



IBM Software Group

WebSphere® Commerce V 6.0 Feature Pack 3

Best practices for customization and fix compatibility



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Welcome to the WebSphere Commerce Feature Pack 3 presentation on best practices for customizing your applications.

Agenda

- Applying fixes to Feature Pack 3
- Customization and fix compatibility



The goals of this presentation are to understand what you should and should not do when the Management Center is being customized. You should also be aware of processes that are used to apply fixes to the Management Center.

Section

Applying fixes to Feature Pack 3



This section discusses applying fixes to Feature Pack 3.

Restricted and customizable files

- Management Center broken up into two sets of files
 - ▶ Restricted
 - Found in a directory called restricted
 - Make up the Management Center framework
 - Should not be modified when customizing the Management Center
 - ▶ Customizable
 - Not in restricted directory
 - Business tools that use the framework
 - Can be changed to customize the business tools
- Certain IBM files such as Struts configuration can be modified
- No IBM fixes on customizable files



The Management Center is divided into two groups of source files that are delivered in Feature Pack 3.

Restricted files are in a directory called restricted. These files contain classes that make up the framework and should not be modified when customizing the Management Center. Customizable files are not in the restricted directory and make up the classes that describe the actual tools. These files use the framework and can be changed to customize the various tools. Certain IBM files, such as the Struts configuration file, can be modified.

In order to avoid complexity, IBM does not apply fixes to any customizable files.

Applying fixes to Management Center

- Update Installer 6.1.0.7 and up to apply fixes
- Fix process very similar to other fixes
- Server
 - ▶ Source must be exported with module from Developer
 - ▶ Fix process attempts to recompile Management Center
 - ▶ Compile failure causes the update to fail
- Developer
 - ▶ Two compiles
 - Before file changes are made
 - After file changes are made
 - ▶ Result of compile is logged
 - ▶ Compile failure does not cause update to fail



Applying fixes to the Management Center is very similar to applying fixes to WebSphere Commerce Server or Developer, WebSphere Commerce Update Installer 6.1.0.7 or higher must be used.

When a customized Management Center module is deployed to the WebSphere Commerce instance, the customized source must be exported as well. This is required in order for the WebSphere Commerce update installer to be able to update and recompile the Management Center with your customized code and fixes from IBM. IBM will only modify restricted files. Any restricted file that has been modified is replaced during the fix installation process. If at any point the installation or uninstallation of a fix fails, particularly during recompilation, the Management Center in the WebSphere Commerce instance will remain unchanged and the current operation is considered a failure.

On WebSphere Commerce Developer, the fix installation or uninstallation process is similar to WebSphere Commerce Server with an additional compilation of the Management Center before file changes are made. This is done in order to determine the state of your workspace while changes are being applied. The result of the compile is logged and regardless of whether the recompile was successful or not, the current operation is considered successful.

Section

Customization and fix compatibility



This section discusses customization and fix compatibility.

Best practices to customize Management Center

- Follow customization tutorials in Information Center
- Consult API documentation for IBM classes in Information Center
- Always use WebSphere Commerce Developer for development
- Always use designed extension points
- Always follow the recommended deployment procedure



When you perform customizations to the Management Center, make sure to follow the customization tutorials on WebSphere Commerce Information Center. IBM provides API documentation for the classes provided with WebSphere Commerce. You must only use APIs documented. Never use any private APIs or modify restricted classes. Your application might be broken by an APAR, a fix pack or a release upgrade if you do not follow the customization guidelines.

You should always use WebSphere Commerce Developer in Feature Pack 3 for Management Center customization. The development environment is designed to make your customization and future fix updates easier. The application developed with other tools can not be maintained properly.

There are predefined extension points for you to customize Management Center. Always use these extension points. They are part of the APIs.

When you deploy your customized application, you must follow the recommended deployment procedure. In particular, never give your clients only the SWF file. The entire WAR exported from the LOBTools project, including all the source code is needed for subsequent maintenance and upgrade since the entire SWF must be recompiled when performing these activities.

Predefined extension points

- You can modify
 - ▶ .lzx files outside restricted directory
 - ▶ struts-extension.xml under \LOBTools.war\WEB-INF
- You can create files for your own configuration
 - ▶ wc-objectrelational-metadata.xml under <WC>/xml/config/com.ibm.commerce.<comp>-ext
 - ▶ wc-business-object-mediator under <WC>/xml/config/com.ibm.commerce.<comp>-ext
 - ▶ get-data-config.xml from LOBTools.war\WEB-INF\config\com.ibm.commerce.<component>
 - ▶ wc-<component>-clientobjects.xml from the same directory, if exists
- Consult customization documentation for details



Here is a detailed list of extension points. There are two kinds of customizable assets. The first kind is a file that can be modified directly. The other type is a configuration file that can be created at a predefined customizable location. Your configuration is merged with configuration predefined by IBM at runtime. Your configuration takes precedence. Consult customization documentation for more details.

Customizable OpenLaszlo source code

- Never modify files under restricted directories
- Do not make any unnecessary changes
 - ▶ Put new classes in your own file
 - Better isolation of your unique functions
 - Avoids breaking the fix update process
 - ▶ Do not move class instances from one parent to another
 - Treated as adding and deleting
 - No way to associate these together
 - ▶ Avoid deleting IBM code



For OpenLaszlo source code that does not reside in restricted directories, you should try to modify as few files as possible. You can never modify files under restricted directories for any reason.

You should clearly separate your code from IBM code. If creating new classes, place them in your own file to avoid complicating the fix update process

Do not move instances around if you do not have to. Changing parents is always treated as adding and deleting. There is no way to associate these together. The instances under the new parents are treated as your custom assets. No fixes or enhancements are applied to them.

Do not delete IBM code if you do not need it. Classes in search definitions and object definitions would not affect anything if you do not call it. Most UI widgets can be set to be invisible by modifying their visibility flags. If you leave them in place, you automatically get enhancements for free.

Worst possible customization

- IBM code:

```
<wcfPropertyPane>
  <wcfPropertyGroup collapsable="false">
    <wcfPropertyInputText
      propertyName="name"
      required="true"
      promptText="{mktMarketingResource
        s.name.string}" />
    <wcfPropertyInputText
      propertyName="owner"
      promptText="{mktMarketingResource
        s.owner.string}"
      helpText="{mktMarketingResource
        s.help_campaign_owner.string}" />
  </wcfPropertyGroup>
</wcfPropertyPane>
```

- Customized code:

```
<class name="myPropertyGroup"
  extends="wcfPropertyGroup"
  collapsable="false">
  <wcfPropertyInputText propertyName="name"
    required="true"
    promptText="{mktMarketingResource
      s.name.string}" />
  <wcfPropertyInputText propertyName="owner"
    promptText="{mktMarketingResource
      s.owner.string}"
    helpText="{mktMarketingResource
      s.help_campaign_owner.string}" />
</class>
<wcfPropertyPane>
  <myPropertyGroup />
</wcfPropertyPane>
```



This is a hypothetical example of an unfavorable way to customize code.

In the original IBM code, there is an instance of `wcfPropertyPane`. Within that property pane, you see an instance of `wcfPropertyGroup` which has several input text widgets below it.

On the right side, the IBM code is changed to complete the task in a different, but equivalent way. In this case, the defined class extends `wcfPropertyPane` and place the input text widgets there. The code updates the IBM property pane to use an instance of the customized class instead.

This type of change makes applying fixes difficult. If IBM needs to update the input text widgets to compare differences between files, it will not be able to associate the input text widgets on the left with the correct input text widget on the right.

This change was not needed. The code should have left the IBM classes unmodified and customized by adding or changing the input text widgets within the existing instance of `wcfPropertyGroup`.

References

- Prerequisites, supported operating systems, databases and servers
<http://www-1.ibm.com/support/docview.wss?uid=swg21243500>
- Installing WebSphere Commerce feature packs
<http://publib.boulder.ibm.com/infocenter/wchelp/v6r0m0/topic/com.ibm.commerce.admin.doc/tasks/tigfepmaster.htm>
- Installing WebSphere Commerce fix packs
http://publib.boulder.ibm.com/infocenter/wchelp/v6r0m0/topic/com.ibm.commerce.admin.doc/tasks/tig_tinstall_fixpack.htm
- Enabling features
<http://publib.boulder.ibm.com/infocenter/wchelp/v6r0m0/topic/com.ibm.commerce.admin.doc/tasks/tigfepenable.htm>
- Enabling marketing tools
<http://publib.boulder.ibm.com/infocenter/wchelp/v6r0m0/topic/com.ibm.commerce.management-center.doc/tasks/tsbenable.htm>
- Starter store enhancements
<http://publib.boulder.ibm.com/infocenter/wchelp/v6r0m0/topic/com.ibm.commerce.management-center.doc/tasks/tsmenablestore.htm>



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