

Unit 7. Automate Actions on Content Objects

Unit overview

This unit contains these lessons.

Lessons

Lesson 7.1 - Content Engine events, page 7-3

Lesson 7.2 - Create event actions, page 7-9

Unit dependencies

The activities in this unit must be performed in the given order.

This unit is dependent upon completing the following units:

- Introduction to IBM Content Manager
- Content Storage

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Lesson 7.1. Content Engine events

Why is this lesson important to you?

Your business solution requires that workflows and code modules perform actions on data structures when specific events occur. As the solution builder, you need to be familiar with how these events, workflows and code modules work together, and how to manage them.

Activities

- Activity: Examine subscriptions, page 7-5

User accounts: Windows

| Where used | User ID | Password |
|--------------------|--------------|--------------|
| Enterprise Manager | Filenetadmin | IBMFileNetP8 |
| Workplace XT | Filenetadmin | IBMFileNetP8 |



Note

Passwords are always case-sensitive.

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Activity: Examine subscriptions

Procedures

Procedure 1, Examine event subscription: Product Order, page 7-5

Procedure 2, Examine event subscription: Project Folder, page 7-7

Procedure 3, Trigger an event action, page 7-8



Windows

You use the Windows student system for this activity.

Procedure 1: Examine event subscription: Product Order

Several event subscriptions on your student system are part of a custom application. Examine some of the details of one of these subscriptions.

1. Start Enterprise Manager:

- a. Click Start > Programs > IBM FileNet P8 Platform > FileNet Enterprise Manager Administration Tool.
- b. If necessary, connect to the FileNet P8domain.
 - Username: filenetadmin
 - Password: IBMFileNetP8

2. Examine the Product Order Subscription.

- a. Expand Object Stores > Sales > Events > Subscriptions.
- b. Verify that Product Order Subscription is enabled.
 - Notice the small green circle icon without a line crossing it on the subscription symbol.
 - Notice True in the Enabled column.
- c. Select *Product Order Subscription* and from the menu bar click Action > Properties.

| Name | Enabled | Description | Event Action | Synchr |
|-----------------------------|---------|----------------|--------------|--------|
| Product Order Subscription | True | Launch of t... | | False |
| Project Folder Subscription | True | Create sub... | | False |

The Product Order Subscription Properties window opens.

d. Verify the following on the General tab.

- i. The Description text identifies this as a workflow subscription.
- ii. There is no Event Action field.
- iii. The Target ID is ProductOrder, indicating that the class ProductOrder is monitored by this subscription.

3. Examine the WorkFlow tab.

a. Click the WorkFlow tab.

This Properties window has a WorkFlow tab because the subscription is a workflow subscription. When the subscription is an event subscription, the Properties page does not have a WorkFlow tab.

b. Verify the following on the WorkFlow tab.

- i. The workflow *Product Order Workflow* is launched when the subscription is triggered.
- ii. Version 2.0 of the workflow is specified.



iii. Click Add in the Property Map field.

The Property Map window is displayed. The Workflow property is specified before the document (target class) property.

- c. Click Cancel to close the Property Map window.
4. Examine other tabs.
 - a. Click the Subscribed Events tab.
 - b. Verify that a *Creation Event* triggers this subscription.
 - c. Click the Configuration tab.
 - d. Verify that the Filter Expression field specifies that payment types CASH, CHK (check), and MO (money order) trigger this event.
5. Click Cancel to close the Properties page.

Procedure 2: Examine event subscription: Project Folder

1. Examine the Product Folder Subscription.
 - a. Expand Object Stores > Sales > Events > Subscriptions.
 - b. Verify that Project Folder Subscription is enabled.
 - Notice the small green circle icon without a line crossing it on the subscription symbol.
 - Notice True in the Enabled column.
 - c. Select Project Folder Subscription and from the menu bar click Action > Properties.
 - d. Verify the following on the General tab.



- i. Verify that there is no WorkFlow tab on the Properties window.
 - ii. The Description text specifies that subfolders are created in the Project folder when a new Project folder is created.
 - iii. Click the Event Action selection list and note the two available selections:
 - **CreateProjectSubfolders** (selected)
 - Workflow Event ActionThe described action is creating subfolders instead of launching a workflow.
 - iv. The Target ID value of Project indicates that the class Project is monitored by this subscription.
2. Examine the Subscribed Events tab.
 - a. Click the Subscribed Events tab.

- b. Verify that the event Creation Event triggers this subscription.
3. Click Cancel to close the Properties window.
4. Minimize Enterprise Manager.

Procedure 3: Trigger an event action

The event subscription that you examined in the previous procedure is designed to be triggered when an object of the Project Folder class is created. The action that you examined is to create the Contract, Orders, and Quotes folders within the new folder. Here you test the subscription by causing the event that triggers it.

1. Add a new Project folder (a subclass of the Folder class) to the Projects node.

- a. Run Workplace XT.
- b. Enter your account information and click *Log in*.

User name: filenetadmin

Password: IBMFileNetP8

- c. In the left pane expand Sales and then select Projects.
- d. Click the Add Folder icon.

The Add Folder browser window opens.

- i Type XYZ Downtown in the Folder Name field and click Add.
- ii. Click OK to close the Add Folder window.

2. Verify that the event subscription triggered the event action.

- a. Open the Sales > Projects > XYZ Downtown folder.

There are Contracts, Orders, and Quotes subfolders in the right pane.



- b. Log out from Workplace XT.
-

Lesson 7.2. Create event actions

Why is this lesson important to you?

The solution developer for your company has written some Java code modules that perform actions on Content Engine objects. As the solution builder, you must create event actions that use these code modules to perform the desired actions when specific Content Engine events occur.



Note

These activities make use of prewritten Java class modules to perform the event actions.

Activities

- Activity: Create a subscription with an event action, page 7-11

User accounts: Windows

| Where used | User ID | Password |
|--------------------|--------------|--------------|
| Enterprise Manager | filenetadmin | IBMFileNetP8 |



Note

Passwords are always case-sensitive.

Activity: Create a subscription with an event action

Procedures

Procedure 1, Create a subscription with an event action, page 7-11

Procedure 2, Test the subscription and event action, page 7-15

Procedure 3, Examine the EventLog.txt file, page 7-17

Procedure 4, Update the event action with a new code module version, page 7-18

Procedure 5, Examine the EventLog.txt file, page 7-22



Windows

You use the Windows student system for the first two procedures of this activity.

Procedure 1: Create a subscription with an event action

For the Order class, create a subscription that is triggered when an Order document is created. In the process, create an event action that uses a prewritten Java code module to create an entry in a log file when an Order document is created.

1. Restore Enterprise Manager.

You are logged in as filenetadmin.

2. Create a subscription.

- a. Expand Sales > Document Class.
- b. Select the document class node named Order and from the menu bar click Action > Add Subscription.

The *Create a Subscription* wizard is displayed.

- c. Click Next on the Welcome screen.
- d. Type `Order Subscription` as Name and click Next.

The *Specify the Type of Object* page is displayed. It lists two options:

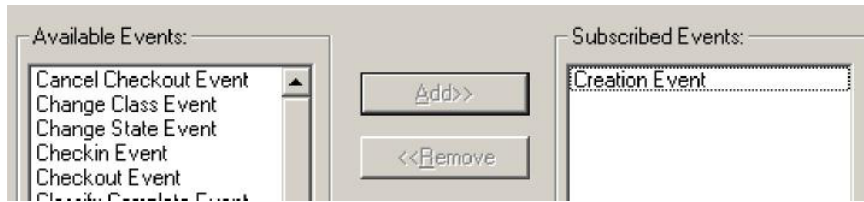
What type of object does the subscription act on:

- **Applies to all instances of class Order** (selected)
 - Applies to a single instance of object Order
- e. Accept the default and click Next.

The Specify Triggers page is displayed.

- i Select Creation Event in the Available Events list on the left.

- ii. Click Add to move the Creation Event over to the Subscribed Events list.



- iii. Click Next.

The *Specify the Event Action* page is displayed.

3. Create a new event action.

- a. Click New.

The *Create Event Action* wizard is displayed.

- b. Click Next on the Welcome screen.

- c. Complete the *Name and Describe the Event Action* page.

- i. Type `Log Action` as the event action name.

- ii. Click Next.

- d. Complete the *Specify the Type of Event Action* page.

- i. For the *Event Action Handler Java class Name*, type the following:

com.ibm.filenet.edu.LogEventActionEDU

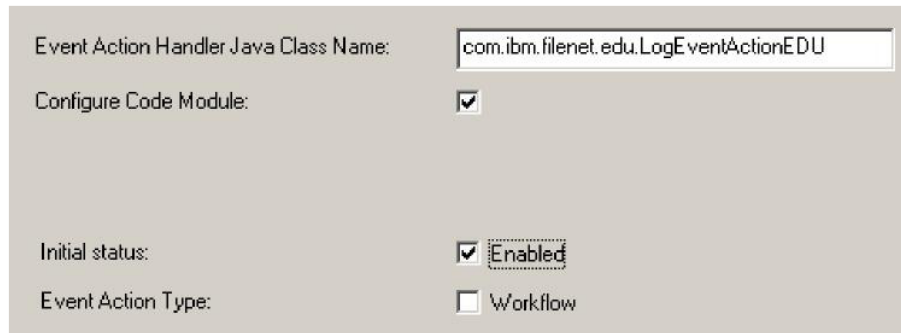


Note

Type the Java class name exactly as shown above because it is case-sensitive.

- ii. Configure the following three check boxes as shown in the table:

| Name | status |
|-------------------------------|--------------------|
| Configure Code Module: | <selected> |
| Initial status: | <selected> Enabled |
| Event Action Type: | <cleared> Workflow |



Event Action Handler Java Class Name:

Configure Code Module: ☒

Initial status: ☒ Enabled

Event Action Type: ☐ Workflow

iii. Click Next.

e. Complete the *Specify the Code Module to be configured* page.

- i. Ignore the *Code Module Title* field.
- ii. From the Content Elements panel, click Browse/Add next to the File Name field and browse to the following folder:

<C:\Labs\P8Administration\AutomateActions>



Note

When browsing, make sure you select **Jar Files (*.jar)** from the *Files of type* selection list.

iii. Select the EDULog.jar file and click Open.

An entry is listed in the Content Elements table:

| Name | Source |
|------------|----------------------------------|
| EDULog.jar | C:\Labs\P8Administration\Auto... |

iv. Click Next.

f. Note the entries in the summary screen of the *Create Event Action* wizard and click

Finish.

g. Click OK at the confirmation message stating that you have successfully created the Log Action event action.

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Note

You have just created the Log Action event action.

- The Event Action wizard closes.
- The Create a Subscription wizard is open at the page where you left it.
- The Log Action event action that you created is specified in the Select an Event Action field.

Select an Event Action: Log Action

This event action is now one of the event actions available for selection in the Select an Event Action list.

4. Complete the *Create a Subscription* wizard.

a. Click Next.

b. Complete the *Specify Additional Properties* page:

i. Accept the default State panel selections:

| | |
|------------|------------------------------|
| <selected> | Enabled Initial State |
| <cleared> | Include Subclasses |
| <cleared> | Synchronous |

ii. Click Next.

c. Review the *Complete the Create a Subscription Wizard* page.

i. Click Finish.

ii. Click OK when you receive the confirmation message stating that you have successfully created the Order Subscription.

5. View the subscription and event action that you have just created.

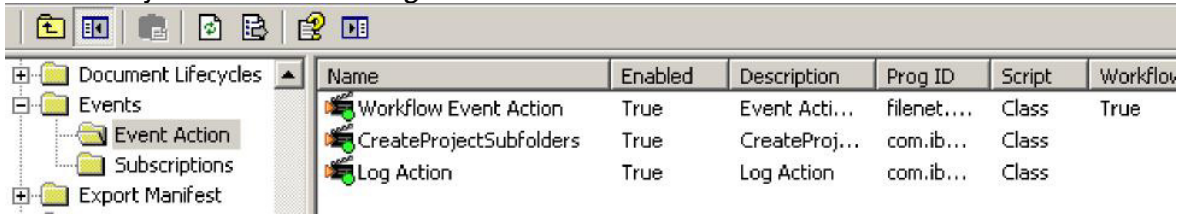
a. Select Sales, and from the menu bar click Action > Refresh.

b. Expand Sales > Events > Subscriptions.

c. Verify that there is an *Order Subscription* subscription.

| Name | Enabled | Description | Event Act |
|-----------------------------|---------|----------------------------|-----------|
| Order Subscription | True | Order Subscription | |
| Product Order Subscription | True | Launch of the Product ... | |
| Project Folder Subscription | True | Create subfolders in th... | |

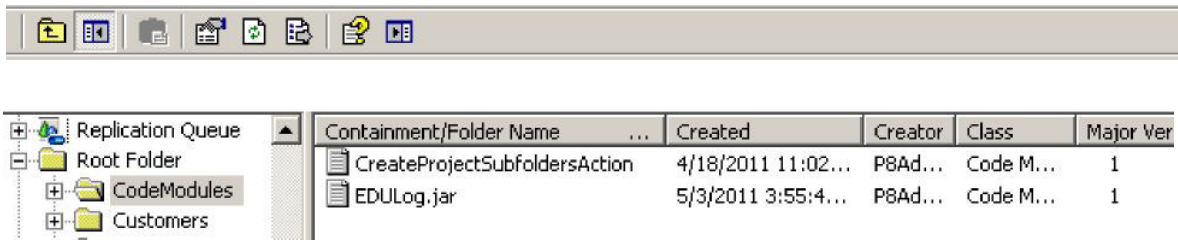
- d. Expand Sales > Events > Event Actions.
- e. Verify that there is a *Log Action* event action.



| Name | Enabled | Description | Prog ID | Script | Workflow |
|-------------------------|---------|---------------|------------|--------|----------|
| Workflow Event Action | True | Event Acti... | filenet... | Class | True |
| CreateProjectSubfolders | True | CreateProj... | com.ib... | Class | |
| Log Action | True | Log Action | com.ib... | Class | |

6. Verify creation of the code module.

- a. Expand Sales > Root Folder, and then select CodeModules.
- b. Verify that the file EDULog.jar (Major Version 1) file is in the folder.



| Containment/Folder Name | Created | Creator | Class | Major Ver |
|-------------------------------|--------------------|---------|-----------|-----------|
| CreateProjectSubfoldersAction | 4/18/2011 11:02... | P8Ad... | Code M... | 1 |
| EDULog.jar | 5/3/2011 3:55:4... | P8Ad... | Code M... | 1 |

Procedure 2: Test the subscription and event action



Note

The Java code module contains instructions to write an entry into a log file each time a document of the class that is subscribed to is created.

1. Create a new document.

- a. In Enterprise Manager, select Sales > Root Folder > Orders.
- b. From the menu bar click Action > New Document.

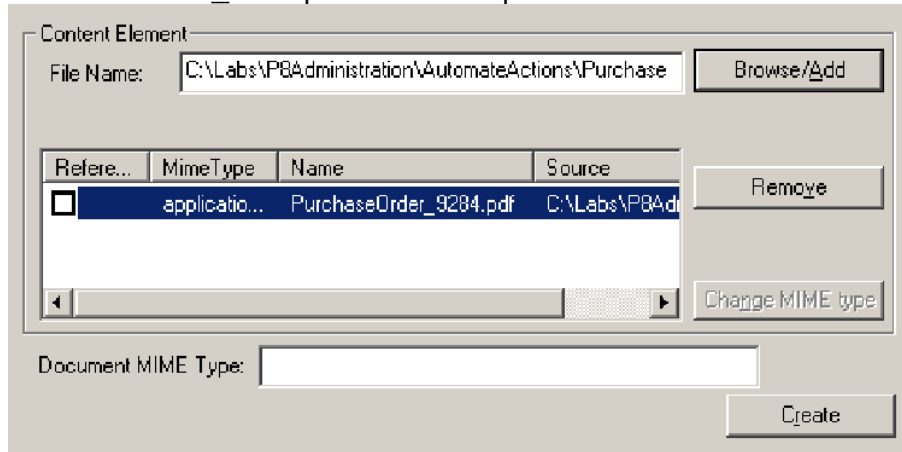
The *Create New Document* wizard is displayed.

- c. Type *Test Order Subscription* in the Document Title field.
- d. Accept the default selection *With content* and click next.

e. Complete the *Document Content Type and Source* page.

- i. Locate the File Name field in *Content Elements* panel and click Browse/Add.

- ii. Browse to <C:\Labs\P8Administration\AutomateActions>, select PurchaseOrder_9284.pdf and click Open.



- iii. Click Next.
- f. Complete the *Class and Properties* page.
- i. Select Order from the Class list.

The list of properties changes to reflect the selected document class.

- ii. Scroll down to near the end of the list (approximately number 20 in the list) until you see **order_id** in the Property Name column.



- iii. In the order_id row, click the ellipsis periods (...) to open the Display/Edit Value window.

iv. Type `Test Order` and then click OK. The Property Name `order_id` now has a Property Value of *Test Order*.

v. Click Create.

2. Verify that the document was created.

- a. Select the Sales object store and click Action > Refresh.
- b. Select Sales > Root Folder > Orders.
- c. Verify that new *Test Order Subscription* document is listed in the right pane.



Note

The code for the Log Action adds a text line to the EventLog.txt file each time that the event action executes. This line consists of the following statement:

A new document is created on: *Day Mon DD HH:MM:SS PDT YYYY*. Document class name = Order, Document id = {GUID}

Procedure 3: Examine the EventLog.txt file

1. Verify that the file EventLog.txt was created.

- a. Change directory to AppSrv01 and list the contents:
`C:\Program files\IBM\WebSphere\AppServer\profiles\AppSrv01`

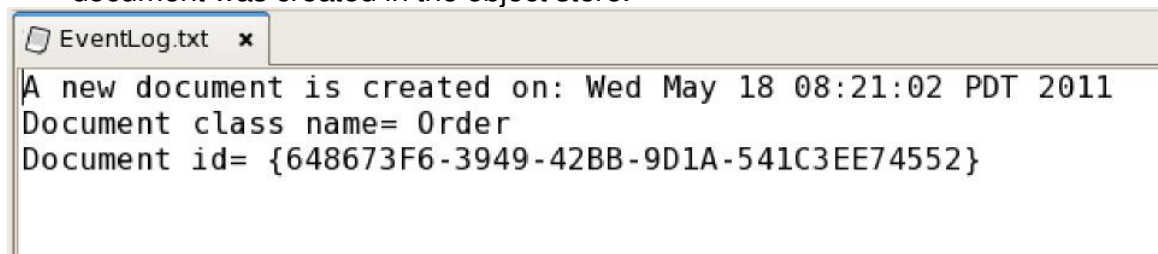
- b. Note the file EventLog.txt has the current date and time.

2. Verify that the log file has a new entry for the Order document that you have created.

- a. Open the EventLog.txt file with the text editor:

```
$ notepad EventLog.txt
```

- b. Verify that it includes a line that identifies the date and time that your new document was created in the object store.



- c. Close the EventLog.txt file.

Procedure 4: Update the event action with a new code module version

Management wants to include the user who creates the document in the event log every time a document is added. Developers update the code and give the administrator the new jar file to add.

In this procedure, you are going to modify the code module to use the new jar file. You also update the event action that references the code module.

1. Check out the code module:

- a. In Enterprise Manager, expand Sales > Root Folder.
- b. Select the CodeModules folder.
- c. In the list view, select the EDULog.jar code module.
- d. From the menu bar select Action > *Exclusive Check Out (default)*.

The browse window opens.

- i. Select *Local Disk (C)* from the *Look in* selection list at the top of the window. This is where the jar file will be saved in the next step.
- ii. Click Open in the Open window.

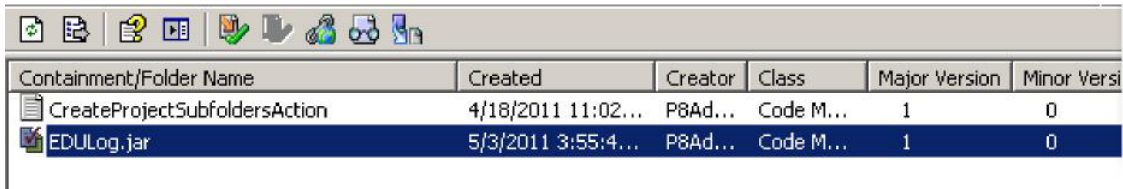


Note

This saves the jar file to the C drive, top level directory of your local machine.

- e. Click No at the prompt *Would you like to edit the file?*

You should see a checked out icon next to the code module.



| Containment/Folder Name | Created | Creator | Class | Major Version | Minor Version |
|-------------------------------|--------------------|---------|-----------|---------------|---------------|
| CreateProjectSubfoldersAction | 4/18/2011 11:02... | P8Ad... | Code M... | 1 | 0 |
| EDULog.jar | 5/3/2011 3:55:4... | P8Ad... | Code M... | 1 | 0 |

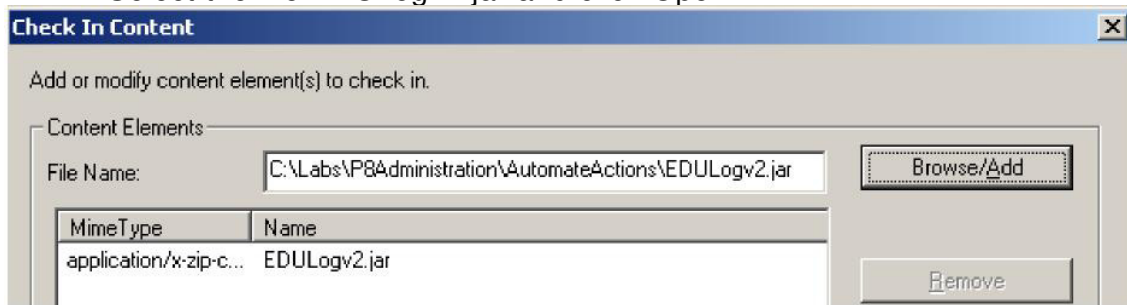
2. Check in the new version of the code module.

- a. Verify that the EDULog.jar code module is still selected in the list view.
- b. From the menu bar click Action > *Check In*.

The Check In Content window is displayed.

- i. Locate the File Name field in *Content Elements* panel and click Browse/Add.
 - ii. Browse to <C:\Labs\P8Administration\AutomateActions>.
-

iii. Select the file EDULogv2.jar and click Open.



iv. Click Check In.

c. Verify the new version was created. Locate the Major Version column in the list view and confirm that the version value is 2.

| Containment/Folder Name | ... | Created | Creator | Class | Major Version | Minor Version |
|-------------------------------|-----|------------------------|---------|-----------|---------------|---------------|
| CreateProjectSubfoldersAction | | 4/18/2011 11:02:37 ... | P8Ad... | Code M... | 1 | 0 |
| EDULog.jar | | 5/18/2011 7:56:40 AM | P8Ad... | Code M... | 2 | 0 |

3. Update the event action with the new code module version:

a. Select the code module EDULog.jar and from the menu bar click Action > *Copy Object Reference*.

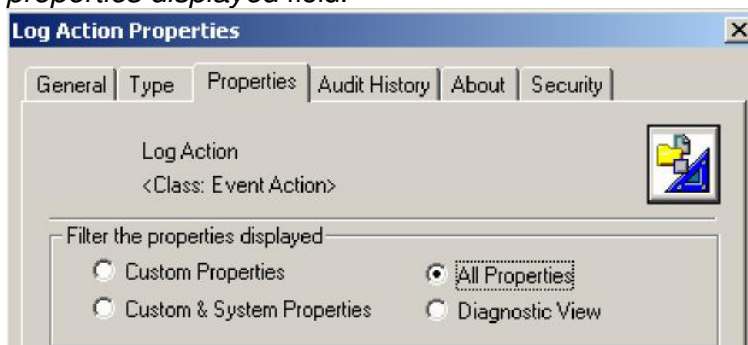
No visible change occurs.

b. Expand Sales > Events > Event Action.

c. In the list view, open the Properties page of the Log Action event action.

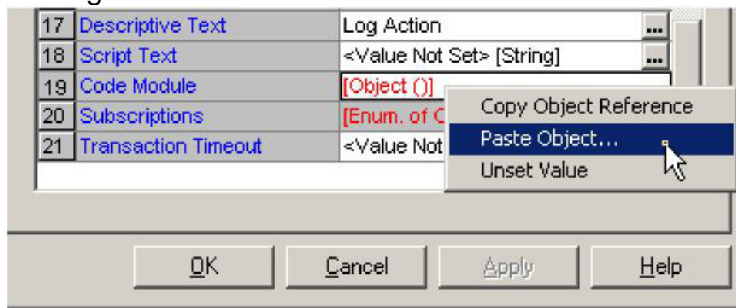
The Log Action Properties window is displayed.

d. Click the Properties tab and select the *All Properties* option in the *Filter the properties displayed* field.



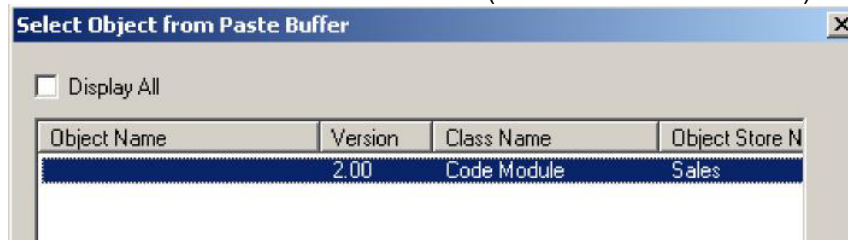
e. Scroll down to the Code Module property at the bottom of the window.

- f Right-click the Code Module value field and click Paste Object.



The *Select Object from Paste Buffer* window is displayed.

- i. Select the latest version (Version value is 2.00) object reference.



- ii. Click OK.
- g. Click Apply to save the changes.
- h. Click OK to close the window.
4. Test the new code module.

Information

The updated code module generates an event log entry that includes the name of user that added the document:

Added by: filenetAdmin

- a. Repeat Procedure 2: *Test the subscription and event action* using the information below.

- i Create an Orders document named Test Order Subscription2.
- ii. Select the document PurchaseOrder_9285.pdf in the folder

<C:\Labs\P8Administration\AutomateActions.>

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iii. Select the Order class, and then click Create.

5. Click File > Exit to close Enterprise Manager.

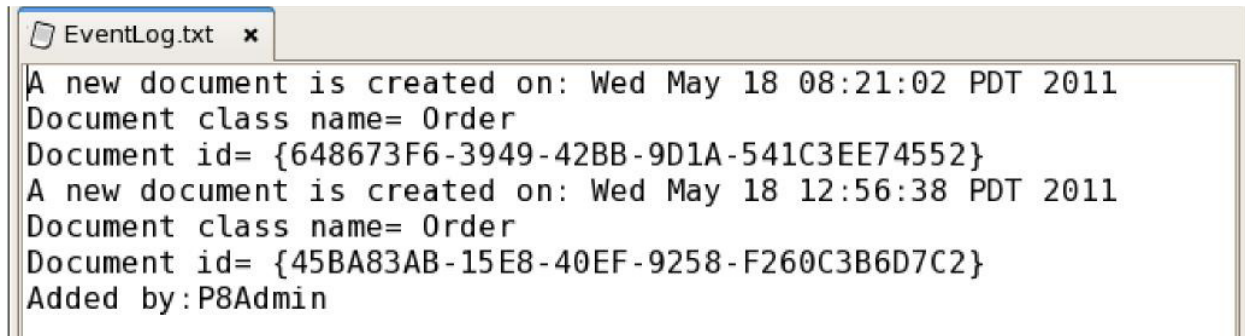
Procedure 5: Examine the EventLog.txt file

1. Verify that the file EventLog.txt was updated.

a. Open the EventLog.txt file with the text editor:

```
$ notepad EventLog.txt
```

-
- b. Verify that a new entry is logged. This entry lists the user that added the document in addition to the Document class name and Document id.



```
EventLog.txt x
A new document is created on: Wed May 18 08:21:02 PDT 2011
Document class name= Order
Document id= {648673F6-3949-42BB-9D1A-541C3EE74552}
A new document is created on: Wed May 18 12:56:38 PDT 2011
Document class name= Order
Document id= {45BA83AB-15E8-40EF-9258-F260C3B6D7C2}
Added by: P8Admin
```

