Introduction to Product Catalog

Presenter's Name
Presenter's Title

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Agenda

- Overview of a Catalog
- Using the Product Catalog
- Catalog Templates

- Extending the Product Catalog
- Internationalization of Product Catalog
- Administering the Product Catalog

Learning Objectives

At the end of this lesson you should be able to:

- Extend the product catalog to meet business requirements
- Add new properties to existing catalog elements
- Create new sub types from existing repository items
- Create new item types to hold custom data
- Internationalize the product catalog
- Administer the product catalog from the BCC

Section 1:

Extending the Product Catalog

Extending the Product Catalog Elements

- By default, there is only one type of category and one type of product in the catalog.
- Most sites need to modify (extend) the existing types in the catalog.
- You can:
  - Create additional properties for existing item types.
  - Create an entirely new type, whose definition is independent of existing types.
  - Create an item type that is a sub-type of an existing type.

Adding New Properties to Existing Catalog Elements

- Existing product catalog elements such as products, SKUs, and categories can be extended to add additional properties.
- Adding additional properties relies on XML combine and normal repository extension that we studied in the repository section of this guide.
- Use case:
  - Your product needs display specifications for products.
  - The specifications between products should be comparable side-by-side.
  - All products on the site require this field.

Steps to Adding a New Property (1)

- Step 1: Create a database field to hold the new value.
  - You can create a new database table and bundle all your new fields in it.

```
CREATE TABLE PRJ_PRODUCT (
  ID VARCHAR2(40 BYTE) NOT NULL REFERENCES
                             DCS_PRODUCT(PRODUCT_ID),
  . . .
  SPECIFICATION VARCHAR(255),
  . . .
  PRIMARY KEY (ID)
);
```

- It is always a good idea to create your own table instead of changing ATG tables (dcs_product).
- This allows for easy upgrade between versions.

Steps to Adding a New Property (2)

- Add new property specification to the product item definition in customCatalog.XML .

```
<item-descriptor name="product">
  <table name="PRJ_PRODUCT" type="auxiliary"
         id-column-name="id">
    …
    <property name="specification" data-type="string"
              column-name="SPECIFICATION"
              display-name="Specification"/>
    …
  </table>
</item-descriptor>
```

- The customCatalog.XML should be placed at config/atg/commerce/catalog/custom/customCatalog.XML .

Creating a New Sub-Type

- When only a subset of items require a new property and the property is not applicable to the other items in your catalog, choose to create a sub-type.
- As an example:
  - You are trying to model an electronic gift card.
  - It requires minimum and maximum balance you can put on it.
  - You can create a sub-type of product and add the new properties to it.
- Sub-type is like class extension in Java. The sub-type repository item inherits the parent repository item properties and adds to it.

Steps to Create a Product Sub-Type (1)

- The default product item definition includes an enumerated property named type can be used to create item sub-types.

```
<property name="type" data-type="enumerated"
          column-name="product_type" writable="false"
          hidden="true">
</property>
```

- To create a product sub-type, add an option value to the product type enumeration.

```
<property name="type" data-type="enumerated"
          column-name="product_type" writable="false"
          hidden="true">
  <option value="product"/>
  <option value=“electronicGiftCard"/>
</property>
```

Steps to Create a Product Sub-Type (2)

- Create a database table called PRJ_EGIFTCARD with appropriate database fields.
- Add a new item-descriptor to the repository definition file, and set its super-type attribute to the name of the parent item type.

```
<item-descriptor name="electronicGiftCard"
                 super-type="product"
                 sub-type-value="electronicGiftCard">
  <table name="PRJ_EGIFTCARD" type="auxiliary"
                      id-column-name="PRODUCT_ID">
     <property name="minCardValue" data-type="double"
            column-name="MIN_CARD_VALUE"/>
     <property name="maxCardValue" data-type="double"
            column-name="MAX_CARD_VALUE" />
  </table>
</item-descriptor>
```

Steps to Create a Product Sub-Type (3)

- The /atg/commerce/CatalogTools component needs to be updated with the new sub-type.
- The OOTB Properties are:

```
catalogFolderItemTypes=catalogFolder
catalogItemTypes=catalog
productItemTypes=product
categoryItemTypes=category
SKUItemTypes=sku,configurableSku
```

- Add new sub-type to the productItemTypes property of the CatalogTools component:

```
productItemTypes+=electronicGiftCard
```

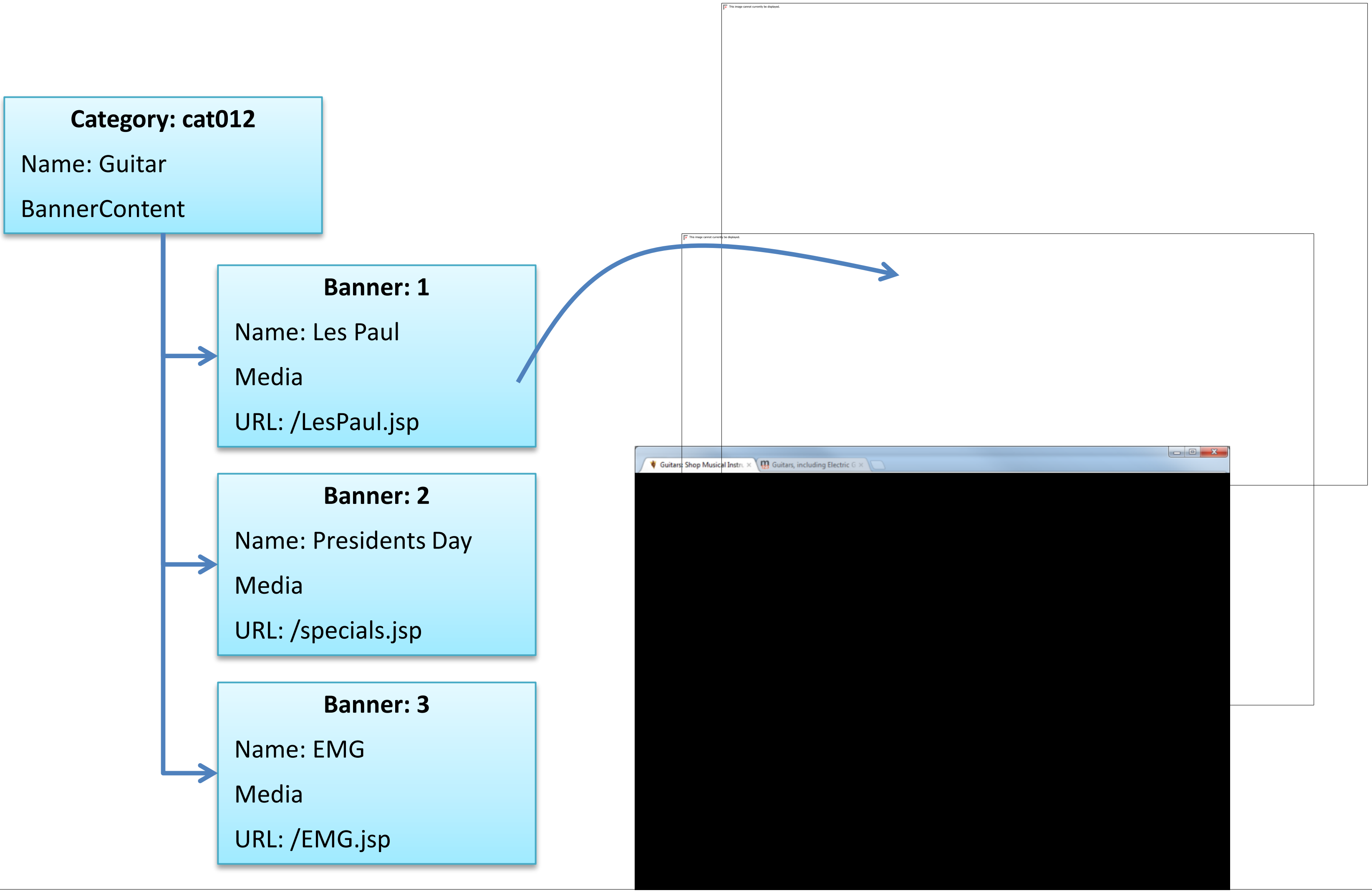
Extending Categories, SKUs, and Media Items

- The procedure outlined earlier for product item extensions and sub-types can be used for categories, SKUs, and media items as well.
- Use the appropriate property in the catalog tools to add the new sub-type.
- Generally avoid using too many levels of inheritance as queries to items will require multiple joins and affects performance.
- Create sub-types only when some instances require the property.
- Create additional properties when all instances require the property.

Adding a New Type

- In some cases you would need to add an entirely new item type to the product catalog.
- The new item type will be managed from the Business Control Center by the merchandisers.
- The new item type will not be changed by the web users by their actions.
- Use case:
  - You need a list of banners in your category repository item.
  - These banners will rotate on the page.
  - Each banner needs an image, description, and URL to go to when clicked.

Adding New Types



Creating a New Item Type (1)

- Add a primary table for bannerContent Item:

```
CREATE TABLE PRJ_BANNER_CONTENT (
  ID VARCHAR2(40) NOT NULL  PRIMARY KEY,
  TITLE VARCHAR2(40 CHAR),
  LINK_URL VARCHAR2(256 CHAR),
  MEDIA_ID VARCHAR2(40),
  FOREIGN KEY (MEDIA_ID) REFERENCES DCS_MEDIA(MEDIA_ID)
);
```

- In the pub schema you will need to add additional columns for versioning and publishing.

Creating a New Item Type (2)

- Add repository item definition for bannerContent in customCatalog.XML .

```
<item-descriptor name="bannerContent"
                 display-name="Promotional Content" …>
  <table name="PRJ_BANNER_CONTENT" type="primary"
         id-column-name="id">
    <property name="id" data-type="string"
                 column-name="ID"></property>
    <property name="title" data-type="string"
           column-name="TITLE"></property>
    <property name="linkURL" data-type="string"
           column-name="LINK_URL"></property>
    <property name="media" item-type="media-external"
           column-name="MEDIA_ID"></property>
  </table>
</item-descriptor>
```

Creating a New Item Type (3)

- Create a new table to hold the list of banners:

```
CREATE TABLE PRJ_CATEGORY_BANNERS (
  CATEGORY_ID VARCHAR2(40 BYTE) NOT NULL ENABLE,
  BANNER_ID VARCHAR2(40 BYTE),
  SEQUENCE_NUM NUMBER NOT NULL ENABLE
);
```

- Add new property banners for category item:

```
<item-descriptor name="category">
  <table name="PRJ_CATEGORY_BANNERS" type="multi"
         multi-column-name="SEQUENCE_NUM"
         id-column-name="CATEGORY_ID">
    <property name="banners" display-name="Banners"
              data-type="list" column-name="BANNER_ID"
              component-item-type="bannerContent"/>
  </table>
</item-descriptor>
```

Section 1
Check Your Understanding

What are the three ways to extend the product catalog?

Answer: Add more properties, add new item types, and create sub-types of existing product types.

Section 1
Check Your Understanding

What mechanism do you rely on to add more properties to an already defined item descriptor in the product catalog?

Answer: You use XML combine.

Section 1
Check Your Understanding

When you add a new property to an item, where should you place the database columns used to hold the data?

Answer: You should create your own auxiliary table.

Section 1
Check Your Understanding

To create a new item sub-type, what property does ATG provide in the product catalog?

Answer: ATG provides type property that can be used to define sub-types of items.

Section 1
Check Your Understanding

When should you add more properties as opposed to creating a sub-type?

Answer: When only a subset of items requires a property, use sub-type extension.

Summary

- If the default product catalog does not meet your needs, you can create more properties, add new item types, and create sub-types.
- Additional properties can be added to product catalog using XML combine.
- If only a subset of items requires a new property, you can create a sub-type of an item.
- You can create an entirely new item type that refers to or is referred by other product catalog items.
- Using these three techniques, the product catalog can be adapted to satisfy the business requirements.

Section 2

Internationalization of Product Catalog

Internationalizing the Product Catalog

- Some eCommerce websites need to serve a wider audience speaking multiple languages.
- The process of making the site available in multiple languages in multiple countries is termed as internationalization of the product catalog.
- The best practices for internationalization is to extend the commerce repository to support translated versions of required properties.
- This best practice offers:
  - The application can switch between sites, without requiring any JSP page changes.
  - No database schema changes are required to add additional languages after the internationalization framework is set up.

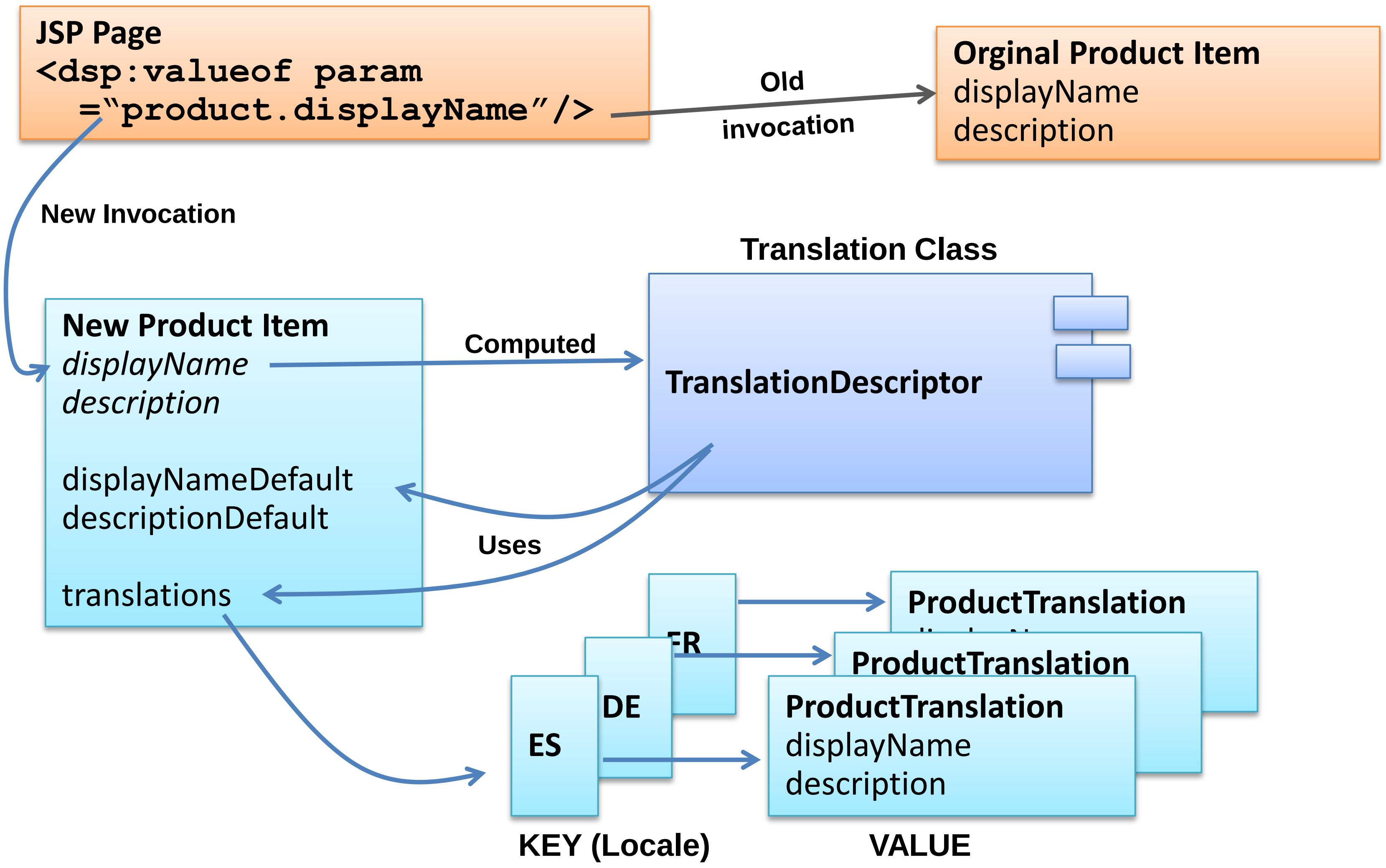
ATG Internationalizing Strategy Example

- Decide which properties of which item types should be translated.
- Category, product, SKU, or other repository items can be selected.
- As an example, we will configure translation for the displayName and description of product.
- The fundamental concept is that we will replace the original properties displayName and description to now refer to computed properties that return the locale-specific name and description.
- The JSPs then do not have to change as they can continue to refer to displayName by its old name.

Steps for Internationalization

- For each property you want to internationalize:
  - Add a new definition called displayNameDefault that points to the same column as the original definition.
  - Add a map of translations, with locale as key and the translation as value.
  - Replace the original definition of property displayName to now point to a computed property that will do the translation using the default and the map of translations.
- To hold the translations, we will create a productTranslation item descriptor that will hold the displayName and description in a different language.
- The map will have the value point to this productTranslation repository item.

Internationalization Strategy



Defining the Product Item Descriptor (1)

```
<item-descriptor name="product" display-property="displayNameDefault"
        xml-combine="append">
    <table name="dcs_product" type="primary" id-column-name="product_id">
       <property name="displayName" xml-combine="remove" />
       <property name="description" xml-combine="remove" />

       <property name="displayNameDefault" data-type="string"
              column-name="display_name" display-name="Display Name" />
       <property name="descriptionDefault" data-type="string"
              column-name="description"  display-name="Description" />

    </table>
    . . .
```

- Use XML combine to remove the original definition.
- Remap the database fields to propertyDefault format.
- We will then put the translation map in.

Defining the Product Item Descriptor (2)

```
. . .

 <table name="prj_product_product_xlate" type="multi"
       multi-column-name="locale" id-column-names="product_id">
    <property name="translations" display-name="Translations"
             column-name="translation_id" data-type="map"
             component-item-type="productTranslation"
             display-name="Translations">
     </property>
 </table>

. . .
```

- Define a map with key as locale and productTranslation as the value.
- The custom property descriptor will use this translation table as well as the default.

Defining the Product Item Descriptor (3)

```
 . . .
   <property name="displayName" data-type="string"
              property-type="atg.repository.TranslationDescriptor"
              writable="false" hidden="true" queryable="false">
      <attribute name="translationView" value="productTranslation"/>
      <attribute name="defaultProperty" value="displayNameDefault"/>
      <attribute name="defaultLocale" value="en_US"/>
      <attribute name="useStoreDefaultLocale" value="false"/>
   </property>
   <property name="description" data-type="string"
              property-type="atg.repository.TranslationDescriptor"
              writable="false" hidden="true" queryable="false">
      <attribute name="translationView" value="productTranslation"/>
      <attribute name="defaultProperty" value="descriptionDefault"/>
      <attribute name="defaultLocale" value="en_US"/>
      <attribute name="useStoreDefaultLocale" value="false"/>
    </property>
</item-descriptor>
```

- Map the properties to custom properties that will perform the locale lookup and use the appropriate translation.

Defining the Product Item Descriptor (4)

```
 <item-descriptor name="productTranslation">
    <table name="prj_product_xlate" type="primary"
            id-column-name="translation_id">
       <property name="displayName" column-name="display_name"
               data-type="string"  display-name="Display Name"/>
       <property name="description" column-name="description"
               data-type="string"  display-name="Description"/>
    </table>
</item-descriptor>
```

- Define the productTranslation repository item.
- Each productTranslation item contains the displayName and description in a specific language.
- The key (locale) in the map object of product item defines the language for which this is the translation.

Modify and Create Tables

```
CREATE TABLE PRJ_PRODUCT_PRODUCT_XLATE (
  PRODUCT_ID      VARCHAR2(40),
  LOCALE          VARCHAR2(40),
  TRANSLATION_ID  VARCHAR2(40),
);

CREATE TABLE PRJ_PRODUCT_XLATE (
  TRANSLATION_ID VARCHAR2(40),
  DISPLAY_NAME   VARCHAR2(254),
  DESCRIPTION    VARCHAR2(254),
);
```

- PRJ_PRODUCT_PRODUCT_XLATE holds the map of locale vs. the translation object.
- The PRJ_PRODUCT_XLATE holds the actual translation in another language.

Internationalizing Site Content

- Site static content should be located in two places:
  - In property file WebAppResources.properties,
  - In the database access as siteContent repository item.
- If the site content is from the database and is accessed as repository item, use the strategy already discussed in the earlier part of this section.
- This rest of this section covers internationalization when the site content is from WebAppResources .
- We will use the I18N JSTL tag libraries to achieve this.

Procedure to Internationalize Static Content

- Step 1: Create a WebAppResources.properties file.
  - This is the resource file used by the I18N module.
- Step 2: Configure the fmt setBundle function.
  - Include the command in JSP pages.
- Step 3: Use the configured values.
  - Use the fmt message tag to internationalize the web pages.

Step 1: Create the WebAppResources.properties file

- Create the file WebAppResources.properties:

```
# Localized resources for Web Application

common.search=Search
common.contactUs=Contact Us

common.button.buy=Buy

myAccount.changeMyPassword=Change my password
order.orderNumber=Your order number is {0}.
order.orderTotal=Your order total is {0}.
```

- The Spanish version of this file would be called WebAppResources_es.properties .
- It would contain the keys translated into Spanish.

Step 2: Configure the fmt setBundle

- The syntax for the fmt:setBundle call is:

```
<fmt:setBundle basename="store.web.WebAppResources" />
```

- This assumes that the file is located in /store/web/webAppResources.properties or with an additional suffix.
- Include this statement at the top of all JSP pages.
- Typically, if you have a header included, you should place it there.
- This call sets a default resource bundle for use by the fmt message tag.
- The basename attribute is required and should include the suffix or the extension.

Step 3: Use the Configured Values (1)

- In your JSP Page, instead of coding as:

```
<input type="submit" value="Search"/>
```

Code as:

```
<input type="submit"
   value='<fmt:message key="common.search"/>' />
```

- Or you can use JSTL as:

```
<fmt:message var="searchText" key="common.search">
       <dsp:input type="submit" value="${searchText}"/>
</fmt:message>
```

Step 3: Use the Configured Values (2)

- A more complex example passing parameters is:

```
# Localized resources for Web Application
order.orderTotal=Your order total is {0}.
```

- The JSP page could use this as:

```
<fmt:message key="order.orderTotal">
  <fmt:param>
    <fmt:formatCurrency value=”${orderTotal}”/>
  </fmt:param>
</fmt:message>
```

- The fmt:param value is printed instead of {0} .

Section 2
Check Your Understanding

What is internationalization?

Answer: The process of making the site available in multiple languages in multiple countries.

Section 2
Check Your Understanding

What are the advantages of the ATG internationalization strategy?

Answer: The JSP pages don’t need any changes and no database schema changes are need to add a new language.

Section 2
Check Your Understanding

What is the itemTranslation table used for?

Answer: It is used to hold the translations for each language.

Section 2
Check Your Understanding

What is the purpose of the translations map in the item descriptor?

Answer: The translation property in the item descriptor is a map that holds the key value pair of locale vs. the actual language translation.

Section 2

Check Your Understanding

What is the purpose of setBundle tag?

Answer: The fmt setBundle tag sets a default resource bundle for use by the fmt message tag.

Section 2
Check Your Understanding

What is the JSTL tag used to render content from a property file in a locale-specific manner?

Answer: The fmt message tag.

Summary

- The process of making the site available in multiple languages in multiple countries is termed internationalization of the product catalog.
- Using the ATG internationalization strategy, you can ensure that the JSP pages do not need to be recoded or data schema changed when a new language is added.
- The fundamental concept is that we will replace the original properties to refer to computed properties that return the locale-specific values.
- The item descriptor for the item being internationalized should be changed to add a key/ value translation property and a computed property that returns the translation.
- I18N JSTL tag libraries are used to internationalize static content on the site.

Section 3

Administering the Product Catalog

ATG Business Control Center

- ATG Business Control Center is a complete application for creating and maintaining the content required for ATG web applications.
- ATG BCC streamlines the process of developing site content by letting merchandisers manage all stages of the content lifecycle:
  - Creation,
  - Approval,
  - Deployment.
- ATG BCC is a browser-based interface that needs to be set up and enabled on a website.
- This section goes through the basics of managing some of the commerce elements we learned in this module.

Project in the Context of BCC

- A project is a set of tasks that defines the stages of creation and publishing lifecycle.
- Typical tasks include authoring, editing, approval, and deployment.
- It is a logical grouping of items relating to a particular business goal.
- In this section, we will create a project that edits an item, creates a new item, and deploys it.
- The unit of work (project) is deployed in one transaction and can be reverted before it is accepted.

Creating a Project

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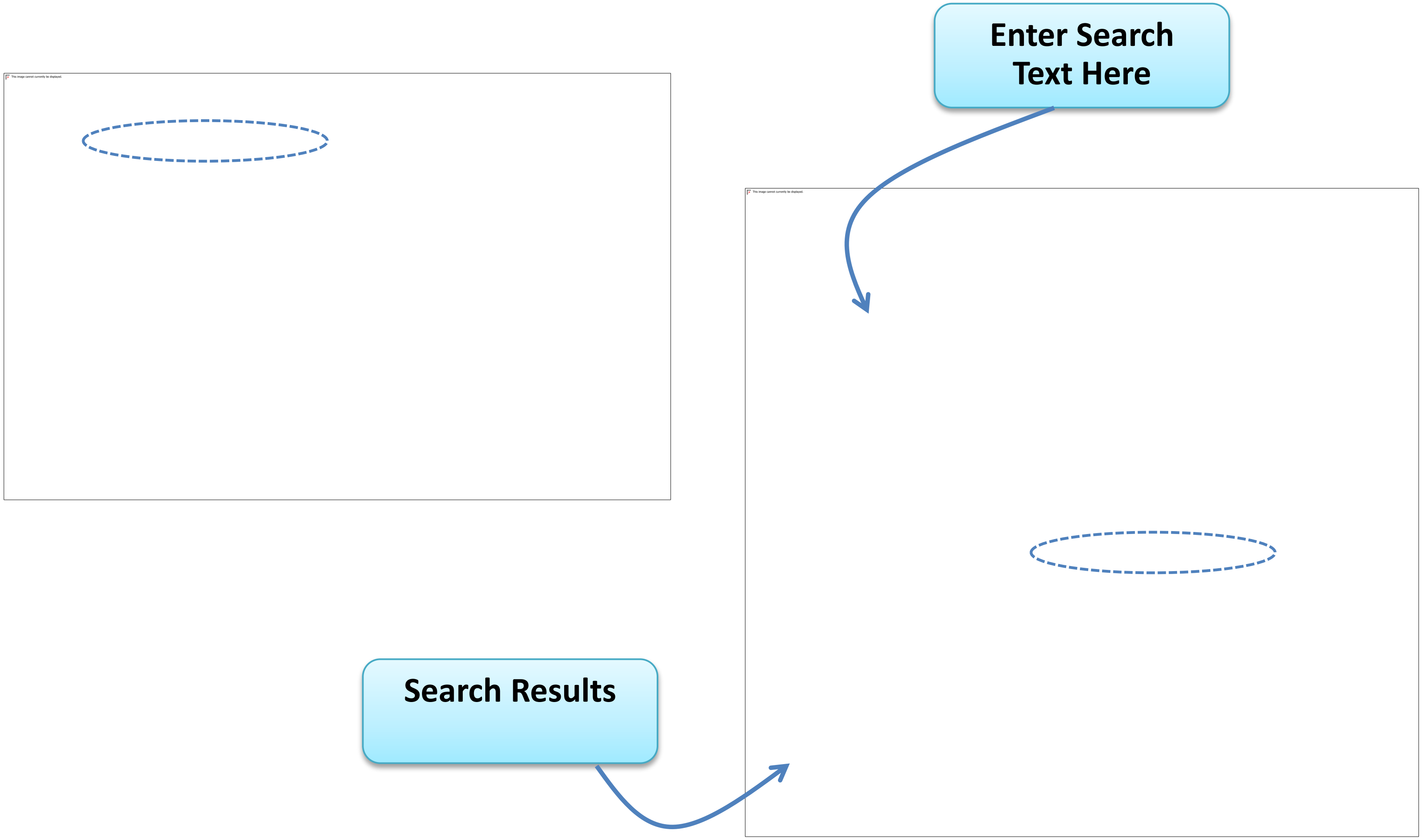
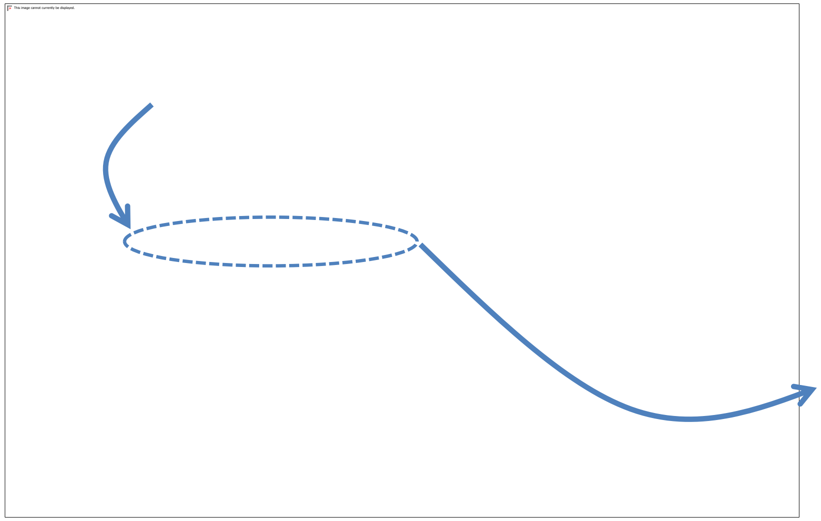
Finding Products, Categories, and SKUs

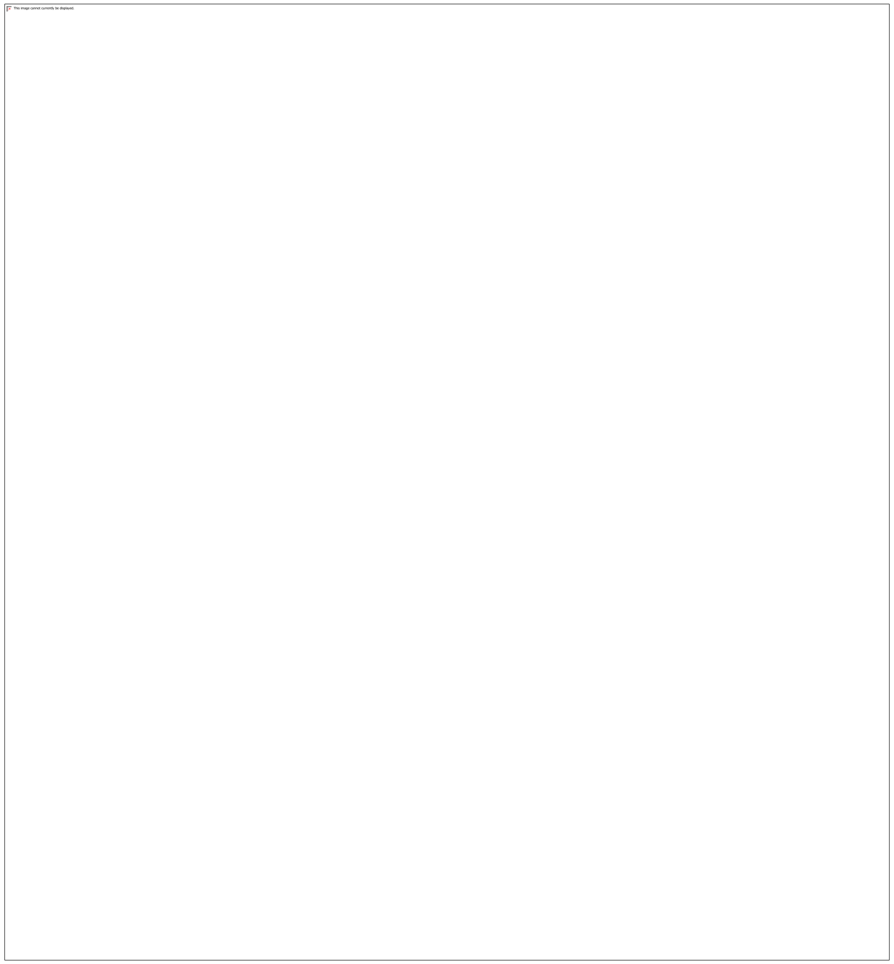


Editing Items

Edit Fields

Adding New Items





Deploying Changes

- The changes done in the project can be deployed like other projects created using the Business Control Center.
- The deployed projects go to the CATALOG schema in the commerce site.
- Items are first deployed to the inactive schema.
- The site is then switched to point to the inactive schema making it the active schema.
- Items are then deployed to the other schema which is inactive.
- This helps prevent outage to the web user.

Section 3
Check Your Understanding

The product catalog changes go to which schema in the eCommerce website?

Answer: They typically go to the CATALOG schema.

Section 3
Check Your Understanding

Does publishing the product catalog cause downtime for the customers?

Answer: Publishing product catalog changes does not cause downtime for the customer.

Section 3
Check Your Understanding

What is a project?

Answer: A project is a set of tasks that define the stages of creation and publishing lifecycle.

Section 3
Check Your Understanding

What is the smallest unit of work that can be reverted after deploying to production?

Answer: A project is the smallest unit of work that can be reverted.

Summary

- ATG Business Control Center is a complete application for creating and maintaining the content required for ATG web applications.
- Product catalog items such as catalogs, categories, products, and SKUs are managed using the BCC.
- A project is a set of tasks that define the stages of creation and publishing lifecycle.
- You can search for product catalog items using the BCC UI.
- You can edit the items in the context of a project.
- You can create new product catalog items.

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Q&A

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