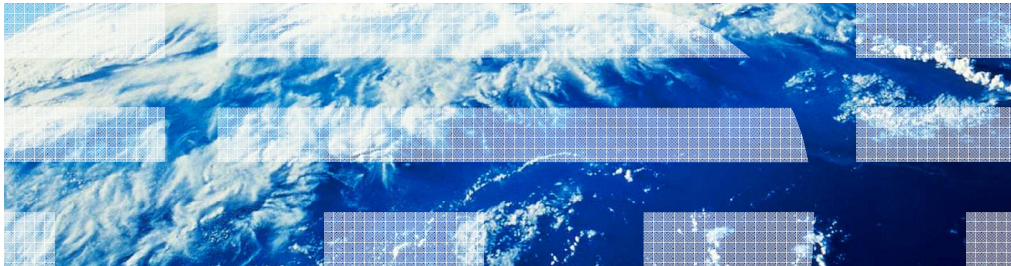


# WebSphere® Commerce V7 Feature Pack 5

## Search administration and configuration updates



This presentation provides an overview of the configuration and administration updates for the WebSphere Commerce search solution in Version 7 Feature Pack 5. You should be familiar with the existing WebSphere Commerce search solution before viewing this presentation. Reviewing the search architecture updates presentation in the programming model section is also recommended.

## Table of contents

- Configuration
- Migration
- Problem determination

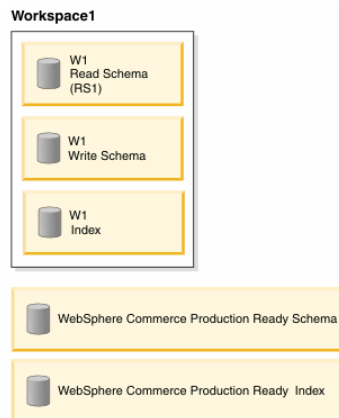
The presentation begins with an overview of the configuration changes for WebSphere Commerce search in Feature Pack 5. Following configuration is a summary of the migration steps needed if you have deployed search on a previous feature pack. The presentation then concludes with some tips for problem determination.

## ***Configuration***

This section summarizes the configuration steps for WebSphere Commerce search.

## Feature Pack 5 enhancements

- A workspace search index has been added
- Search results from the workspace index are merged with the production ready index for store preview

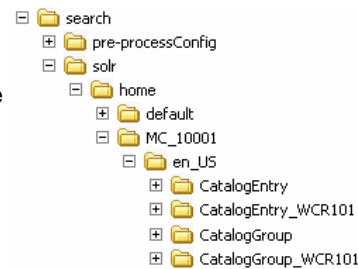


Feature Pack 5 enhances the workspace preview capabilities by adding support for a workspace index. Similar to the write schema, the workspace index contains records for categories and catalog entries that have been added or changed within the workspace. Within the store preview, results from the workspace index are combined with the production ready index to allow the business user to see their changes in the storefront catalog and search results. While an authoring server might define multiple workspaces, only one workspace at a time can have an associated search index.

For more information on this enhancement, you can view the search architecture updates presentation in the programming model section.

## Index updates

- Data Import Handler (DIH) accesses workspace read schema to populate workspace core
  - Configured in wc-data-config.xml
- Workspace Index Reader combines results from workspace core and production ready core
  - Based on Lucene MultiReader
  - Limited to two sub index readers
  - Assigns priority to documents from workspace core
  - Specified in solrconfig.xml



The new workspace index cores are created in the same location as the approved content cores. The folders for the workspace cores have the workspace identifier appended to the folder name as shown in the screen capture on the slide. The fields in the workspace index are the same as the approved content index however there are some configuration differences. For example, the data import handler accesses the workspace read schema to populate the workspace core. This is configured in the wc-data-config.xml file. Another important difference is the workspace index reader. This reader combines results from both the workspace core and the production ready core. It is based on the Lucene MultiReader but is limited to just the two sub index readers. When a document with the same ID is contained in both result sets, the one from the workspace core takes precedence. The workspace index reader is specified in the solrconfig.xml file.

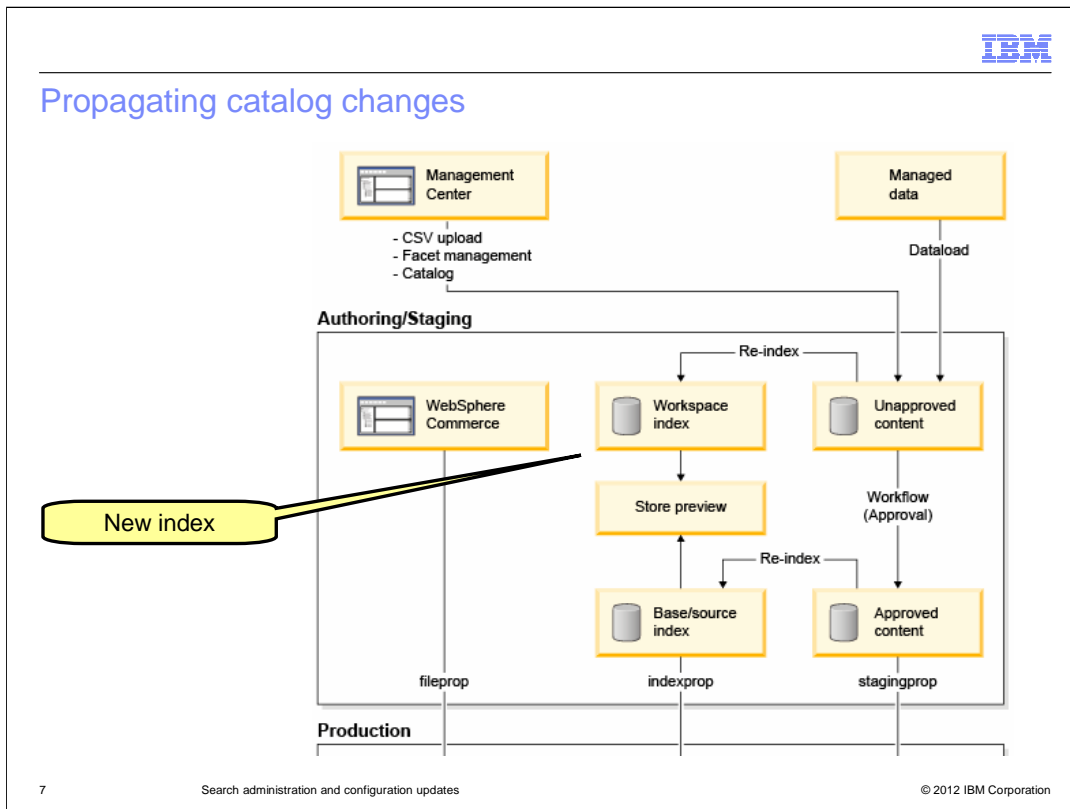
## Utility changes

- Search index setup command
  - New parameters added to pass DBA user credentials
    - -dbauser: the DBA user account
    - -dbauserpwd: the password of DBA user account
  - Workspace must be allocated first
- Pre-process and index building
  - New parameter to specify a workspace schema
    - -workspace: the identifier of the workspace to operate on

The command line utilities for creating and building search indexes have been updated to support the new workspace index. The setup search index utility requires two new parameters, the dba user name and password, to setup the workspace index. The workspace should be allocated before running the creation script.

The pre-process and index building utilities also have a new parameter to specify a workspace ID when operating on the workspace index. This new parameter is primarily used by the automated index update processes.

## Propagating catalog changes



In this diagram, you see the location of the new workspace index within the overall authoring server. Changes made through Management Center and data load are stored in the unapproved content database, also known as the write schema. When changes affecting the search index are made and a re-index is triggered, the workspace index is updated. When the re-index is complete, business users can verify changes using store preview. Store preview displays the combined results from both the workspace index and the base production ready index. Once changes are complete and the task group approved, the updates are pushed to the approved content database and the base index is updated. From there, the changes are ready to push to production during the next staging propagation.

# ***Migration***

This section introduces the migration process for WebSphere Commerce search.



## Migration steps - 1

- Upgrade to Solr 3.5
  - Included as part of foundation feature enablement
- Migrate existing search facets
  - New command line migration script
    - migrateSearchFacet.bat/sh
    - Located in <WC\_Instance\_Dir>\bin
    - Log file location configured in <WC\_Instance\_Dir>\components\foundation\subcomponents\search\config\migrate-facet-logging.properties
  - Run script once to migrate all attribute dictionary facets
  - Limitations
    - Migrates attribute dictionary based facets only
      - Manual migration process available for other facets

Feature Pack 5 uses Solr 3.5. When you install the feature pack and enable the foundation component, your Solr libraries are upgraded. Once feature enablement is complete some manual migration steps are needed. If you have existing attribute dictionary attributes that you have enabled as facets, they need to be migrated to the new facet management solution. A command line utility called migrateSearchFacet is provided to complete this update. The location of the script and log file settings are shown on the slide. Once the script has been run, all existing attribute dictionary facets are migrated and you can use the Management Center tool to set the new facet properties. If your existing store contains facets that are not based on attribute dictionary attributes, you need to complete a manual migration process. The steps are described in the Information Center. A link is provided at the end of this presentation.

## Migration steps - 2

- Migrate existing search indexes
  - migrateSolrSearch.bat/sh
  - Located in <WC\_Instance\_Dir>\components\foundation\subcomponents\search\bin
  - Log file location configured in <WC\_Instance\_Dir>\components\foundation\subcomponents\search\config\migrate-solr-search-logging.properties
  - Run script once for each indexed master catalog
- Create workspace index
  - setupSearchIndex.bat/sh
    - Include dbauser / dbauserpwd parameters
  - Located in <WC\_Instance\_Dir>\components\foundation\subcomponents\search\bin
  - Log file location configured in <WC\_Instance\_Dir>\components\foundation\subcomponents\search\config\logging.properties

The next step in the migration process is to update existing search indexes to the Feature Pack 5 level. The migrateSolrSearch utility introduced in Feature Pack 3 is used to complete the migration. You need to run the script once for each master catalog you have indexed.

If you plan to make use of the workspace index support, you need to run the setupSearchIndex utility to create the new workspace index. The workspace you want to index should be allocated before running the script. Make sure to include the dba user and password parameters.

The location of these two scripts and log file settings are shown on the slide.

### Migration steps - 3

- Merge custom configuration and preprocessing files into new FEP 5 level files
  - For migrated cores
  - For new workspace cores
- Preprocess the CatalogEntry and CatalogGroup indexes
  - di-preprocess.bat/sh
- Build the CatalogEntry index
  - di-buildIndex.bat/sh –indexType CatalogEntry
- If migrating directly from FEP 2
  - Install iFix #1590 or follow the manual store JSP updates in Information Center

When the index migration and workspace index creation are complete, a few additional steps are needed to complete the migration process. First, if you have made any changes to the search configuration or preprocessing files in your existing solution, you will need to merge your customizations into the new FEP 5 level files. Next, run the index preprocess utility and then rebuild your CatalogEntry index. Finally, if you are migrating directly from Feature Pack 2, an iFix or manual store JSP updates are needed. You can find the details in the search migration article in the Information Center. A link is provided at the end of this presentation.

## ***Problem determination***

This section provides some problem determination tips for WebSphere Commerce search.

## Facets not visible in the storefront – possible causes

- Facet not saved successfully
  - Query database tables to verify facet properties were saved
- Search index not updated
  - Query search index to verify facets are indexed
- Facet has only one value
  - Use ‘Show Facets’ view in Management Center to preview facet values and counts
- Attribute not assigned to products
  - Use ‘Show Facets’ view in Management Center to preview facet values and counts
- Incorrect storefront UI code
  - Verify facet data is returned by the CatalogNavigationView service

In Feature Pack 5, the facet management solution represents the biggest change for business users and store developers. This slide reviews some possible causes of facets not being displayed in the storefront as expected. If the facet is not saved correctly in the database it won't be picked up by the search index. This should not be a problem for attribute dictionary attribute facets configured through Management Center but might be a problem for non-attribute facets configured directly in the database. You can check the facet and search attribute tables to verify the facet is configured correctly. You can also check the index preprocessing tables. The next possible problem is that the search index has not been updated with the new facet. You can query the index directly using a tool such as the Lucene Index Tool to verify the facet is represented in the index. If everything seems correct up to this point, the problem is not with the facet itself but might be with how it is being used or displayed. In order to display in the storefront, the facet must be assigned to products in the catalog and must have more than one value. You can use the ‘Show Facets’ category list view in Management Center to verify the counts for each facet value. If only one value exists for the facet you can see this in the Management Center view. Finally, to verify which facets and values are being returned to the storefront, you can check the data returned by the CatalogNavigationView service. This is described further on the next slide.

## View facet data returned to the storefront

- Enable foundation trace
- Locate the request for facet data
  - Search for `getCatalogNavigationViewByCategory`
- Locate the facet results within the `CatalogNavigationView` response
  - Search for `<_cat:FacetView>`

The first step to verify what facets and values are returned to the storefront is to enable the foundation trace component. Once the trace is enabled, load the page where the facet display seems incorrect and then capture the trace output. In the trace output, search for the string `getCatalogNavigationViewByCategory`. This is the request for facet data. Next, search for the `FacetView` portion of the `CatalogNavigationView` response. The search string is shown on the slide. From here, you can see exactly what data the storefront is receiving and work to identify the JSP display error.

## Sample facet trace

```

<_cat:FacetView>
  <_cat:Name>Color</_cat:Name>
  <_cat:Value>ads_f10001_ntk_cs</_cat:Value>
  <_cat:Entry>
    <_cat:Label>Blue</_cat:Label>
    <_cat:Value>ads_f10001_ntk_cs%3A%22Blue%22</_cat:Value>
    <_cat:Count>25</_cat:Count>
    <_cat:Image>Aurora/images/catalog/apparel/women/Swatches/swatch_blue.png</_cat:Image>
    <_cat:ExtendedData name="uniqueId">-700000000000000000266108117101</_cat:ExtendedData>
    <_cat:ExtendedData name="SEQUENCE">6.0</_cat:ExtendedData>
    <_cat:ExtendedData name="IMAGE1">images/catalog/apparel/women/Swatches/swatch_blue.png</_cat:ExtendedData>
  </_cat:Entry>

  <_cat:ExtendedData name="allowMultipleValueSelection">true</_cat:ExtendedData>
  <_cat:ExtendedData name="maximumValuesToDisplay">-1</_cat:ExtendedData>
</_cat:FacetView>

```

Facet value

Facet count

Image to display

Facet properties

This slide shows an example of the FacetView data you can retrieve using the foundation trace. It includes a list of facets, in the order they are displayed, and a list of facet values for each facet. Additional facet properties such as whether multi-value display is enabled are also included in the response.

## Trace summary

- WebSphere Commerce
  - com.ibm.commerce.catalog.\*
  - com.ibm.commerce.marketing.\*
  - com.ibm.commerce.search.\*
  - com.ibm.commerce.foundation.\*
- Solr
  - org.apache.solr.\*=all
  - org.apache.commons.httpclient.\*=all
  - com.ibm.commerce.solr.\*=all
- Web Crawler
  - org.apache.droids.\*=all
  - com.ibm.commerce.search.crawler.\*=all

This slide summarizes the trace strings for the WebSphere Commerce search solution. The catalog component contains the search navigation services and search statistics. The marketing component contains the search rule evaluation. The search component contains the search term associations. The foundation component is useful for viewing the details of service responses.



## Summary

- Configuration
- Migration
- Problem determination

The presentation began with an overview of the configuration changes for WebSphere Commerce search in Feature Pack 5. Following configuration was a summary of the migration steps needed if you have deployed search on a previous feature pack. The presentation then concluded with some tips for problem determination.

## References

- Setting up WebSphere Commerce search (updated for workspaces)

<http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/topic/com.ibm.commerce.developer.doc/tasks/tsdsearchsetuplocal.htm>

- Indexing with staging propagation (updated for workspaces)

<http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/topic/com.ibm.commerce.developer.doc/concepts/csdmanagesearchstage.htm>

- Deploying WebSphere Commerce search (new web server option)

<http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/topic/com.ibm.commerce.developer.doc/tasks/tsdsearchbuilddeployfirst.htm>

- Migrating WebSphere Commerce search

<http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/topic/com.ibm.commerce.developer.doc/tasks/tsdsearchmigrate.htm>

This slide contains some useful references.

## Feedback

Your feedback is valuable

You can help improve the quality of IBM Education Assistant content to better meet your needs by providing feedback.

- Did you find this module useful?
- Did it help you solve a problem or answer a question?
- Do you have suggestions for improvements?

Click to send email feedback:

[mailto:iea@us.ibm.com?subject=Feedback\\_about\\_SearchConfigAndAdminUpdates\\_FEP5.ppt](mailto:iea@us.ibm.com?subject=Feedback_about_SearchConfigAndAdminUpdates_FEP5.ppt)

This module is also available in PDF format at: [../SearchConfigAndAdminUpdates\\_FEP5.pdf](.../SearchConfigAndAdminUpdates_FEP5.pdf)

You can help improve the quality of IBM Education Assistant content by providing feedback.



## Trademarks, disclaimer, and copyright information

IBM, the IBM logo, ibm.com, and WebSphere are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of other IBM trademarks is available on the web at "[Copyright and trademark information](http://www.ibm.com/legal/copytrade.shtml)" at <http://www.ibm.com/legal/copytrade.shtml>

Other company, product, or service names may be trademarks or service marks of others.

THE INFORMATION CONTAINED IN THIS PRESENTATION IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. WHILE EFFORTS WERE MADE TO VERIFY THE COMPLETENESS AND ACCURACY OF THE INFORMATION CONTAINED IN THIS PRESENTATION, IT IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. IN ADDITION, THIS INFORMATION IS BASED ON IBM'S CURRENT PRODUCT PLANS AND STRATEGY, WHICH ARE SUBJECT TO CHANGE BY IBM WITHOUT NOTICE. IBM SHALL NOT BE RESPONSIBLE FOR ANY DAMAGES ARISING OUT OF THE USE OF, OR OTHERWISE RELATED TO, THIS PRESENTATION OR ANY OTHER DOCUMENTATION. NOTHING CONTAINED IN THIS PRESENTATION IS INTENDED TO, NOR SHALL HAVE THE EFFECT OF, CREATING ANY WARRANTIES OR REPRESENTATIONS FROM IBM (OR ITS SUPPLIERS OR LICENSORS), OR ALTERING THE TERMS AND CONDITIONS OF ANY AGREEMENT OR LICENSE GOVERNING THE USE OF IBM PRODUCTS OR SOFTWARE.

© Copyright International Business Machines Corporation 2012. All rights reserved.