Summit Lab Workbook - L4080



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4.	In the left pane of AEM Chrome Plug-in click the row for
	/content/summit/I4080/chapter-1.html?q=oak
5.	The right panel will update to with logging and query information for this request
6.	Click the Queries tab, and the executed query displays:
	with the plan below it
1	

7. The plan describes what Oak index will be used to execute this query; in this case the Lucene index named **cqPageLucene** is selected for use.

Inspecting the cqPageLucene index definition





hierarchy is indexed.

Note there is no property index rules for jcr:content/cq:tags

7. Create a index rule for the property [cq:Page]/jcr:content/cq:tags
While /oak:index/cqPageLucene/indexRules/cq:Page/properties is selected
Click Create... > Create Node

Node Name	Node Type



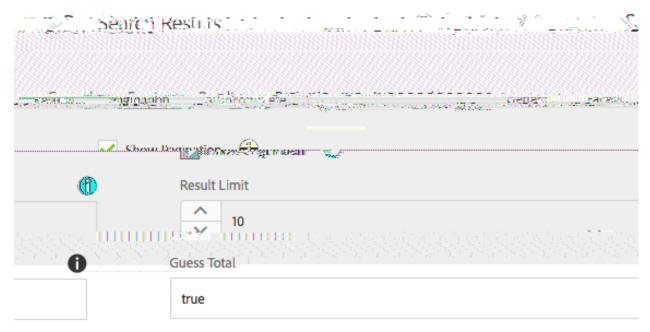
Solution Package

- Navigate to CRX Package Manager: AEM Start > Tools > Deployment > Packages
 a. http://localhost:4502/crx/packmgr/index.jsp
- 2. Search for Chapter-2
- 3. Click the package to expand: L4080-Chapter2.zip
- 4. Click install



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2. Switch the page mode to **Preview** and perform the same keyword search as in the previous step.

Search *template development*.

3. Notice that the pagination has changed to only show the next page of results. You should be able to click through to the last page of results, but you will need to click 'Next' many more times. The time taken should be faster than in previous steps.



Use guessTotal=100 to read the first 100 results

- 1. Switch the page mode to **Edit** and open the Search Component dialog.
- 2. Navigate to the **Pagination** Tab and update the **Guess Total** field value to **100**. Save and close the dialog.



- 3. Switch the page mode to **Preview** and perform the same keyword search as in previous steps
 - Search template development.
- 4. Notice that the pagination now shows more than 2 pages. However, since **guessTotal** is being used there is the potential for an extra page to be shown. Click immediately to the last page. Depending on the size of the result set you may end up on a page with no results because the calculated offset exceeded the result set total size.

Update the search result size

1. Switch the page mode to **Edit**





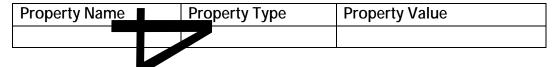




- b. Click on a suggestion to search and note the number of search results.
- 3. Open CRXDE Lite
 - a. http://localhost:4502/crx/de
- 4. Navigate to /oak:index/cqPageLucene/indexRules/cq:Page/properties
 - a. Review the properties for the nodes
 - i. .../properties/jcrTitle
 - ii. .../properties/nodeName
 - b. Note they both have the **useInSuggest** property set to **true** which is why the current suggestions are the multi-word values of these 2 properties.
- 5. Create a new node named suggestion, under /oak:index/cqPageLucene

Node Name	Node Type	

6. Add the following properties to the suggestion node



7. Click Save All

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Chapter 5: Analyzers

AEM search allows Analyzers to be configured per index. Analyzers dictate how content is indexed into the search indexes, and can also augment how queries are executed against them. This exercise set up Stemming, Synonyms, Stop words and HTML Stripping.

Setup Package

For this series of exercises, install the Package L4080-Chapter5-Setup.zip via CRX Package Manager. This package augments the /oak:index/cqPageLucene index with a basic analyzer configurations.

Standard character mapping Standard tokenizer Lower-case token filter

1. Navigate to CRX Package Manager: AEM Start > Tools > Deployment > Packages



Stemming

Stemming converts user-provided search words into their linguistic "root" thereby intelligently expanding the scope of the full-text search.

Stemming both an index time and query time activity. At index time, stemmed terms (rather than full terms) are stored in the full text index. At query time, the user provided search terms are stemmed and passed in as the full-text term.

For example

Given the provided term: developing

The stemmer will derive the root word: develop

Which includes content that contains derived forms such as "developer", and

"development





Synonyms

Synonyms allow different terms with equivalent meaning to be considered the same by full-text search.

Pro-tip: Place the Synonym filter node after LowerCase but BEFORE PorterStem

Synonyms exercise

Create a custom synonym list for the cqPageLucene index.

- 1. Perform a search using the keyword **sightly** and note the lack of results, perform a search using the keyword **HTL** and note there are many results.
- 2. Open CRXDE Lite

http://localhost:4502/crx/de

3. Create a new node named Synonym under /oak:index/cqPageLucene/analyzers/default/filters





Stop words

Stop words are effectively a black list of words that will not be added to the search index and thus unsearchable. Managed industries may add subjective terms as stop terms, or search over user-generated content may leverage them to keep profanities being searchable.

Pro-tip: Place the Stop filter node after both the LowerCase and Synonym filter nodes

Stop words exercise

Create a custom Stop Words Filter for the cqPageLucene index.

1. Perform searches using the keywords, and note the large number of results.

jsp geometrixx classic ui

2. Open CRXDE Lite

http://localhost:4502/crx/de

3. Create a node named Stop under /oak:index/cqPageLucene/analyzers/default/filtersf 519.6006 7



/oak:index/cqPageLucene/analyzers/default/filters/St		
No. 1. No.	N. J. T.	
Node Name	Node Type	



HTML Strip

HTML can be automatically removed from the search index; so as non-content elements don't populate the content search space. This can be helpful when HTML it stored in page properties, such as with Rich Text editors, Table or Content Fragment components.

HTML Strip exercise

Create an HTMLStrip CharFilter to the cqPageLucene index to prevent any HTML artifacts on the Page82 684529 c .3.nflum BT 55218 529.g; so as resul q .24 0 0 0.24 176.4125 588.2.8e 0 50 09 74 422



5. Move the new HTMLStrip node to be ABOVE the Mapping node 6. [[HIIII]]





3. Add two properties to the **jcrTitle** node with the following values:

Property Name	Property Type	Property Value

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- 4. Save and close the dialog
- 5. Return to the Chapter 6 page http://localhost:4502/editor.html/content/summit/l4080/chapter-6.html
- 6. Switch the page mode to 'Preview'
- 7. Perform a search with the term basic
- 8. The page modified in Step 1 should be the first result

Solution Package

- 1. Navigate to CRX Package Manager: AEM Start > Tools > Deployment > Packages
 - a. http://localhost:4502/crx/packmgr/index.jsp
- 2. Search for Chapter-6
- 3. Click the package to expand: L4080-Chapter6-Solution.zip
- 4. Click install

Reference Links

https://docs.adobe.com/docs/pt-br/aem/6-2/deploy/best-practices/best-practices-for-queries-and-indexing.html#Tips%20for%20Creating%20Efficient%20Indexes

http://jackrabbit.apache.org/oak/docs/query/lucene.html#boost

https://wiki.apache.org/lucene-

java/LuceneFAO#How_do_I_make_sure_that_a_match_in_a_document_title_has_greater_weight_than_a_match_in_a_document_body.3F



Chapter 7: Similarity

Oak Lucene indexes also support Similarity Queries. The idea behind the similarity query is that it will return nodes that have similar content to the node specified in the query. This can be useful when attempting to implement a "More Like this..." component.

Exercise

View the Similar Results Component

- 1. Open Sites / Adobe Summit 2017 / L4080 / Chapter 7 Similarity http://localhost:4502/editor.html/content/summit/l4080/chapter-7.html
- 2. Perform a full-text search with term asset metadata
- 3. Click one of the search results to open http://localhost:4502/content/docs/en/aem/6-3/administer/content/assets/metadata.html

4.

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Chapter 8: Putting it all together

We have included a Search Page with all the features enabled in previous exercises. Experiment with the different search capabilities and use the tools in previous exercises to analyze the queries running behind the scenes.

Exercise

- 4. Navigate to Sites / Adobe Summit 2017 / L4080 / Chapter 8 Putting it all together a. http://localhost:4502/editor.html/content/summit/l4080/chapter-8.html
- 2. Search!

Note that this final implementation enables Quick Results that display below the Suggestions. This makes use of the SearchResults Sling Model exposed as JSON via Sling Model Exporter.

Download the code

Visit the public github.com repository

Summit



5. In a new browser tab, navigate to Explain Query



The new logging shows

QueryBuilder predicate definition

The query executed by the Oak query engine

This query can be used in Explain Query as described in the Explain Query section

The Oak index coc0(The Oa936.06iuaET Q q 0.24 0 0 0.24 180.6139 180.372826m BT 50 0 0 50 0 (



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Upon explaining, Explain Query will provide the query explanation in a modal overlay.

