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Personalization Feature of WebSphere Portal

WebSphere Portal Server v5.1

Lotus software



ON DEMAND BUSINESS™

IBM Proof of Technology

IBM Product Introduction + Exploration

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Session Objectives

- After completing this session, you should be able to:
 - ▶ Describe the implementation of the personalization feature in WebSphere Portal
 - ▶ Understand how the personalization feature is architected in WebSphere Portal
 - ▶ Describe what a personalization Resource Collection is
 - ▶ Work with the Personalization Workspace portlet to create a personalized portlet

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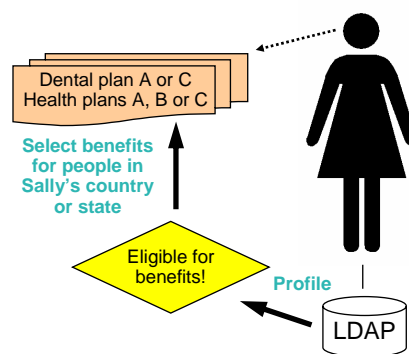
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What is Portal Personalization?

- Targeted content
 - ▶ Selecting content based on business rules
 - ▶ Recommending content based on data mining techniques
- Profiling users based on user data
- Triggering action
 - ▶ E-mails
 - ▶ Updates

What is Portal Personalization? (cont)

- A. The site visitor is identified as Sally
- B. Derive profiles from Sally's user information and your business rules
- C. Your rules select content for Sally
- D. If Frank visits the same page
different profiles > different content



Personalization components

- Rational Application Developer tooling
 - Generate classes to access data (resource collections)
 - Develop Personalized JSPs
- Authoring Portlets
 - Create rules
 - View the results of rules in a list portlet provided
 - Publish rules
- Runtime engine
 - Executes rules and get results
 - Runs in any WebSphere Application Server (not just in Portal)
 - Runs in the Rational server test environment

The Business Vocabulary for Rules

A set of objects and terms which are made available to the rule author

- Some stock objects are defined including the Portal Documents, the Portal User, Portal and HTTP Request and Session and the current Date.
- Resource Collections expose content in some external source to the rules author
 - Each Resource Collection can be thought of as a "type" of content, exposing its own special attributes and possibly nested sub-types
- Application Objects
 - Any Java class
 - Personalization engine configured to look for an instance with a session key
 - Examples: shopping cart or an object exposing the browser's configuration

Generated code from Rational
Application Developer



Implementations included
for PDM and WPS User



API for custom
collections

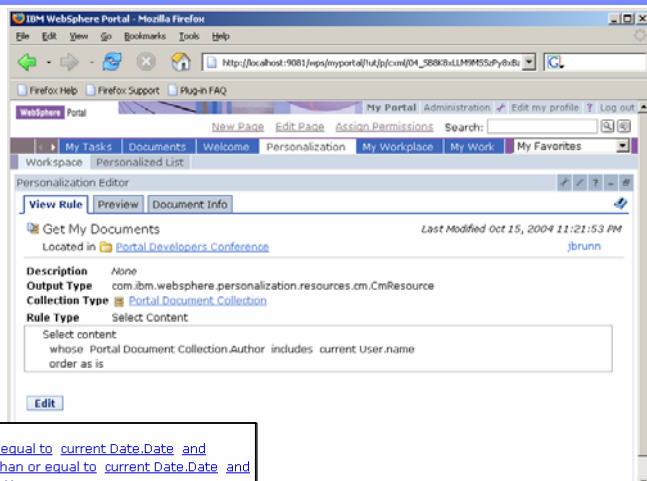


Resource Collections – what rules are about

- Users
 - ▶ WebSphere Portal Users
 - ▶ LDAP
- Content
 - ▶ Portal Document Manager content
 - ▶ SQL data
 - ▶ Custom collections
 - ▶ Web Content Manager content coming soon

Select Rule

- A list from
 - ▶ PDM
 - ▶ SQL
 - ▶ LDAP
 - ▶ custom



Select content
 whose [News.OnsiteDate](#) is less than or equal to [current.Date.Date](#) and
 whose [News.ExpirationDate](#) is greater than or equal to [current.Date.Date](#) and
 whose [News.LeadArticleFlag](#) is equal to [Yes](#)
[add Condition](#)
[order by](#)
 CreationDate descending
[show 5 items](#)

Select content
 whose [Glossary.Term](#) is greater than or equal to [current.Request.Parameters.letter](#) and
 whose [Glossary.Term](#) is less than or equal to [current.Request.Parameters.nextLetter](#)
[add Condition](#)
[order as is](#)
[show all items](#)

Select content
 whose [Links.Link_ID](#) is not empty
[add Condition](#)
[order randomly](#)
[show 10 items](#)

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Profiler Rule

- Profiles users based on user attributes
- Used to decide which other rules to execute

User Clearance is Confidential when
 current Personnel.role is equal to Executive or
 current Personnel.role is equal to Manager
 add Condition
 add Profile
 Otherwise Regular

User News is ReadNews when
 current Request Parameters.ProcessNews is equal to Read
 add Condition
UnreadNews when
 current Request Parameters.ProcessNews is equal to Unread
 add Condition
UnreadAllNews when
 current Request Parameters.ProcessNews is equal to UnreadAll
 add Condition
 add Profile
 Otherwise Profile

New Rule
✕

Rule Name: Employee benefit classification

Located in: /Portal Developers Conference

Content Type:

Description: Profiles the user to see if the user is eligible for benefits

Rule Type: Profiler

Employee benefit classification is
☒ Eligible for benefits when
☒ current User.Hire Date is less than October 02, 2004 and
☒ current User.Full time is equal to true
 add Condition
 add Profile
 Otherwise Profile

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Update Rule

- Updates the current user object or the state
 - ▶ Updates may be persisted as with the current user or
 - ▶ Updates may be transient or application managed such as a shopping cart
- May also set portlet or HTTP request and portlet or HTTP session attributes

Rule Properties
Settings
Change History

Rule Name: Mark All News Unread

Content Type:

Description:

Rule Type: Update

Update
☒ current Personnel.news_Read remove all
 add Expression

Update
current SampleUser.Visits set to current SampleUser.Visits + 1
current SampleUser.Last Login Date set to current Date.Date
 add Expression

Update
current Personnel.phone Number set to current Request Parameters.phone
 add Expression

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Binding Rule

- Pulls all the previous rule types together
- Conditions come from profiles
- If conditions are met, select or recommend content, perform updates, send emails

The screenshot shows the 'Rule Properties' dialog box for a 'Binding' rule. The 'Content Type' is 'PersSample.Personnel'. The 'Rule Type' is 'Binding'. The 'Description' field is empty. The 'When' section contains several conditions: 'User Role is Exec', 'do Get Managers In Dept', 'Manager', 'do Get Managed Employees', 'Profile', 'Otherwise', 'do Get Employees in Site', 'Always', 'do Action', 'Exclude', 'do Action', 'order by department ascending then last_Name ascending', and 'show 8 items'. The 'When User Clearance is Confidential' section contains 'do Get Confidential News', 'Always', 'do Get Site News', 'Exclude', 'do Get News Read', 'order by title ascending'. The 'When User News is ReadNews' section contains 'do Mark News Read', 'UnreadAllNews', 'do Mark All News Unread', and 'order as is'. The 'Save' and 'Cancel' buttons are at the bottom.

Email Rules

- Ability to trigger email in a content spot
- Email goes to current user
- Personalized email body. The email may contain content spots and run rules to select items in the email.
- Email campaigning using a scheduled email rule
- Examples: targeted newsletters, emails triggered to verify or send receipt of user actions

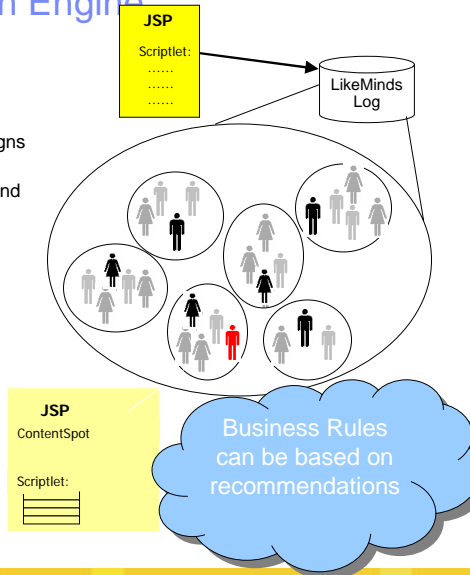
The screenshot shows the 'Rule Properties' dialog box for an 'Email' rule. The 'Rule Name' is 'Email Support Extension'. The 'Content Type' is empty. The 'Rule Type' is 'Email'. The 'To' field contains 'Current SampleUser.Email Address, addRecipient'. The 'From' field contains 'brunn@us.ibm.com'. The 'cc' field contains 'cc@recipient'. The 'bcc' field contains 'bcc@recipient'. The 'Subject' field contains 'Extended Platform Support!'. The 'Body URI' field contains 'email.jsp'. The 'Save' and 'Cancel' buttons are at the bottom.

LikeMinds Recommendation Engine

Answers: "What might Joe be interested in?"

- 1) Application is instrumented to record events
- 2) Background task chooses "mentors" and assigns everyone to a mentor
- 3) Application triggers a Recommendation rule and gets the results

• Also answers:
"What goes with tofu?"
(answer: broccoli!)



Recommendation Rules

Rule Properties Settings Change History

Rule Name Recommend Latest Offers

Content Type sample10.Offers

Description

Rule Type Recommend Content

Recommend [Offers](#) resources
by [how the current user navigated the site](#)
Include only
☒ do [Get Latest Sales](#)
[order as is](#)
[show all items](#)

Specify a Recommendation Method -- Web Page Dialog

Specify a Recommendation Method

Recommend content by

- ☒ how the current user navigated the site
- ☐ preferences explicitly expressed by the user
- ☐ association with content returned from a rule

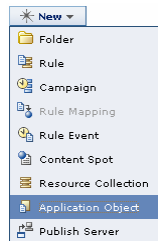
LikeMinds Click Stream engine

LikeMinds Item Affinity engine

LikeMinds Preference engine

Save Cancel

Application Objects



- Shopping cart, navigational state, or anything "current"
- Implemented as a Java Bean
- Put Application Object into the session at a known key

WebSphere Portal

My Tasks Documents Welcome Personalization My Workplace My Work

Workspace Personalized List

Personalization Editor

New Application Object

Example Shopping Cart

Located in Portal Developers Conference

Description An instance of the class below is put into the session at the specified key by the application. This object then serves as additional input into the rules engine.

Session Key shoppingCart

Class Name examples.ShoppingCart

Save Cancel

Personalization User Interface

Workspace Personalized List

Personalization Navigator

New Import Delete More Actions

Select View: All Objects

Browsing Workspace

Name	Type	Author	Last Modified
Collections	Folder	wpsadmin	Oct 16, 2004 1:24:39 AM EDT
Email about savings offer	Rule	wpsadmin	Oct 16, 2004 2:16:13 AM EDT
Get My Documents	Rule	jbrunn	Oct 16, 2004 2:33:40 AM EDT
Get users to mail about new savings plan	Rule	wpsadmin	Oct 16, 2004 2:12:21 AM EDT

Hide Explorer View (1 selected)

Personalization Editor

Preview View Rule Document Info

Get My Documents

Located in Portal Developers Conference

Description None

Output Type com.ibm.websphere.personalization.rules.get.cm.CmResource

Collection Type Portal Document Collection

Rule Type Select Content

Select content whose Portal Document Collection Author includes current User name order as is

Edit

View rules, campaigns, content spots, resource collections

Access control, versioning, publish

People Awareness

Bookmark

All references are linkable

Access to Portal Document Manager

- Retrieve documents through rules
- View PDM content inline
- Launch the PDM UI for a doc

Portal Document Rules

Personalization Editor

View Rule | Preview | Document Info

Get My Documents Last Modified Oct 16, 2004 2:33:40 AM EDT
jbrunn

Located in [Portal Developers Conference](#)

Description None

Output Type com.ibm.websphere.personalization.resources.cm.CmResource

Collection Type [Portal Document Collection](#)

Rule Type Select Content

Select content whose Portal Document Collection.Author includes current User.name order as is

[Edit](#)

Conditions dependant on Document metadata and the current Portal User

Personalization Editor

View Rule | **Preview** | Document Info

Rule Get My Documents

Rule Type Select Content

Collection Name [Portal Document Collection](#)

Personalization Resources

Growth projections.ppt	Open as document
Market analysis 2005.doc	Open as document
2004 revenue.xls	Open as document

View inline

Edit document in PDM

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Personalized List

- A portlet to display the results of a rule
- Just one of many possible such portlets
- Deploy many, each with different rules
- Customize with CSS
- Write your own with Personalization APIs

Personalized List

[Growth_projections.ppt](#)

[Market_analysis_2005.doc](#)

[2004_revenue.xls](#)

Personalized List

Configure the Personalization Rule Portlet

Configure Spot | [Display Options](#)

Which Personalization resources are retrieved

☐ Show all resources of the following type

☐ Show the results from content spot

☒ Execute the following rule

How details for each resource are displayed

☒ Show details in this portlet

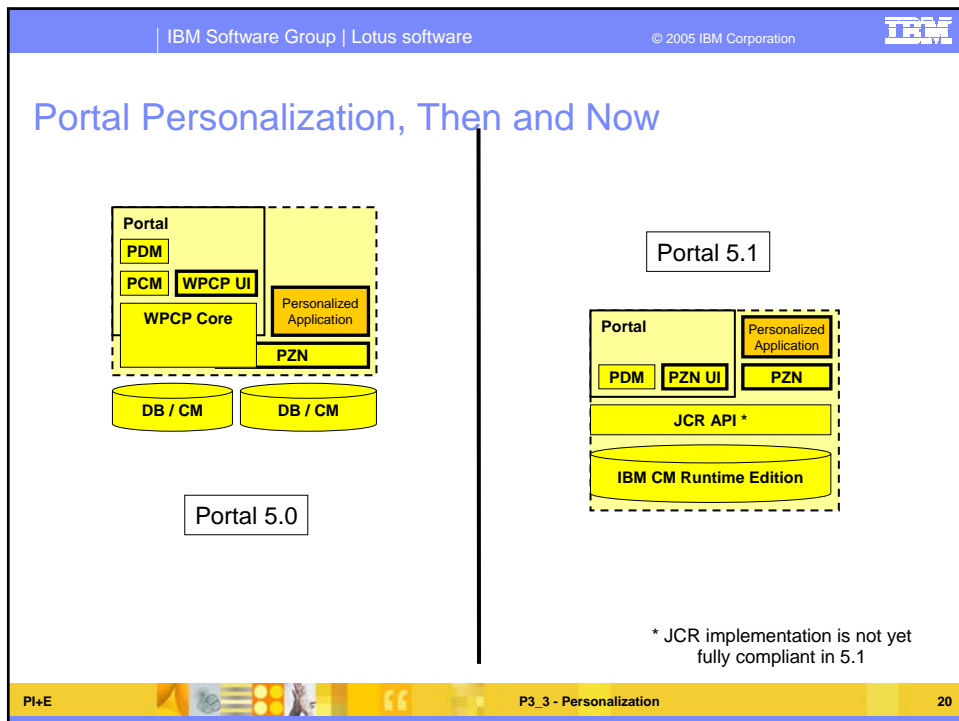
☐ Open object in Personalization editor

☒ Generate details page. *Configure on the Display Options page*

☐ Use an existing JSP in the portlet WAR

JSP Location:

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Defining Resource Collections

New Collection

News Collection

Located in Portal Developers Conference

Description

Collection Type

☐ IBM CM Resource Collection

Node Type Portal Document

Standard Resource Collection

Resource Class yourco.NewsArticle

Manager Class yourco.NewsManager

Domain Class yourco.NewsManager

Translator Class

Locate the current resource:

☐ User resource

☒ No current resource

Save
Cancel

*** New**

- Folder
- Rule
- Campaign
- Rule Mapping
- Rule Event
- Content Spot
- Resource Collection
- Application Object
- Publish Server

All objects and folders appear in the UI as links

PDM and future content applications, including WCM in the near future

Define a custom class, or use the Rational wizards to generate code

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Wizards for generated code – SQL and LDAP

WebSphere Portal content publishing Resource Wizard

Construct a Web Content Resource
Specify information on each tab to create the resource. Press Next to see an output summary

Tables
Columns
Joins
Mappings
Deployment

Add columns to the resource. At least one column must be chosen from each selected table. A primary key must be selected from the primary table

Available columns:

GeneralNews

News

Create Column

Edit Column

Delete Column

Column	Display Name
HEADLINE (VAR...	Headline
NEWS (VARCH...	News
NEWSID (INTE...	News ID
NEWTTYPE (VA...	Newstype

Edit Column

Column name:

Display name:

SQL type:

VARCHAR

☒ Nullable
☐ Not nullable

☐ Default value

Length:

Precision:

Scale:

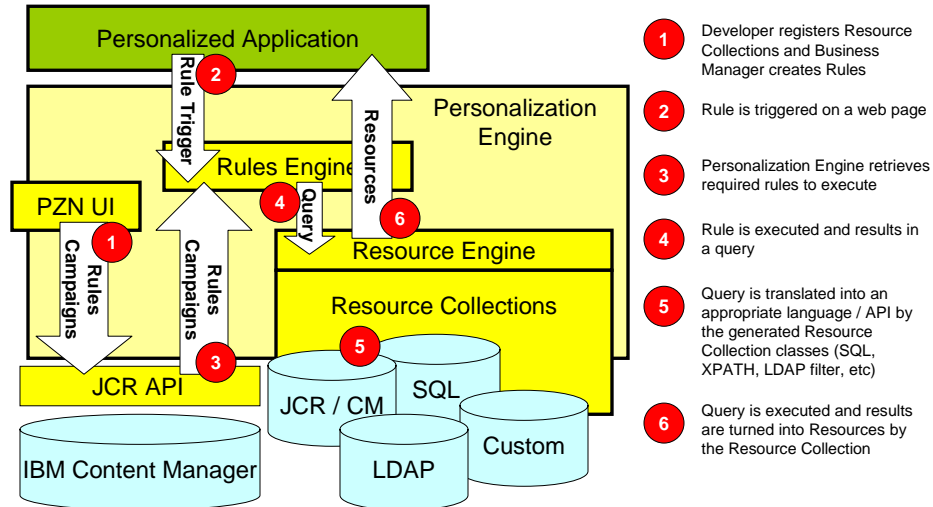
☒ Regular initialization
☐ Lazy initialization

OK
Cancel

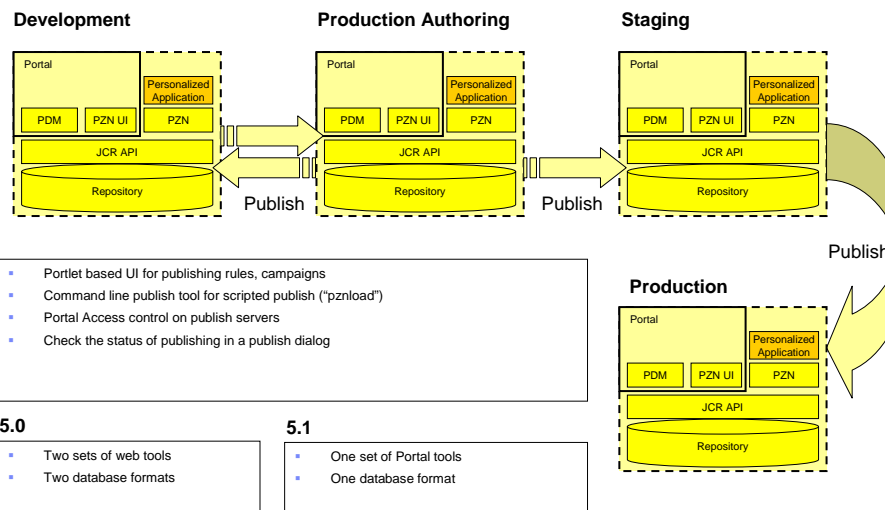
- Wizard included with Rational Application Developer V6
- Integration with Rational relational database tooling
- Generated code may be altered or customized

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Inside the Personalization Server



Publishing Rules



- Full Portal platform and database support
- Full Portal browser support
- Clustering support for all components
- Support for installing runtime without Portal
- Support for Portal Test Environment in RAD
- Migration of rules from V4.x, V4.2.x, and V5.0.x is fully supported.

Java Beans for rule results
The beans can have fixed AP
Or a dynamic API ➡

Caching for performance and scalability

- Personalization uses WebSphere Dynamic Cache
 - Caches Personalization Users and Rule Results
 - Size of cache configurable through WebSphere
 - How Personalization uses the cache configurable in Portal
 - Cluster support for caching

<wps>/shared/app/config/services/PersonalizationService.properties

```
rulesEngine.cache.enabled=true
rulesEngine.cache.jndiName=services/cache/distributedmap
rulesEngine.cache.maxEnumSize=25
rulesEngine.cache.timeout=300
rulesEngine.cache.priority=2

rulesEngine.cache.enabled.User=false
rulesEngine.cache.jndiName.News=services/cache/NewsCache
rulesEngine.cache.maxEnumSize.News=25
rulesEngine.cache.priority.News=1
```

Session Summary

- After completing this session, you should be able to:
 - Describe the implementation of the personalization feature in WebSphere Portal
 - Understand how the personalization feature is architected in WebSphere Portal
 - Describe what a personalization Resource Collection is
 - Work with the Personalization Workspace portlet to create a personalized portlet