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WebSphere® Commerce V6

Deploying WebSphere Commerce stores



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This presentation describes the concepts of a starter store and how it can be published and used as a base for a customer storefront.

Unit objectives

- Publish starter stores for the IBM WebSphere Commerce V6 business models
- Describe the use of composite and component store archives

The presentation shows how to publish starter stores for the IBM WebSphere Commerce V6 business models and describes the use of composite and component store archives.

Business model

- A business model has to support relationships between the site and multiple organizations in a complex environment
- A business model is implemented by a set of assets:
 - ▶ Organizational structure and access control
 - ▶ Business logic – commands, EJBs, database objects
 - ▶ Web assets – JSP, HTML, images, media
 - ▶ Store data – store, catalog, shipping, tax, contracts

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A business model has to support relationships between the site and multiple organizations in a complex environment. The business model is implemented by a set of assets.

The first asset is an **Organizational structure and access control**. This asset defines ownership and access for the different parties supported by the model. It is implemented as data assets in the WebSphere Commerce database.

The second asset is **Business logic**. This asset includes object model and data model extensions implemented as new commands, EJBs and supporting database tables, and other objects. It may include adapters for integration with other systems.

Some business models will require different types of users from different organizations to interact with the site. This function can be supported by providing different stores, some of which may share assets. Store assets include **Web assets** and **Data assets**. The Information Center describes available starter stores.

Store archive

- Method of packaging assets for easy deployment
 - ▶ Used for initial creation of the organizational structure and stores to support a business model
 - ▶ Publishing process is automated

- Delivery mechanism for sample business models
 - ▶ Directory: <WC_HOME>/starterstores
 - ▶ Fully functional sample stores
 - ▶ A base for development

- Two types: composite and component store archives
 - ▶ Allows publish of complete model or just a subset



WebSphere Commerce uses a store archive to package the assets for creation of a working starting business model in one file. This is a convenient method of distributing the assets and ensuring they are correct and complete. An automated publish process ensures all content in a store archive is published to the server correctly. All WebSphere Commerce business model starter stores are delivered as store archives. They can be found in the <WC_HOME>\starterstores directory (where <WC_HOME> is the WebSphere Commerce installation directory).

The starter store archives provide a base on which to build the functionality needed by a particular business. Some business models involve creation of an organization structure and multiple stores. A composite store archive allows creating all of these assets in one step. In addition, component store archives can be used to create a subset of these assets (for example, the assets for one store in the model).

Store archives are used by most sites to initially create a store or complete business model. Once the store has been created on the WebSphere Commerce server, subsequent updates are performed directly on the server. The store archive is never updated or republished.

Composite store archive files

- ConsumerDirect.sar
- B2BDirect.sar Professional Express
- AdvancedB2BDirect.sar Enterprise
- ExtendedSites.sar Enterprise
- DemandChain.sar Enterprise
- SupplyChain.sar Enterprise



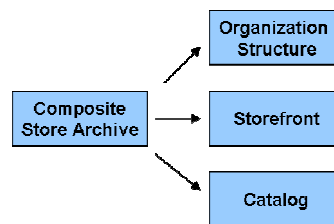
There are five composite store archive files included with WebSphere Commerce Enterprise: ConsumerDirect.sar, AdvancedB2BDirect.sar, ExtendedSites.sar, DemandChain.sar and SupplyChain.sar.

The composite store archive files contain all the assets necessary to create a working store or site.

These assets include an organization structure (Enterprise only), predefined user roles, (Enterprise only), necessary access control policies, sample storefront, and sample file and data assets like a store catalog.

Component store archive files

- Each composite store can be divided into a number of assets.
- These assets can be packaged as component Store Archives and published separately.
- This facilitates reuse, sharing, and customization.



Component starter store archives are provided in WebSphere Commerce Enterprise for each part of the composite store archive. Component store archives can be published separately to provide greater customization of your store. For example, you might choose to modify the organization structure for the AdvancedB2BDirect starter store to reflect your own organization structure and distinguished names. Complex business models like extended sites, demand chain, and supply chain have between five and seven component archives. The type of organization structure defined in the component store varies depending on the business model.

The diagram on the slide represents a high-level view of the assets provided in various store archives. For complex business models, there may be multiple storefronts, organization structures, or asset stores. For example, extended sites contain multiple storefront components. One is a store directory for hosted stores; the other is the storefront for the extended sites owner. Two asset stores are also included for creating business-to-business or business-to-customer storefronts.

Store development

- Publish the sample store archive using the WebSphere Commerce Administration Console
- Configure store features using WebSphere Commerce Accelerator
- Use the store as a baseline for development

The recommended approach for store development is to publish the starter store archive that most closely matches the business model and store functionality you want to implement, using WebSphere Commerce Administration Console. Then configure store features using WebSphere Commerce Accelerator. Use the configured store as a base for customization.

Store archive contents

- Publishing control files (XML, properties)
 - ▶ sar-inf/*
- Web assets (JSP, HTML, images)
 - ▶ <store_dir>/*
- Property resource bundles (properties)
 - ▶ WEB-INF/classes/<store_dir>/*
- Store configuration files (XML)
 - ▶ WEB-INF/xml/tools/stores/<store_dir>/devtools/*
- Store database assets (XML)
 - ▶ WEB-INF/stores/<store_dir>/data/*

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A store archive is an archive file like a JAR or ZIP file and can be manipulated using the same tools. An archive file contains publishing control files, Web assets, property resource bundles, store configuration files and store database assets. The slide shows the relative path to each type of files within the archive.

The publishing control files contain information about the store archive that is used when the store archive is published.

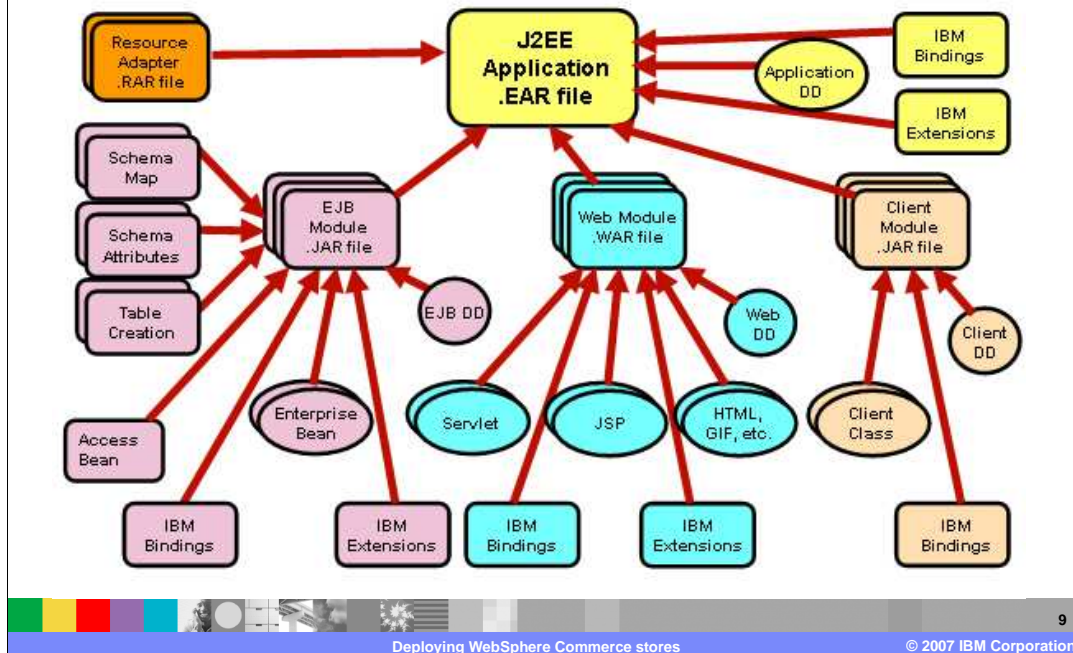
The Web assets are the files used to create your store pages, such as HTML, JSP files, images, graphics, and include files.

The property resource bundles are locale specific files containing all of the translated text that appears on store pages.

The store configuration files are XML files used by WebSphere Commerce Accelerator to configure the store at run-time. The XML files located under this directory describe options for changing the store flow, store style, store logo, and store text.

The store database assets are XML files containing the data to be loaded into the database to define the store, its catalog, tax, shipping, and other configuration data. Most of these XML files are loaded into the database during publishing using the loader package. Some exceptions include optional payment assets that contain configuration information used to integrate the store with Commerce Payments and trading assets that define account and contract information for stores. To configure these exceptions, special commands are used during publishing.

WebSphere application packaging



WebSphere Application Server V6.0 supports the J2EE 1.4 specification. A J2EE application is packaged in an enterprise archive, a file with a .EAR extension. The application has a deployment descriptor, shown here as Application DD, allowing configuration to a specific container's environment when deployed.

J2EE components are grouped in modules, and each module has its own deployment descriptor.

EJB modules group related Enterprise Java Beans in a single module. The EJB modules are packaged in Java Archive (JAR) files.

Web modules group servlet class files, JSPs, HTML files, and images. They are packaged in Web application archive (WAR) files.

Application client modules are packaged in Java archive (JAR) files.

Resource adapter modules provide integration support using the Java 2 Connector Architecture (J2C or JCA). They are packaged in resource adapter archive (RAR) files.

WebSphere Application Server enhances the J2EE Application EAR file with IBM Bindings and Extensions. These adapt the generic J2EE application to the WebSphere Application Server environment.

Store asset deployment

<pre> <WAS_HOME>/ profiles/ <PROFILE_NAME>/ installedApps/ <CELL_NAME> WC_<instance_name>.ear/ lib/ META-INF/ properties/ stores/ Stores.war/ <store_dir>/ WEB-INF/ classes/ <store_dir>/ lib/ stores/ <store_dir>/ xml/ </pre>		<div style="border: 1px solid blue; padding: 5px; margin-bottom: 10px;"> Store assets are published to the deployed directory for the WebSphere Commerce enterprise application </div> <pre> EJB JAR files JAR files deployment descriptors properties files store XML files JSP files, images store web assets deployment descriptors store properties files custom store JAR files store XML files instance configuration files </pre>
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When a WebSphere Commerce server instance is created, an enterprise application is created and deployed to WebSphere Application Server. The WebSphere Commerce enterprise application is deployed to an EAR directory WC_<instance_name>.ear. Within that directory, there are the EJB module, JAR files, and WAR directories for the Web modules.

The Stores.war Web module contains all Web assets for storefront functionality. The new Web assets for a specific store should be added to the Stores.war directory. Ideally, these assets should be put in a store specific subdirectory to prevent conflicts if there are multiple stores on the same system. In addition, store properties files should be located under the Stores.war/WEB-INF/classes subdirectory.

Store publishing

- There are two ways to publish a store archive.
 - ▶ Site administration console
 - ▶ Command line
- A background scheduler job is run to perform the publish.
 - ▶ Store archive file is unpacked to Stores.war directory
 - ▶ Background publish job scheduled
 - Data loaded using mass loader
 - Contracts imported
 - Payment plug-ins loaded
- The publish process is customizable.



A store archive can be published using the Administration Console or the command line. The publishing process runs as a background job controlled by the scheduler. Before the job is scheduled, the files are unpacked and updated with user-supplied values. The publish process loads the data assets.

It is possible to customize the publish process which provides a great degree of flexibility for creation of new kinds of business model that depend on specialized assets.

The screenshot displays the 'Store Archives' section of the Site Administration Console. The interface includes a top navigation bar with 'Security', 'Monitoring', 'Configuration', 'Store Archives', and 'Help'. Below this, there are 'Next' and 'Cancel' buttons. The main content area shows a 'View' dropdown set to 'Default' and '5 items'. A message states: 'From the list below, select the store archive you want to publish.' Below this is a table with columns 'Store Archive' and 'Description'. The table lists five store archive files with their respective descriptions. A sidebar on the left contains 'Store Archives', 'Parameters', and 'Summary'. The footer includes a color bar, 'Deploying WebSphere Commerce stores', and '© 2007 IBM Corporation'.

Store Archive	Description
AdvancedB2BDirect.sar	A sample composite store archive containing the organization structure, predefined user roles, and necessary access control policies to create business direct environment, plus a feature-rich working store.
ConsumerDirect.sar	A starter composite store archive containing the organization structure, predefined user roles, and access control policies necessary to create a consumer direct environment — plus a feature-rich working store.
DemandChain.sar	A sample composite store archive containing the organization structure, predefined user roles, and necessary access control policies to create a demand chain environment, plus the necessary assets to create a demand chain solution, including a channel hub site, shared catalog, and reseller and distributor stores.
ExtendedSites.sar	Contains the organization structure, predefined user roles, and necessary access control policies to create an environment involving multiple sites. Examples of such an environment include a B2B direct seller that uses multiple sites customized for different target buyer audiences. Also contains the necessary assets to create a hub site, shared catalog, and seller storefronts.
SupplyChain.sar	Contains the organization structure, predefined user roles, and necessary access control policies to create a supply chain environment, plus the supplier hub and the asset stores.

To publish a store archive, log on to the Administration Console and select Site, then select the **Store Archives** and **Publish** option.

From the Store Archives page, the default View is Default. This view lists the composite store archive files for each Business Model.

You can also select a specific Business Model from View drop-down menu. You will see a list of all store archive files for the selected Business Model including composite store archive files and component store archive files.

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Publish parameters

Select Site Administration Console

Security Monitoring Configuration Store Archives Help

Logout > Home > Publish Previous Next Cancel

Store Archives
Parameters
Summary

Parameters

Store archive: C:\WebSphere\CommerceServer60\starterstores\ConsumerDirect\ConsumerDirect.sa

Specify the necessary values to publish a store in WebSphere Commerce.
Note: If the values are read only, you do not need to enter parameter values in those fields to publish this store archive.

Name	Value	Description
Store directory	ConsumerDirect	The location of the JSP files and the images.
Store identifier	ConsumerDirect	The name of the store that uniquely identifies the store. For example, ConsumerDirect.
Sample data	Housewares	The data assets that will be published to your store. Select Hardware to publish a sample catalog, taxation information, campaign assets, and other data assets from the hardware-store domain. Select Apparel to publish a similar collection of data assets from the clothing-store domain. Select Housewares to publish a richer collection of data assets, additionally including sample promotions and customer profiles, from the houseware-store domain. Select None to not publish any sample data.
Inventory model	ATP	Choice of inventory model for your store.

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To utilize the models with the most functionality, you should publish the Consumer Direct starter store with the HOUSEWARES catalog, and you should publish the AdvancedB2BDirect starter store with the HARDWARE catalog.

The publish parameters are controlled by the sar-inf/store-refs.xml file in the store archive. The composite store archives do not allow you to override many of the default parameters. You can only choose which catalog data you would like to publish and which type of inventory should be used. There is also a choice to publish the store archive without sample data allowing the catalog to be loaded from scratch without deleting data from the starter store.

The component store archives allow you to make more changes. For example, you can modify the parent organization and store directory.

Clicking the **Next** button will take you to the summary page where you can verify the values entered and start the publishing process.

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Publish status

Select ▾ Site Administration Console

Security Monitoring Configuration Store Archives Help

Logout > Home > Publish Status

Publish Status

Page Number

1 item
 « First | 1 of 1 | Last »

Use the list below to determine the status of your publish job.
 To launch the published store, select the corresponding job number, click Details, and click Launch Store.

<input type="checkbox"/>	Job Number	Store Archive	Start Time	End Time	Publish Status
<input checked="" type="checkbox"/>	10001	ConsumerDirect.sar	5/18/06 3:32 PM	5/18/06 3:44 PM	Successful

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The status page shown on the slide does not automatically refresh during the store publish. Click **Refresh** button to refresh the publishing status. Alternatively, select the **Job Number** and click **Details** button. The page will refresh every 20 seconds to display the current publish status.

The **Remove** option removes the scheduler job log entry only. It does not remove the store.

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Publish details

Select ▾ Site Administration Console

Security Monitoring Configuration Store Archives Help

Logout > Home > Publish Status > Publish Details

Refresh Cancel

Publish Details

Store Archive: C:\WebSphere\CommerceServer60\starterstores\ConsumerDirect\ConsumerDirect.sar

Job number: 10001

Start time: 5/18/06 3:32 PM

End time: 5/18/06 3:44 PM

Store Publish Task:

Status: *Successful*

Launch Store

Note: We recommend that you batch compile the JavaServer Pages (JSP) files in your site or store before lau significantly reduce the amount of time needed to load each store page. While launching the store, if the store's homepage throws **Resource Not Found Exception** , wait for 5 minu several times, the store home page still does not work, contact your system administrator.

[Click here to see the store Publish Job Summary](#)

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When the store is published, you can click on the **Launch Store** button to launch the store home page. The URL is typically very long so you should bookmark it in your browser for easier access.

Troubleshooting store publish

- If an error occurs during publishing, the error is displayed on the **Publish Details** page
- Use WebSphere Application Server logging and tracing facilities
 - ▶ Use Log Analyzer to check the activity log for exceptions
 - ▶ Trace strings for publish:
 - com.ibm.websphere.commerce.WC_DEVTOOLS=all=enabled
 - com.ibm.websphere.commerce.WC_CONTRACT=all=enabled
 - com.ibm.websphere.commerce.WC_SERVERMANAGEMENT=all=enabled
- Refer to WebSphere Commerce information center for additional details and tips

[Click here to see the store Publish Job Summary](#)

```
com.ibm.commerce.tools.devtools.publish.tasks.unpack.CopyLocaleFileTaskCmd executed successfully at 4/1/06 12:10 PM.
com.ibm.commerce.tools.devtools.publish.tasks.unpack.CopyTaskCmd executed successfully at 4/1/06 12:10 PM.
com.ibm.commerce.tools.devtools.publish.tasks.idresolve.IdResolverTaskCmd executed successfully at 4/1/06 12:13 PM.
com.ibm.commerce.tools.devtools.publish.tasks.massload.MassLoaderTaskCmd executed successfully at 4/1/06 12:13 PM.
com.ibm.commerce.tools.devtools.publish.tasks.languages.ReconcileLanguagesTaskCmd executed successfully at 4/1/06 12:13 PM.
com.ibm.commerce.tools.devtools.publish.tasks.StoreIdBaseDeployTaskCmd executed successfully at 4/1/06 12:13 PM.
com.ibm.commerce.tools.devtools.publish.tasks.unpack.FileFilterTaskCmd executed successfully at 4/1/06 12:13 PM.
com.ibm.commerce.tools.devtools.publish.tasks.unpack.FileFilterTaskCmd executed successfully at 4/1/06 12:13 PM.
com.ibm.commerce.tools.devtools.publish.tasks.CommandInvokerTaskCmd executed successfully at 4/1/06 12:13 PM.
com.ibm.commerce.tools.devtools.publish.tasks.catalog.SetupContentManagedDirectoryTaskCmd executed successfully at 4/1/06
```

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The store **Publish Details** page displays step-by-step results of the actions being performed. This will keep you up to date with what publishing step the process currently executes. It is also useful for problem determination.

There are three trace strings you can enable for in-depth troubleshooting.

Enable WC_DEVTOOLS for store publish base code.

Enable WC_CONTRACT for determining problems when loading accounts and contracts.

Enable WC_SERVER_MANAGEMENT for determining problems when copying the files using the EAR update utility.

Creating stores

- Different kinds of stores
 - ▶ Customer-facing store
 - ▶ Asset store
 - ▶ Proxy store
- Different methods of creation
 - ▶ Use store creation wizard
 - ▶ Import XML service agreement



Store Archives allow you to create fully functional stores, which can serve as a baseline for the development of your own custom store. In WebSphere Commerce Enterprise, several business models allow multiple stores to exist for different purposes. For example, in a hosting or extended sites environment, multiple storefronts can be available. In a hosted environment, resellers can create and manage their own stores. In an extended sites environment, you can have multiple storefronts for different geographies. In a supply chain environment, you can pass shopping carts to a backend distributor for processing. In this case, you will need a proxy store to hold relevant data about the orders. In all of these cases, you will need different mechanisms for creating a store.

Asset stores contain collections of sharable resources (such as business artifacts, business processes, and storefront assets) that can be leveraged in other stores.

You can access the Store Creation Wizard from the WebSphere Commerce Accelerator for the business models in which it is supported. An XML service agreement for a distributor can be imported from the WebSphere Commerce Accelerator.

You can find more information on the topic in the WebSphere Commerce Information Center.

Recommended courses

Formal education exists for this product and you can find information on recommended training paths and certification tests at the following links.

- Application developer for WebSphere Commerce V6
<http://www-304.ibm.com/ict03001c/services/learning/ites.wss/us/en?pageType=page&c=a0011792>
- Business user for WebSphere Commerce V6
<http://www-304.ibm.com/ict03001c/services/learning/ites.wss/us/en?pageType=page&c=a0011793>
- System administrator for WebSphere Commerce V6
<http://www-304.ibm.com/ict03001c/services/learning/ites.wss/us/en?pageType=page&c=a0011794>



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