XML elements to the common analysis structure

Map the common analysis structure to the index
This action enables the collection to be searched by semantic search.

Mapping file:

Map the common analysis structure to a relational database

Associate text engine with an ICA collection how to configure it?

- Select the **Index server path** radio button
- Type the path to the cas2index.xml file that is located on the ICA server machine. The cas2index.xml file is located in the following location:

<ES_Node_Root>\data\pearsupport\<<PearId>\conf\cas2index.xml

ES_Node_Root represents the data directory defined during install. PearId represents the ID for the PEAR file that you deployed in ICA. You recorded this path after the successful text engine deployment in slide 22

- Click **OK**
- Click **Return**

Select a Mapping File for this Collection

[Help for this page](#)

You can use default mapping rules, or you can use a custom mapping file. Specify the file path:

- If the mapping file on your local system, you can click Browse to locate the file.
- If the mapping file is on the index server, type the fully qualified path for the file.

Default

Local path (the maximum file size is 64 MB)

Index server path (the maximum file size is 64 MB)

File name:

E:\oe\test1234\esadmin\data\pearsupport\PearId1\conf\cas2index.xml

OK **Cancel**

Module roadmap

- Export an annotator as a PEAR file for ICA
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Import search fields associated to the annotator how to configure it?





- On the Parse and Index tab, click **Configure Search Field**
- Click **Import Search Fields**

[Collections](#) ▶ [Sample Text Analytics Collection : Parse](#) ▶ **Field Definitions**

Search Field Definitions

[Help for this page](#) ⓘ

Search fields help ensure that similar data is returned from multiple data sources regardless of the actual field names. For example, users can search for author data and find results stored in fields named owner, originator, creator, and so on. You can configure fields here, import predefined search fields from an XML file, and export search field definitions to an XML file.

Search field name	Returnable	Faceted search	Free text search	In summary	Fielded search	Exact match	Case-sensitive	Parametric search	Text sortable	Analyzable	Export
author  	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Date ▾	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
body  	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Date ▾	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Import search fields associated to the annotator how to configure it?

- Select the **Index server path** radio button
- Type the path to the searchfield.xml file that is located on the ICA server machine. The searchfield.xml file is located in the following location:

```
<ES_Node_Root>\data\pearsupport\<<PearId>\conf\searchfield.xml
```

ES_Node_Root represents the data directory defined during install. PearId represents the ID for the PEAR file that you deployed in ICA. You recorded this path after the successful text engine deployment in slide 22

- Click **Next**

Import Search Field Definitions
[Help for this page](#)

Specify the path for the XML that contains the search field definitions that you want to import:

- If the file is on your local system, you can click Browse to locate the file.
- If the file is on the index server, type the fully qualified path for the file.

Local path (the maximum file size is 64 MB)

File name:

Index server path (the file can be larger than 64 MB)

File name:

Import search fields associated to the annotator how to configure it?

- The search fields to import are shown. Select the search fields that you want to import by selecting the Import check box. In this example, ensure that the **Import** check box for the flavor search field is selected
- Click **Finish**
- Click **Return**

Import Search Field Definitions

[Help for this page](#) ⓘ

Select the search fields that you want to import from the list of fields that were defined in the uploaded XML file.

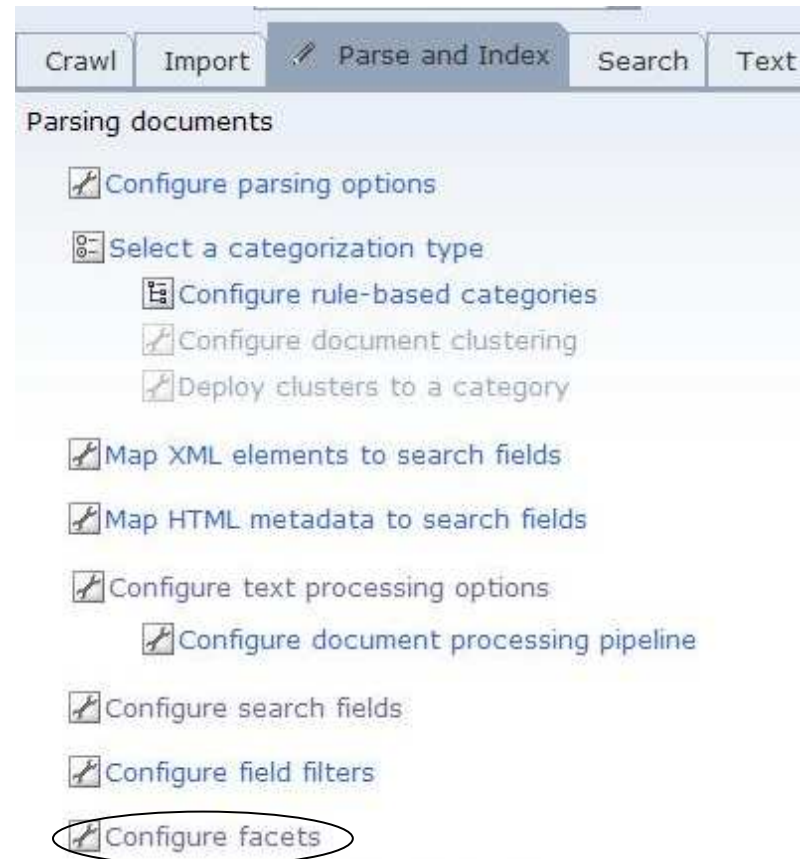
Search field name	Returnable	Faceted search	Free text search	In summary	Fielded search	Exact match	Case-sensitive	Parametric search	Text sortable	Analyzable	Import
flavor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="text" value=""/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Module roadmap

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Create facets mapped to the search fields how to configure it?

- On the Parse and Index screen, click **Configure facets**



Create facets mapped to the search fields how to configure it?

- For the Facet path, type a path for the Facet. In this example, type Flavor
- For the Facet name, type the name that you want displayed in the text miner for the facet. In this example, type Flavor
- Click **Add**

Facet Tree

[Help for this page](#)

After you add a facet to the facet tree, edit the facet to map search fields to it and to organize how the subfacets are displayed.

[-] Root

- [-] My Keywords
- [-] Category
- [-] Subcategory
- [-] Product

Add a facet

*Facet path:

Facet name:

Facet type:

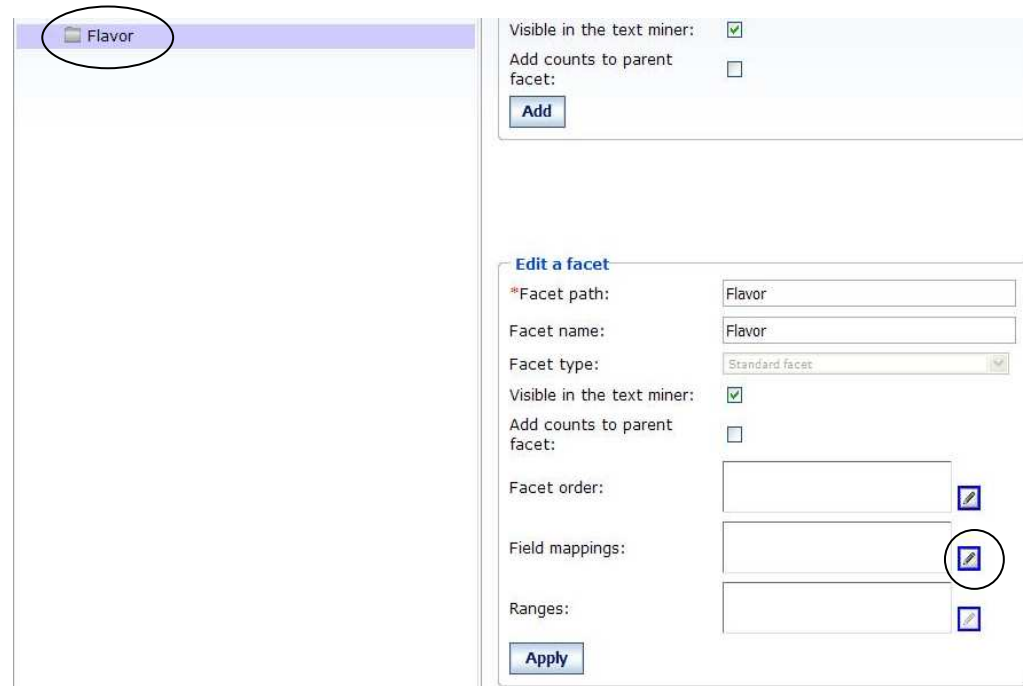
Visible in the text miner:

Add counts to parent facet:

Add

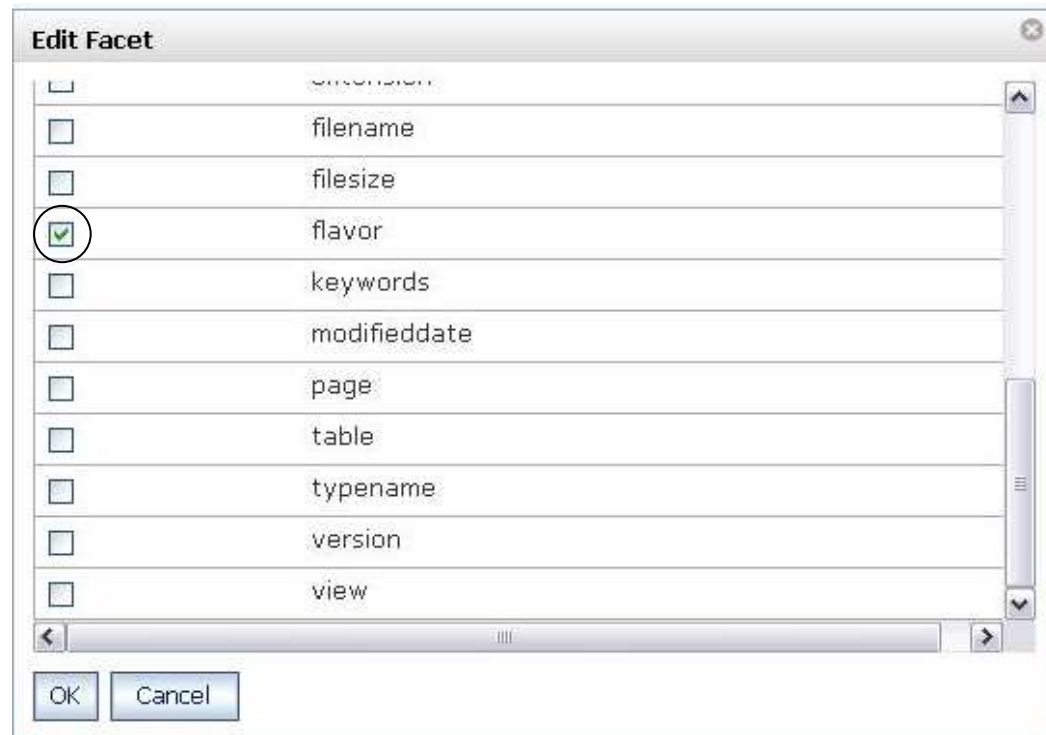
Create facets mapped to the search fields how to configure it?

- Select the new facet in the Facet tree. For this example, select Flavor
- Click the **Edit** icon next to the Field mappings text box under the Edit a facet section. This allows you to map the flavor search field to the Flavor facet



Create facets mapped to the search fields how to configure it?

- Select the search field check box that you want associated with the facet. For this example, select the check box associated with the flavor search field.
- Click **OK**



Create facets mapped to the search fields how to configure it?

- Click **Apply**
- Click **OK**

Edit a facet

*Facet path: Flavor

Facet name: Flavor

Facet type: Standard facet

Visible in the text miner:

Add counts to parent facet:

Facet order:

Field mappings: flavor

Ranges:

Apply

Remove a facet

Remove

OK **Cancel**

Module roadmap




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Redeploy resources and rebuild the index in ICA

- On the Parse and Index screen, click the **Monitor** icon
- Click the **Stop** icon
- Once the server is stopped, click the **Start** icon
- Once the server is started, click the **Details** icon

Collection name: Last refreshed: Friday, February 4, 2011 3:01:26 PM EST



Crawl Import **Parse and Index** Search Text Analytics Export Log General

Name	Details	Status
Parse and Index		 

Redeploy resources and rebuild the index in ICA

- Redeploy the resources by clicking the **Start** icon under the Resource deployment status section
- Rebuild a full index by clicking the **Restart a full index build** icon under the Rebuild index status section
- Click **OK** to the confirmation message

Parse and index status summary

Status:     

The index service is waiting for crawled documents.

Index size (megabytes): 3

Number of documents in the index: 852

Number of dropped documents: 0 

Server name

kem-qadev1.charlotte.ibm.com

Resource deployment status

Status:  


The resource deployment task was not started.

Estimated completion ratio: [Not executed]

Resource deployment start time: [Not executed]

Resource deployment end time: [Not finished]

Rebuild index status

Status:     

The rebuild index task was not started.

Estimated completion ratio: [Not executed]

Rebuild start time: [Not executed]

Rebuild end time: [Not finished]

View annotation results in the text miner application

- Open the ICA text miner
- Click **Facets**
- Select your facet associated with the annotator. For this example, select **Flavor** in the Facet Navigation

The screenshot displays the IBM Content Analytics interface. The top navigation bar includes 'Documents', 'Facets', 'Time Series', 'Deviations', 'Trends', 'Facet Pairs', 'Connections', and 'Dashboard'. Below the navigation bar, it indicates '852/852 results matched'. The 'Facet Navigation' panel on the left shows a list of facets: 'Part of Speech', 'Phrase Constituent', 'Named entity', 'My Keywords', 'Category', 'Subcategory', 'Product', and 'Flavor'. The 'Flavor' facet is selected and highlighted in blue. The main content area shows a table of keywords with their frequencies and bar charts. The table is titled 'Keywords' and 'Frequency'. The data is as follows:

Keywords	Frequency
chocolate	175
vanilla	102
orange	97
mint	62

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Module summary

You have completed this module and can:

- Export an annotator as a UIMA PEAR file.
- Deploy the UIMA PEAR file in ICA
- Import search fields and create facets mapped to the annotator
- Work with analytics based on the annotator.

See the LanguageWare help for more tips and advanced use cases.

Best practices

- If you need to modify your annotator in LRW, you need to deploy the new version of the annotator in ICA as a new text engine and associate it to the collection. The prior deployed text engine will still remain in ICA. It is advisable to delete the prior deployed text engine if you will no longer use it in ICA. To delete a text engine:
 - Click System -> Edit icon -> Parse -> Configure text analysis engines
 - Select the delete icon associated with the text analysis engine that is no longer being used.
- When importing the search fields, you can select the facet check box associated with the search field to automatically create the facet. This will result in a facet added under the root facet with the same name as the search field. To create specific facet names or hierarchies, do not select the facet check box when importing the search field. Instead, use the Configure facet option on the Parse and Index screen.

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Practice exercises

- Create an annotator based on the examples in the prior modules.
 - Create project named: ConfectionaryCompanyHelpline. Set the UIMA type prefix to com.ibm.lw.exercise.
 - Create a dictionary named: Flavors. It should contain the following noun terms:
 - Chocolate, vanilla, mint, orange
 - Create a sample document and annotate the document.
 - Create a parsing rule named: IdentifyQuestion.
 - Create a UIMA annotator named AnalyseHelpline. Add the Flavor dictionary and IdentifyQuestion parsing rule to the pipeline.
- Export the AnalyseHelpline annotator as a UIMA PEAR file for ICA.
- Configure ICA with the sample collection.
- Deploy the PEAR file in ICA as a text engine.
- Associate the text engine with the Sample Text Analytics Collection in ICA.
- Import the search fields in ICA.
- Create a facet for each search field and map it to the search field in ICA.
- Redeploy resources and rebuild the full index in ICA.
- View and work with the analytics in the text miner application.

Contacts

- If you have any questions, comments or suggestions, contact us using the LanguageWare email address EMEALAN@ie.ibm.com or on the developerWorks® forum

ICA and LRW resources

- IBM Content Analytics Site:
 - <http://www-01.ibm.com/software/data/content-management/analytics/>
- LRW, alphaWorks
 - <http://www.alphaworks.ibm.com/tech/lrw>
- Content Analytics MicroSite:
 - www.ibm.com/ecm/content-analytics
- Information Center:
 - <http://publib.boulder.ibm.com/infocenter/analytic/v2r2m0/index.jsp>
- Redbook:
 - <http://www.redbooks.ibm.com/abstracts/sg247877.html?Open>
- Medical Records Text Analytics
 - http://www.youtube.com/watch?v=Ku1rWU_Jxs
- Jstart team
 - <http://www-01.ibm.com/software/ebusiness/jstart/textanalytics/index.html>
- Text Analytics Group (Lab Services) Team
 - James Mobley (jmobley@us.ibm.com)

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