ERDAS APOLLO
Data Manager Guide

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erdas

The Earth to Business Company

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Introduction

In this chapter:

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What is Covered in This Guide

This guide explains how to use the ERDAS APOLLO Data Manager to connect to an ERDAS APOLLO Server (Advantage/Professional editions) so you can add, edit, or retrieve data from your imagery data catalog or to an ERDAS APOLLO Server (Essentials-SDI edition) so you can create web services for your imagery data.

Audience

The instructions in this guide are for people who need to manage the imagery data for an organization, including cataloging it, setting up the security for it, and publishing web services so others can access it. The instructions are designed to be easy and thorough for people who are new to the ERDAS APOLLO Data Manager product.

This guide assumes that you already have a working instance of the product. For more information about installing the ERDAS APOLLO Data Manager, see the *ERDAS APOLLO QuickStart Guide*.

Additional Help

- The *ERDAS APOLLO Concepts Guide* explains the terminology and technology that you need to know in order to understand the ERDAS APOLLO product. ERDAS recommends that you review this guide before trying to install or configure the product.

- The *ERDAS APOLLO QuickStart Guide* provides instructions for installing a basic, working ERDAS APOLLO system, as well as instructions for upgrading or replacing an older system.

- The *ERDAS APOLLO Data Manager Guide* provides instructions for the ERDAS APOLLO Data Manager, which is the ERDAS APOLLO system component that you will be using to create and manage your imagery catalog and/or service providers.

- The *ERDAS APOLLO User Guide* gives instructions on using the ERDAS APOLLO Web Client and instructions on using HTTP requests to interact with your ERDAS APOLLO Server.

- The ERDAS APOLLO Administrator's Guides contain instructions for advanced installation, configuration, and optimization of the server application for ERDAS APOLLO. There are two books that cover this material:

  - ERDAS APOLLO Administrator's Guide (Advanced/Professional edition) provides information about the features that are unique to that level of the product, such as:

    - The ERDAS APOLLO Imagery Catalog
    - Clip, Zip, and Ship image downloading
    - Geoprocessing (WPS)

  - ERDAS APOLLO Administrator's Guide (Essentials-SDI edition) provides information about how to create and configure OGC-compliant service providers, how to use the different tools and utilities available in ERDAS APOLLO to help you work with your data, and how to use the ERDAS APOLLO Style Editor.

Conventions

Because you can choose where to install a program, the root directory where it is installed is referred to *<APPNAME_HOME>*, where APPNAME represents the name of the program.

Tour of the ERDAS APOLLO Data Manager User Interface

In this chapter:

- **How the ERDAS APOLLO Data Manager is Organized**

- **Data Manager Views**

How the ERDAS APOLLO Data Manager is Organized

The user interface of the ERDAS APOLLO Data Manager contains three basic functional areas: the *main menu* that appears along the top of the application window, the *main toolbar*, and the different panes, or *views*, that appear in the body of the application window.

The ERDAS APOLLO Data Manager *main* menu allows you to perform global tasks in the application, such as connecting the ERDAS APOLLO Data Manager to a server, setting the application preferences, or opening the help system.

Below the main menu, you will see the main toolbar, which consists of

the Save icon   and the Create Server Connection icon   .

Below the menu you will see different panes, or *views*, that show different details about the activities of the server, the data contained in your catalog, or the service providers that you can access.

Figure 1: The ERDAS APOLLO Data Manager

Explorer View

Datasets, Layers, Jobs Views
(Datasets view open)

Properties, Map, Thumbnail, Metadata Views
(Properties view open)
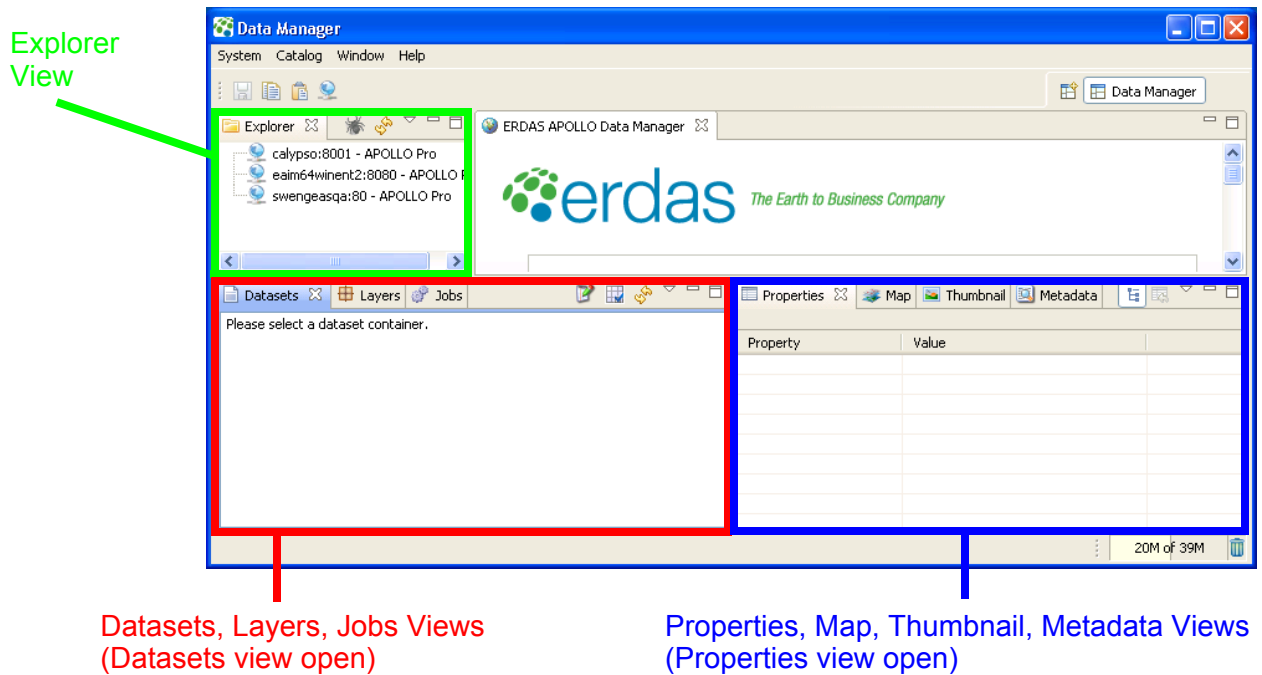
Data Manager Views

The Data Manager consists of the following views:

- **Explorer View**

- **Datasets View**

- **Jobs View**

- **Properties View**

- **Metadata View**

- **Map View**

- **Layers View**

- **Thumbnail View**

- **Service Provider Editor View**

Explorer View

The Explorer View displays all of the servers that the ERDAS APOLLO Data Manager is connected to.

Within each server connection node you will see what kind of resources you can access when you interact with that server.

Connections to ERDAS APOLLO Server (Advantage/Professional)

The Advantage and Professional levels of the ERDAS APOLLO Server allow you to create and manage a catalog of geospatial imagery data, as well as create and manage service providers. The Professional level also allows you to work with processes.

Each node for a connection to an ERDAS APOLLO Server (Advantage/Professional) will contain the following nodes:

- **Configuration**   Lists the configuration settings for the server including: General, Provisioning, Clip/Zip/Ship, Geoprocessing, Security, Performance, Users, Roles, and Default Principals.

- **Catalog**   Shows the contents of the catalog of geospatial imagery data for this server.
  Directly inside the Catalog node, you will see the ROOT aggregate node, which contains all of the other aggregates in your catalog.

- **Processes**   Shows all of the processes that are available for this ERDAS APOLLO Server.

- **Services**   Shows all of the web service providers available for this ERDAS APOLLO Server.

  - **Maps & Proxies**   Shows all of the WMS providers and proxy WMS providers for this ERDAS APOLLO Server.

  - **Rasters**   Shows all of the WCS providers for this ERDAS APOLLO Server. The ERDAS APOLLO Server also automatically creates a WMS any time you explicitly create a WCS.

  - **Resources**   Shows all of the resources of other types that you have registered in your catalog, such as PDFs.

  - **Vectors**   Shows all of the WFS providers for this ERDAS APOLLO Server.

Connections to ERDAS APOLLO Server (Essentials-SDI)

The Essentials-SDI level of the ERDAS APOLLO Server allows you to create and manage service providers.

Each node for a connection to an ERDAS APOLLO Server (Essentials-SDI) will contain the following nodes:

- **Maps & Proxies**   Shows all of the WMS providers and proxy WMS providers for this ERDAS APOLLO Server.

- **Rasters**   Shows all of the WCS providers for this ERDAS APOLLO Server. The ERDAS APOLLO Server also automatically creates a WMS any time you explicitly create a WCS.

- **Resources**   Shows all of the resources of other types that you have registered in your catalog, such as PDFs.

- **Vectors**   Shows all of the WFS providers for this ERDAS APOLLO Server.

Context Menu for the Server Connections

Each server connection is represented by a node in the tree.

Each server connection node indicates the license level of the server, the name of the computer where the server component is installed, the HTTP port, and the user account that was used to log in to the server.
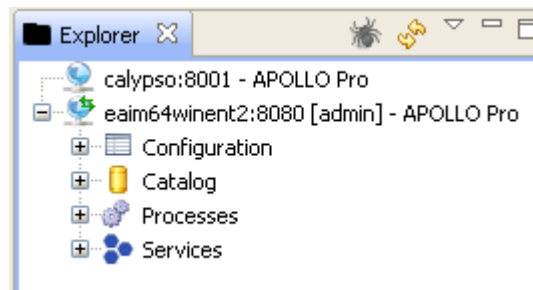
If you right-click on the server connection node, you can access a menu that will allow you to perform different tasks.

Figure 2: Menu for a Server Connection Node in Explorer View

The menu options consist of the following:

Menu Option	Description
Logout	Allows you to log out of currently selected server connection.
Delete Connection	Allows you to remove the currently selected server connection from the Data Manager.
Optimize Database	Allows you to clean the database. This will maximize unused disk space, provide faster insertion, and quicker access to the catalog.
Upgrade Thumbnail and ISO Metadata Paths	Sets the thumbnail and ISO metadata locations that are defined in the database so that they match the locations given in the `<APOLLO_HOME>config/erdas-apollo/coverage/providers.fac` file by the LEGENDS TEMPLATE parameter (for thumbnails) and the METADATA TEMPLATE parameter (for ISO metadata files).
Masking	Allows you to create a "mask" or layer, that will be used to cover a specific spatial extent in any of the coverages. You can configure the mask so that it causes that area to be shown at a reduced resolution, or you can configure it to appear as a solid area of color over that extent.
Update Queryables	When the Data Manager registers data in the catalog, it also detects certain metadata attributes. You can set up the Data Manager to recognize even more metadata attributes. ERDAS refers to these additional metadata attributes as *queryables*. If you add a queryable to your system, you can use the **Update Queryables** feature to update the data in your catalog with this newly recognizable metadata information.

Context Menus for Aggregates in the Catalog

For each Advantage or Professional level ERDAS APOLLO Server that you are connected to, you can see the aggregates that are registered in its associated catalog. Each aggregate is represented as a node under the ROOT node in the tree.
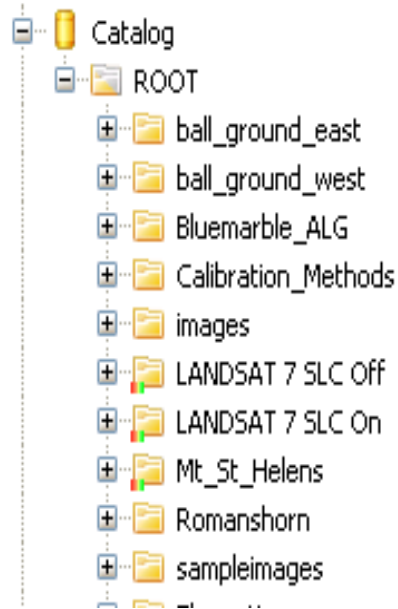
By right-clicking the aggregate nodes that appears under the **Catalog** node you can access a menu that allows you to perform tasks on that aggregate.

The menu options consist of the following:

Menu Option	Description
Create Aggregate	Allows you to create a new, empty aggregate in the catalog. You can populate this aggregate by performing a crawl and selecting it as the parent aggregate.
Delete Aggregate	Removes the selected aggregate from the catalog, along with any aggregates or datasets that it contains.
Refresh	
Add Images	Allows you to select the specific images you want to add to an aggregate.
Schedule Crawling	Launches the Crawler Schedule Wizard so you can create a crawler that will locate and catalog data in a file directory you specify.
Batch Update	Makes group changes to the properties of aggregates and datasets of the selected aggregate.
Generate Footprints	Generate footprints for an aggregate and/or the datasets in the aggregate. The footprints are used in spatial searches of the catalog. **Extent (fast)** - The footprint is identical to the spatial extent of the dataset. Selecting this option allows the footprints to be generated faster, but some of the raster data within the footprint may be null and spatial searches may return extra results that are not useful. **Active Area (precise)** - The footprint for each dataset will contain only the valid data found within the dataset. The footprints are generated more slowly, but since all of the data in the footprints is valid the spatial searches are more precise.
Generate Thumbnails	Creates a small preview image, or thumbnail, of the aggregate highlighted in the Explorer view. After you create a thumbnail for an aggregate, you can display it in the by right-clicking the aggregate and selecting the **Show Thumbnail** option in the popup menu. The thumbnail image is portrayed using the default Style Layer Descriptor (SLD) configured for the data type.
Update Extents	Allows you to update the extent for a selected aggregate and any of the aggregates it contains after you have manually added or removed datasets from the aggregate.

Menu Option	Description
Edit Styles	Allows you to create style sheets for an aggregate. These style sheets control how maps created from the coverage data will look when you view them in the Map View of the Data Manager, or in the ERDAS APOLLO Web Client.
Pyramids	**Add Existing...** allows you to associate an existing pyramid layer file with an aggregate or dataset. **Generate...** allows you to create new pyramid layers for an aggregate or dataset. **Delete Existing...**allows you to delete the existing pyramid layer file for an aggregate or dataset.
Show ISO Metadata	Allows you to see the ISO metadata for the selected aggregate in the **Metadata View** of the Data Manager Perspective.
Show Thumbnail	Allows you to see a small preview image, or thumbnail, of the aggregate selected in the Explorer view. The thumbnails appear in the . Before you can show a thumbnail you need to create it by right-clicking on the aggregate and selecting the **Generate Thumbnails** option in the popup menu.
Add to Map	Allows you to add a graphical representation of the aggregate data as a layer in the **Layers View** and the **Map View**.
Security	Allows you to set the security for the selected aggregate. You can control which portions of the dataset can be seen, at which scales the dataset can be seen, and who will have permission to perform certain tasks on the data.

Context Menus for Service Providers

For each ERDAS APOLLO Server that you are connected to, you can see a list of the service providers that it is associated with.

By right-clicking the nodes in the tree in the Explorer View, you can access menus that allow you to perform tasks with the object you clicked on.

Menu for the Service Type Nodes

Under the main Services node, you will see a node for each type of service that you can create and work with in the ERDAS APOLLO Data Manager, as well as a node that will contain all of the additional resources that you add to your catalog.
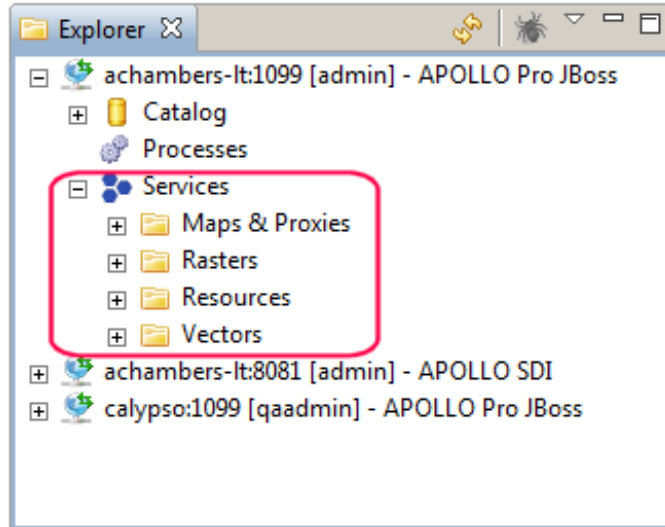
If you right-click on the *Maps & Proxies*, *Rasters*, or *Vectors* **service type** nodes, you will see the following menu:

The Create Service menu option launches the Service Creation Wizard that allows you to create a raster service provider, map service provider, proxy server provider, or feature service provider.

Menu for the Service Provider Nodes

Under the service type nodes, you will see the nodes that represent each of the service providers of that type.
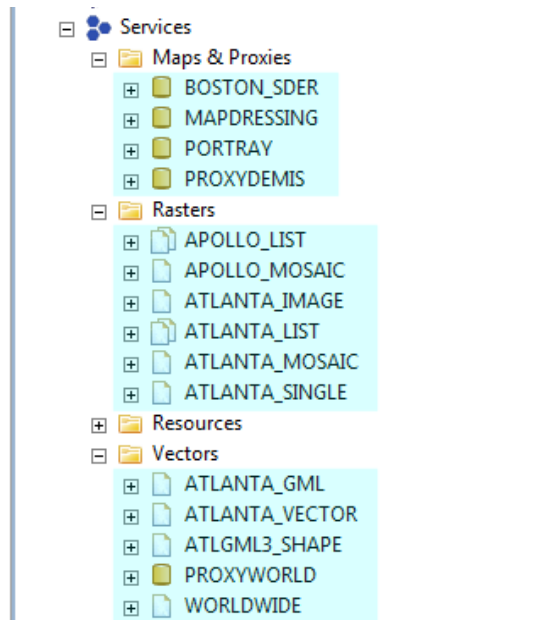
If you right-click on any of the *service provider* nodes under the *Rasters*, *Maps & Proxies*, or *Vectors* nodes, you will see the following menu:

> Edit Provider
>
> Delete Provider
>
> Clone Provider
>
> Add Dataset ...
>
> Register Service
>
> Unregister Service
>
> Add to Map

The menu options consists of the following:

Menu Option	Description
Edit Provider	Allows you to change the details for the provider.
Delete Provider	Allows you to remove the provider.
Clone Provider	Allows you to make a copy of the selected provider.

Menu Option	Description
Add dataset...	Allows you to attach an additional dataset to a service provider. *NOTE: This menu option is only enabled for list or mosaic raster service providers.*
Register service	Allows you to register the service provider in the catalog so that it appears in searches of the catalog (such as those conducted in the ERDAS APOLLO Web Client).
Unregister service	Allows you to remove the service provider's entry from the catalog. The service provider will still exist, but it will not appear in catalog searches.
Add to map	Allows you to add a graphical representation of the service provider's data as a layer in the **Layers View** and the **Map View**.

Menu for the Data Nodes

Under certain service provider nodes, you will see the nodes that represent the datasets (for raster service providers), the layers (for maps and proxy service providers), and feature types (for vector service providers).
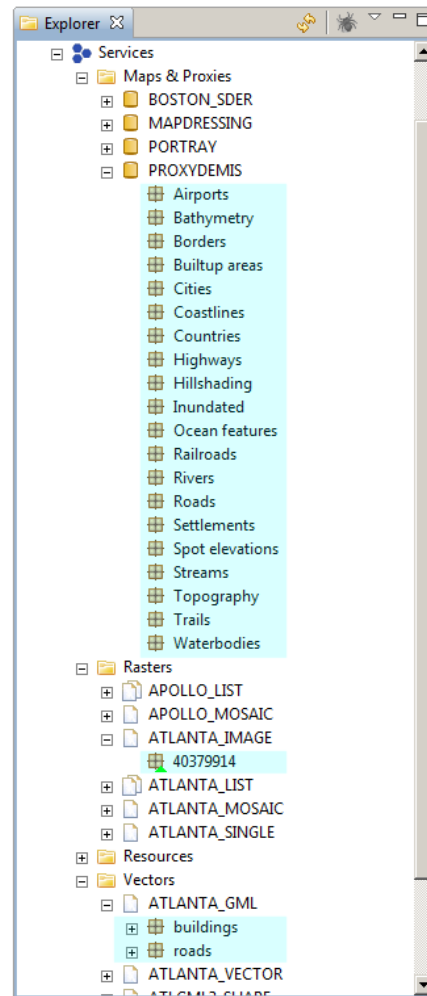
If you right-click any of the **data nodes** under the *Rasters*, *Maps & Proxies*, or *Vectors* service provider nodes, you will see the following menu:
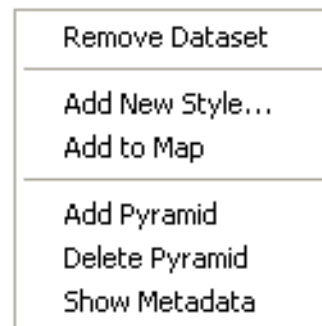
The menu contains the following options. You always get the same menu, but which options are enabled depends on the type of the service provider.

Menu Option	Description
Remove dataset...	Removes the selected dataset from the service provider. *NOTE: This option is only available for list raster service providers.*
Add new style	Adds a new style that controls the appearance of the image in the Web Client. *NOTE: This option is only available for raster service providers.*
Add to map	Allows you to add a graphical representation of the service provider's data as a layer in the **Layers View** and the **Map View**.
Add Pyramid	Adds a pyramid file for the selected dataset. *NOTE: The Add/Delete Pyramid options are only available for mosaic raster service providers.*
Delete Pyramid	Deletes the pyramid file for the selected dataset *NOTE: The Add/Delete Pyramid options are only available for mosaic raster service providers.*
Show Metadata	Allows you to see the ISO metadata for the selected dataset, layer, or vector feature types in the **Metadata View** of the Data Manager.

Menu for the Style Nodes

Under some dataset nodes for some of the raster service providers, you may see style nodes that represent different styles that can be used to render the graphical representation of the dataset.
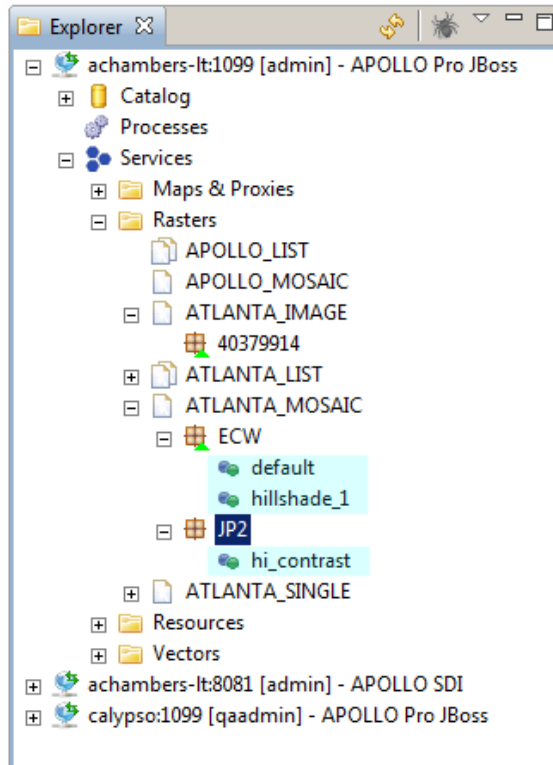
If you right-click any of the *style nodes*, you will see the following menu:
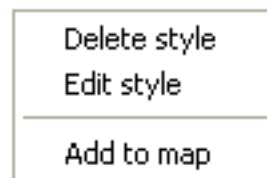
The menu options consist of the following:

Menu Option	Description
Delete style	Delete the selected style.
Edit style	Change the details of the selected style.
Add to map	Allows you to add a graphical representation of the service provider's data as a layer in the **Layers View** and the **Map View**.

Datasets View

The Datasets View displays all of the datasets that are in an aggregate that is currently selected in the Explorer View.

NOTE: The datasets represented by a service provider are shown in the Explorer View.

The Datasets view consists of a grid with the columns listed and described in the following table.

Column	Description
Name	The name of the dataset.
Data Format	The format in which the data is stored.
Spatial SRS	The SRS of the dataset.
Acquisition Date	The date and time when the data was acquired, for example **2004-11-23 21:00:48Z**. The date and time are shown in the in UTC format, which is commonly referred to as Zulu (**Z**) time in aviation.

The right-click Datasets menu options consist of the following:

Menu Option	Description
Delete Dataset(s)	Removes the selected dataset from the aggregate.
Generate Pyramids	Creates pyramid layers for the selected dataset(s).
Generate Footprints	Creates a footprint that will be used in spatial searches of the catalog. Extent (fast) - The footprint is identical to the spatial extent of the dataset. Selecting this option allows the footprints to be generated faster, but some of the raster data within the footprint may be null and spatial searches may return extra results that are not useful. Active Area (precise) - The footprint for each dataset will contain only the valid data found within the dataset. The footprints are generated more slowly, but since all of the data in the footprints is valid the spatial searches are more precise.

Menu Option	Description
Generate Thumbnails	Creates a small preview image, or thumbnail, of the aggregate highlighted in the Explorer view. After you create a thumbnail for an aggregate, you can display it in the by right-clicking the aggregate and selecting the **Show Thumbnail** option in the popup menu. The thumbnail image is portrayed using the default Style Layer Descriptor (SLD) configured for the data type.
Enable WMTS	Enables dataset as a WMTS layer.
Disable WMTS	Disables dataset as a WMTS layer.
Show ISO Metadata	Allows you to see the ISO metadata for the selected aggregate in the of the Data Manager.
Show Thumbnail	Allows you to see a small preview image, or thumbnail, of the aggregate selected in the Explorer view. The thumbnails appear in the **Thumbnail View**. Before you can show a thumbnail you need to create it by right-clicking on the aggregate and selecting the **Generate Thumbnails** option in the popup menu.
Add to Map	Allows you to add a graphical representation of the dataset as a layer in the **Layers View** and the **Map View**.
Security	Allows you to set the security for the selected aggregate. You can control which portions of the dataset can be seen, at which scales the dataset can be seen, and who will have permission to perform certain tasks on the data.

Jobs View

The Jobs View shows all of the tasks, or jobs, that the ERDAS APOLLO Data Manager is performing or is scheduled to perform in the future.

While a crawler is actively working, you will notice that the Jobs view displays a message that indicates how many datasets are being added to the aggregate, skipped (because they are already in the aggregate), or rejected (because the ERDAS APOLLO Data Manager is unable to catalog them for different reasons).

The Jobs view consists of a grid with the columns that are listed and described in the following table.

Column	Description
Name	The name given to the job by the ERDAS APOLLO Data Manager.

Column	Description
Type	Indicates the type of job being performed, such as File System Crawler, ERDAS_PROVISIONING_CLEANUP_JOB, Update Aggregate Extent, or Generate Thumbnail
Status	Indicates the current status of the job, such as WAITING, RUNNING, CANCELING, ERROR, or COMPLETE.
Message	Details about the job, if available. For example, the crawlers provide a message that includes the number of datasets that are **added, skipped, and rejected**. Not every job provides a message.
Last Run Start Date	The date on which the job started the last time it ran.
Last Run End Date	The date on which the job ended the last time it ran.
Next Run Date	The date on which the job is scheduled to run again.
Interval	Indicates how often the job is scheduled to run. Most jobs only run once. The crawler jobs can be scheduled to run for any one of the intervals. The intervals are: • ONCE • HOURLY • DAILY • WEEKLY • MONTHLY

By right-clicking a job, you can access a menu that allows you to perform tasks on that job.
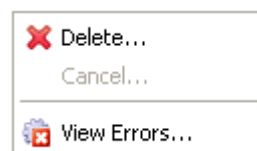
The menu options consist of the following:

Menu Option	Description
Delete...	Deletes a scheduled job that is not currently in progress.
Cancel	Halts a job that is currently in progress.
View Errors...	Opens the Job Errors dialog box, which shows detailed information about a specific error that occurred. This information will allow the ERDAS technical support engineers to assist you better in the event that one of your Data Manager jobs encounters problems.

Properties View

The Properties View shows the image metadata for an aggregate that is selected in the Explorer View, a dataset that is selected in the Datasets View, or a job that is selected in the Jobs view.

The Properties view consists of a grid that shows the various properties, grouped together by category and the value for each property.

For aggregates and datasets, the ERDAS APOLLO Data Manager reads most of this information from the imagery data or from XML files that come with that data when it creates aggregates or discovers the imagery during a crawl. However, some of it is assigned by the ERDAS APOLLO Data Manager.

For instance, when an aggregate is created, the ERDAS APOLLO Data Manager automatically populates the **NULL values** field for that aggregate. The **NULL values** field indicates the value assigned to any part of the aggregate that does not contain valid data. The ERDAS APOLLO Data Manager sets this value to be 0.0 by default, but you can change it to a different value if you need to.

By right-clicking a property, you can access a menu that allows you to perform tasks on that property.
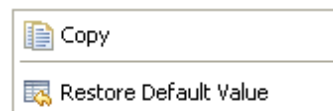
The menu options consist of the following:

Menu Option	Description
Copy	Allows you to copy the property to the system clipboard so that you can paste it into another application.
Restore Default Value	Restores a property to the original value. This option is only available for properties that have been changed.

Metadata View

The Metadata View shows the ISO metadata for an aggregate selected in the Explorer view or a dataset selected in the Datasets view.

Map View

The Map View allows you to see a graphical representation of an aggregate, a dataset, or the data associated with a service provider.

The Map View works in conjunction with the ??, which shows a list of all the aggregates, datasets, and service providers that you want to be able to see in your Map View.

This allows you to view the graphical representations of different things together inside the Map View if you want.

By default, the Map View provides a base map of the entire Earth.

The Map View includes tools that make it easier to view your map. You can access these tools with the icons that appear on the top right corner of the Map View.

Fast Navigation - allows you to roll your mouse wheel to zoom in and zoom out, drag the mouse to pan, and double-click to zoom in.

Zoom In - allows you to move in look at the map image up close.

Zoom Out - allows you to move out so you can see a larger portion of the map.

Pan - allows you to drag the map until the portion you want to see comes into view.

By default, the Map View provides a base map of the Earth.

Layers View

The Layers View shows a list of all the aggregates, datasets, and service providers that you want to be able to see in your .

You can choose to view each layer separately or at the same time as another layer. You can also choose to view them layered over the base map, which by default is a map of the entire Earth.

Each layer has a sphere next to it that indicates its status:

🟢 **Visible** - The layer is visible on the map.
Even though the layer may be visible, it may not be currently in your field of view.

⚪ **Invisible -** The layer is not visible on the map.

🟡 **Rendering** - The Data Manager is currently in the process of rendering the data so that it will be possible to see it on the map.

🔴 **Error -** The Data Manager has encountered some error while processing the layer. To see details about the error, right-click the layer and select **Show Error** in the menu that appears. To determine the exact nature of the error, you will probably need to provide your technical support representative with this information.

If you right-click on an individual layer, you can access a menu that will allow you to perform different tasks.

Figure 3: Context Menu in the Layers View


```
Remove Layer
Toggle Layer Visibility
Fit to Layer Extent and Projection
Fit to Layer Extent
Show Error
```
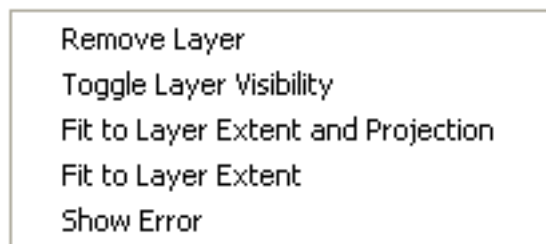
The menu options consist of the following:

Menu Option	Description
Remove Layer	Removes the layer from the Layers View and the Map View

Menu Option	Description
Toggle Layer Visibility	Makes the layer visible or invisible on the map. The sphere next to layer name indicates its current state; the green sphere means it is visible and they grey sphere means it is invisible. *NOTE: Just because a layer is visible does not necessarily mean you can currently see it in the Map View. It may not be in the current field of view.*
Fit to Layer Extent and Projection	Shows the layer using the layer's own projection. The layer will be centered and rescaled to fill the viewable area of the Map View.
Fit to Layer Extent	Shows the layer using the current projection in use in the Map View. The layer will be centered and rescaled to fill the viewable area of the Map View.
Show Error	Shows any processing errors for the layer, as indicated by a red sphere next to the layer name. This information is designed to help the ERDAS technical support engineers determine the exact nature of the problem so it can be resolved.

Thumbnail View

The Thumbnail view shows a thumbnail, or small preview image, of an aggregate or dataset. To view a thumbnail of an aggregate, you will have to highlight it in the Explorer View, right-click it, and select Show Thumbnails on the menu. To view a thumbnail of a dataset, you will have to highlight it in the Datasets View, right-click it, and select Show Thumbnail on the menu.

Before you can show a thumbnail you need to **create it**. If you go through the process to show a thumbnail and one has not been created yet, the "Unavailable" graphic appears in the Thumbnail View.

Service Provider Editor View

The Service Provider Editor View displays all of the different parameters for a service provider, and allows you to change the values of those parameters or perform different tasks on the service provider.

To open a Service Provider Editor View:

1. Right -click on a service provider in the **Explorer View**.

2. Select **Edit Provider** in the menu that appears.

By default, the service provider editor views appear in the top right section of the Data Manager application window. The name of the service provider will be shown in the main tab for the view, and a different view will appear for each service provider that you want to edit.

For example, in the screen shot below, you can see a Service Provider Editor View for the service provider named ATLANTA_SINGLE. There are two more Service Provider Editor Views for the APOLLO_LIST and APOLLO_MOSAIC service providers.

The information and tasks are grouped together on different tabs to make them easier to find and work with.

The following sections explain the basic purpose of each one of the tabs, the parameters that can be found on each tab, and the tasks that can be performed on each tab.

Service Info

These same parameters (grouped by service type) are described in the Administrator's Guide (Essential-SDI Edition) in **Detailed Parameters of a Provider**. The Service Info tab contains all of the basic information about the service provider.

Table 1: Service Provider Parameters on the Service Info Tab of a Service Provider Editor View

Field (Attached Parameter)	Available for	Description
Title (TITLE)	rasters, maps, vectors	The service title (will appear in the Service section of the capabilities)
Abstract (ABSTRACT)	rasters, maps, vectors	The service abstract (will appear in the Service section of the capabilities).
Contact Information (CONTACT)	rasters, maps, vectors	The service contact information (overridden by the Service Metadata field content)

Table 1: Service Provider Parameters on the Service Info Tab of a Service Provider Editor View

Field (Attached Parameter)	Available for	Description
Service Metadata (OWSINFO)	rasters, maps, vectors	Set of metadata for the Service Identification and Service Provider parts of the capabilities document. (overridden by the Service Metadata URL field content)
Published SRS (PUBLISHEDSRS)	rasters, maps	The blank separated list of srs (code:value) to appear in the service metadata (capabilities) in addition to the srs parameter value
Service (SERVICE)	rasters, maps, vectors	The service type (optional)
Keywords (KEYWORDS)	rasters, maps, vectors	A comma-separated list of keywords that will appear in the service metadata (capabilities) document
Service Metadata URL (OWSINFOURL)	rasters, maps, vectors	URL to an XML document containing the Service Identification and Service Provider parts of the capabilities document
Metadata URL (METAURL)	rasters, maps, vectors	The URL template to give access to ISO metadata files in the capabilities document. IF not set, no URL is exposed, but if it is set to an empty string (VALUE=""), or to "inherit"
Coverage Info ()	rasters	Placeholder for some additional info on each coverage
Provider Class	rasters, maps, vectors	The Java class for the service provider. The last part of the provider class name indicates the type of service provider, such as ProxyProvider, IndexProvider, or MultiSimpleProvider.
Service URL	rasters, maps, vectors	The URL of the service.

Data Source

The Data Source tab provides information about the location of the data for which the service provider acts as an interface.

It also provides a link that you can use to index your data after you add or remove datasets for it and a link that you can use to create types and mappings.

Table 2: Service Provider Parameters on the Data Source Tab of a Service Provider Editor View

Field (Attached Parameter)	Available for	Description
Path (*PATH*)	rasters, maps	Location of the image(s).
MULTIPATH (*MULTIPATH*)	vectors	Defines set of path. Each path defines a directory containing shapefiles.
Character Set (*CHARSET*)	vectors	The charset identifier (utf-8...) which specifies the encoding of dbf files.
Mode (*MODE*)	vectors	The geometry type computing mode, values can be safe (allow mixing geometries), normal (based on file header), or computed (loop on whole file).
SRS (*SRS*)	rasters, maps	The SRS ID of the image.
Background Value (*BACKGROUNDVALUE*)	rasters	It contains the value by band that represents the absence of data. By analogy, for images it is the background value that will be set as transparent. The value can be either a comma-separated list of values, one per band, or a single value which will apply to all bands.
Indexer Type (*indexingType*)	rasters, maps	The indexing system can be either an OGC WFS compliant Feature Server or an OGC CS-W compliant catalog. The value "BABEL" or "CATALOG" is needed to index in a Catalog, "GML" is used to index in a WFS on top of a gml file, "WFS" is the default.
Indexer ID (*INDEXINGSERVER*)	rasters, maps	Defines the name of the provider, inside the factory file referenced in the INDEXINGPROVIDER parameter, that constitutes the indexing system
Indexer Factory (*INDEXINGPROVIDER*)	rasters, maps	Defines the URL to the factory file holding the definition of the indexing system.
GDAL Path (GDALPATH)	rasters, maps	The value is the path to the directory where the "gdal_tool" binary lies. the tool is located in *<APOLLO_HOME>*/tools/lib/gdal.
HEG Path (HEGPATH)	rasters, maps	The path to the HEG tool installation directory.

Table 2: Service Provider Parameters on the Data Source Tab of a Service Provider Editor View

Field (Attached Parameter)	Available for	Description
Cache Threshold (MAXCACHE)	rasters, maps	Specify some of the coverage metadata to improver performance of portrayal when the NOrmalize filter is used. A comma-separated list of four values: nb bands, data type (1 for unsigned short), min value, max value.
Metadata Mode (MODE)	rasters, maps	NORMAL: value used with small test data pools, the resulting behavior is that a WMS GetCapabilities on the service will show the aggregates AND the references.
Temp Path (TMPPATH)	rasters, maps	As soon as external binaries are used, the temporary directory given by this parameter is needed to store its output. Optional. If absent, GDALPATH or HEGPATH is used.
Large Output Trigger (VERYLARGETRIGGER)	rasters, maps	Allow to enforce specific management for large output sizes, as soon as the output size is requested (pixel width * pixel height) is larger than VERYLARGETRIGGER * VERYLARGETRIGGER. Default value: 2500. This specific management enables the processing, rendering, and output of very big coverages.
Connect String (CONNECT)	vectors	The connect string describing the general URL to connect to the data source. It must have the structure of the IONIC generalized data source URL (protocol://host:post/p1 + v1/p2 + v2)...eg.(Oracle://apollo/sid + apollouser/user + apollopw/password + bar)
Mapping File (MAPPING)	vectors	The URL of the mapping resource (the decapitation of how defined types are mapped onto the underlying data store.)
Types Schema (TYPES)	vectors	The URL of the GML Application Schema resource (the list of all used feature types)
Init Script	vectors	Contains the statements to send to a connection when it is created. These statement are generally SQL order separated by a ;

Styling Info

Table 3: Service Provider Parameters on the Styling Info Tab of a Service Provider Editor View

Field (Attached Parameter)	Available for	Description
Preferred Format (*PREFERREDFORMAT*)	rasters, maps	the preferred output format of the provider (Optional)
Coverage Info	maps	
Hidden Info Formats (*REMOVE_INFO_FORMAT*)	rasters, maps, vectors	the comma-separated list of internal formats to remove from the GetFeatureInfo request type capabilities
Hidden Map Formats (*REMOVE_MAP_FORMAT*)	rasters, maps, vectors	the comma-separated list of internal formats to remove from the GetMap request type capabilities (one or more among GIF, JPG, PNG, SVG, TIFF, WBMP, XBMP).
Legend URL (*LEGENDURL*)	rasters, maps, vectors	the URL template for WMS style legend (Optional. Set to "inherit" to use global template).
Quality (*QUALITY*)	rasters, maps	predefinition of the quality of the output information (specially for generated images)
Data Statistics (*DATASTATISTICS*)	rasters	the maximum number of external processes (GDAL or HEG) results that can be cached to answer subsequent GetCoverage or GetMap requests. If not specified, the caching is disabled.
Concatenation Threshold (*MAXSTITCH*))	rasters	defines the maximum number of coverage granules to concatenate in the requested output. It is intended to prevent long output time
WCS Projection Quality (*WCS_REPROJECTION_QUALITY*)	rasters	the quality factor (0 to 100) to perform a reprojection on the WCS interface.
WMS Projection Quality (*WMS_REPROJECTION_QUALITY*)	rasters	the quality factor (0 to 100) to perform a reprojection on the WMS interface.
Background Color (*LIMITEDCOLOR*)	rasters, maps	this parameter informs on the single background color provided of the provider

Table 3: Service Provider Parameters on the Styling Info Tab of a Service Provider Editor View

Field (Attached Parameter)	Available for	Description
Background Extent (*LIMITEDDISTANCE*)	rasters, maps	set the color distance from LIMITEDCOLOR that is considered as the background

Security Parameters

This tab allows you to specify the security parameters for the service provider.

Table 4: Service Provider Parameters on the Security Parameters Tab of a Service Provider Editor View

Field (Attached Parameter)	Available for	Description
Copyright (*COPYRIGHT*)	rasters, maps, vectors	the copyright text to integrate into each output
Security (*SECURITY*)	rasters, maps, vectors	the service authentication keys (for basic authentication, a string "name password"; for digest authentication, an encrypted string; for security delegation to the data source, value "provider")
Security Resolver (*SECURITYRESOLVER*)	rasters, maps, vectors	the url of the xml security resolver (credentials) description
Security Filter (*SECURITYFILTER*)	rasters, maps, vectors	the url of the xml security filter description
Initialize With Security (*initializewithsecurity*)	rasters, maps, vectors	this parameter allow the provider to be initialize using the security context built with information passed by the application container. It means that instead of using the initial database connection, it tries to open one with the security context information
Disabled Interfaces (disabledinterface)	vectors	this allows to disable an interface. The value is a comma-separated list of interface names. Current interfaces are wfs, wms. This is intended to make a provider a strict wfs or a strict wms (in this last case it will not be possible to get the underlying feature data)

Table 4: Service Provider Parameters on the Security Parameters Tab of a Service Provider Editor View

Field (Attached Parameter)	Available for	Description
Credential Identifier (*credentialname*)	vectors	contains the identifier used to retrieve the connection information (user, password, session type) from the credentials set associated to the current user.
Max Feature Count (*maxfeaturecount*)	vectors	the max number of features returned on any query. This is used to limit the number of features returned by a provider. It may be noticed that the provider does no more strictly obey to client request.
Masking Info (*MASKING*)	rasters	the set of information to perform some masking on the data.
Masking Info > COLOR (*COLOR*)	rasters	defines the color to use for masking. The predefined value transparent means use a transparent color, the predefined value background means use the current background color (if any), otherwise the specified color is used.
Masking Info > COMPOSITE (*COMPOSITE*)	rasters	the alpha composition to apply, alpha means use alpha blending, other values means no composition
Masking Info > DEFAULTMODE (*DEFAULTMODE*)	rasters	defines the default mode used if the value associated to the mode property returns null. Values can be transparent, opposite, blurring, background, opposite-background
Masking Info > ENABLE (*ENABLE*)	rasters	specifies whether masking is enabled or not
Masking Info > FEATUREPROPERTY (*FEATUREPROPERTY*)	rasters	the geometry property to use, if not defined the default geometry is used
Masking Info > FEATURESERVER (*FEATURESERVER*)	rasters	the url of the feature server
Masking Info > FEATURETYPE (*FEATURETYPE*)	rasters	the feature type name to used, if not defined, the first published is used.
Masking Info > MODEPROPERTY (*MODEPROPERTY*)	rasters	the name of the mode property
Masking Info > RESOLUTION (*RESOLUTION*)	rasters	the minimum resolution in meters. It must be defined if the blurring mode is used.

Table 4: Service Provider Parameters on the Security Parameters Tab of a Service Provider Editor View

Field (Attached Parameter)	Available for	Description
Masking Info > ROLEPROPERTY (*ROLEPROPERTY*)	rasters	the name of the role property

Miscellaneous

Table 5: Service Provider Parameters on the Miscellaneous Tab of a Service Provider Editor View

Field (Attached Parameter)	Available for	Description
Name (NAME)	rasters, maps, vectors	an internal identifier for the provider
Other Metadata URL (OWSEXTENDEDURL)	rasters, maps, vectors	URL to an XML document containing the ExtendedCapabilities part of Operations metadata of the capabilities document.
Allow Standard SRS (USESTANDARDSRS)	rasters, maps, vectors	allow the use of the standard srs like EPSG:4326
SRS Strict Behavior (SRSSTRICTBEHAVIOR)	rasters, maps, vectors	denied request using a non published srs
Disable Transaction (DISABLETRANSACTION)	vectors	If set the transaction are disabled (the default is false)
Hidden Capabilities (DISABLED_CAPABILITIES)	rasters, maps	the comma-separated list of information to NOT write onto the capabilities. One or more among ScaleHint, Resolution
Sort Layers (SORT_LAYERS)	rasters	Require the sorting of layers by their name in the capabilities output. If not defined the value is true except for the proxy provider.
Critical Authorization Exceptions (ISAUTHORIZATIONEXCEPTIONCRITICAL)	rasters, maps	should an authorization exception (such as a request for an image as a forbidden scale) be considered critical. If not the image will simple appear; if yes, an exception will be thrown.
Decoders List URL (DECODERLISTURL)	rasters, maps	the path to the `decoder.txt` file, which contains a list of the imagery decoders that should be used for different types of files. By default, this path is `<APOLLO_HOME>/config/ erdas-apollo/providers/coverage.`

Table 5: Service Provider Parameters on the Miscellaneous Tab of a Service Provider Editor View

Field (Attached Parameter)	Available for	Description
METADATALISTURL (METADATALISTURL)	rasters, maps	the path to the `metadata.txt` file, which contains a list of the metadata parsers that should be used for different types of imagery files. By default, this path is `<APOLLO_HOME>/config/ erdas-apollo/providers/coverage.`
Allow Search (ALLOWSEARCH)		Allows a search for the first file able to be decoded if the path is a directory

Using the ERDAS APOLLO Data Manager

In this chapter:

How to Perform Basic Tasks in the ERDAS APOLLO Data Manager

Before you begin working with catalogs and services in the Data Manager, you will need to perform some basic tasks, such as managing your server connections and setting the system preferences.

Managing Server Connections

Before you can use the ERDAS APOLLO Data Manager, you will need to connect it to at least one server.

You can connect the ERDAS APOLLO Data Manager to multiple ERDAS APOLLO Servers. It can be connected to any level of ERDAS APOLLO Server (Professional, Advantage, and/or Essentials-SDI).

When you connect the Data Manager to a server, it will retain the connection information until you explicitly remove it. You will be logged off of all the servers when you close the Data Manager, and will need to log back in when you reopen it.

Connecting the ERDAS APOLLO Data Manager to a Server

To connect the ERDAS APOLLO Data Manager to a server:

1. Select **System** > **Create Server Connection** in the main ERDAS APOLLO Data Manager menu

   OR

   Click on the globe icon 🌐 on the main window toolbar.
   The Create Server Connection wizard opens.

2. If you are trying to connect to an Advantage or Professional level ERDAS APOLLO Server that is using a JBoss application server, select **APOLLO Pro**
If you are trying to connect to an Essentials-SDI level of ERDAS APOLLO Server, select **APOLLO SDI Server**.

Click **Next** after you have selected the one you want.

3. The next step of the wizard looks different depending on which option you selected in the previous step.

   a. In the **Port** box, type the port number that web sites use to communicate with this application server if it is different than the default value. The default port number is 8080.

   b. In the **User** box, type the name of a user who can connect to the ERDAS APOLLO Server.

   c. In the **Password** box, type the password for that user.

   d. Click **Finish**.

After you have established the connection to the server, a node that represents the connection will appear in the Explorer View.

The label for the node will indicate the server type, the name of the machine that is hosting the server, or the HTTP port, and the name of the connected user in the following format:

*<servertype> <hostname>***:***<HTTP_port>* [*<username>*]

Logging in to a Server

After you connect to the server initially, you will only need to log in to it when you first open the ERDAS APOLLO Data Manager.

To log in to the server:

1. In the Explorer View, find the server you want to connect to.

2. Right-click on it and select **Login** from the popup menu.
The Login dialog box opens.

3. Type the user name and password in the boxes and click **OK**.

Logging out of a Server

1. In the Explorer View, find the server you want to log out of.

2. Right-click on it and select **Logout** from the popup menu. The connection node collapses and the plus sign next to it disappears when you are logged out.

Setting Preferences for the ERDAS APOLLO Data Manager

To set the different preferences for the Data Manager, select **Window > Preferences...** on the main Data Manager application window.

The **Service Manager Preferences** allow you to set different options about how the Data Manager should handle certain tasks related to the creation and management of service providers in your system.

After a service has been modified/deleted:

When you change or delete a service provider that has been registered in your catalog, the Data Manager needs to know how to handle the associated catalog entry. This option allows you to set the default course of action.

If you select the "ask if..." option, each time you delete or change a service provider, the Data Manager will display a message box that lets you specify what to do with the associated catalog entry.

When deleting a provider:

When you delete a service provider, the Data Manager needs to know what to do with the associated files. This option allows you to set the default course of action.

If you select the "ask if..." option, each time you delete a service provider, the Data Manager will display a message box that lets you specify what to do with the associated files.

Catalog new service by default

The details about a service provider are stored in files that are accessed by ERDAS APOLLO. You have the ability to explicitly add some basic information about your service provider to the catalog as well so that your end users can find it in their searches.

This option allows you to specify that every service provider that gets created automatically gets a new entry in the catalog as well.

Store relative URLS in Generic Item Metadata (.gim) files

When you add a new custom object to your catalog, you may choose for ERDAS APOLLO to also create a special XML file that we call a Generic Item Metadata file. This file stores the info about the resource.

Two pieces of information in this file are the path to the object file itself and the path to its corresponding gim file. This information can either be stored as absolute paths or relative paths. If you select this option, the paths will be stored as relative paths, which means you will be able to move those files, and as long as they are still together, ERDAS APOLLO will still be able to find them.

Refreshing a View

To ensure that you are looking at the most current information in the **Explorer View**, **Datasets View**, or **Jobs View**, click the Refresh icon that appears on the top right of the block that contains that view.

Arranging the Views

The ERDAS APOLLO Data Manager provides a lot of flexibility if you want to change the default orientation and layout of the views. The Data Manager "remembers" from that point forward. If you make a change that you do not want to keep, you can always reset the layout to the original factory configuration.

Resizing a View

If you place your cursor over the borders between each quadrant of the Data Manager view area, you can drag the border to resize each quadrant, which also resizes the views contained in that quadrant.

The figure below shows the draggable borders, which are marked with a red dotted line..
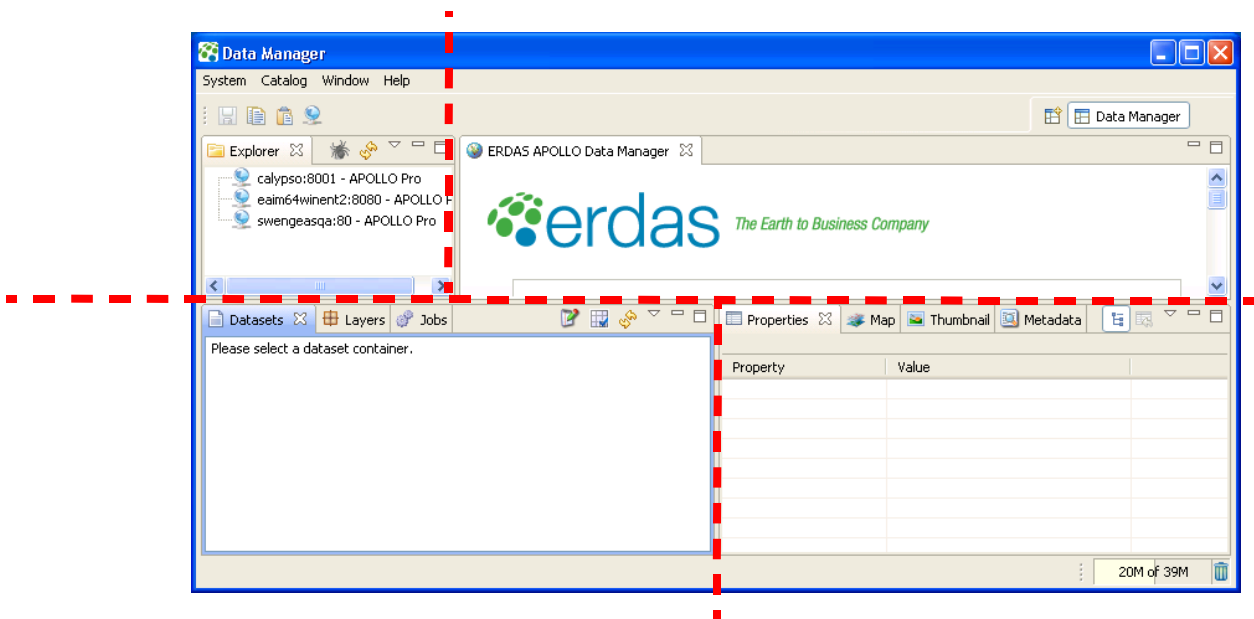
Moving a View

You can use the Windows "drag and drop" feature to move a view in the Data Manager.

To move a view, place your cursor over the tab, press and hold down your mouse button and drag the view to its new location. Release the mouse button to drop the view in the new location.

For example, if you wanted to move the Explorer VIew, you could "grab" it by pressing and holding the mouse button over the tab (circled in red in the figure below) and dragging it to a new place in the Data Manager..
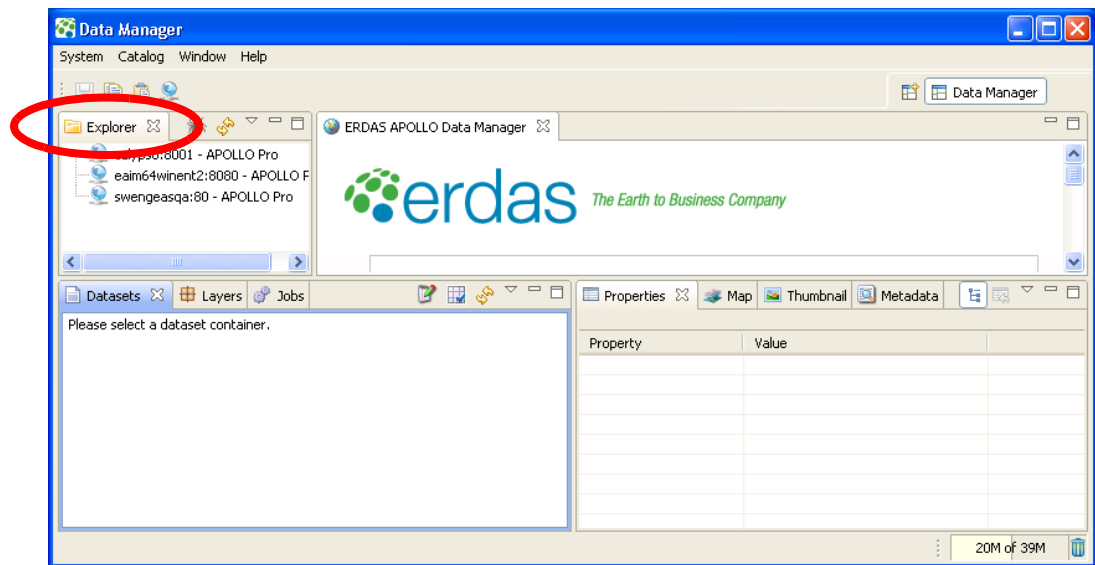
Minimizing a View

To minimize any view, click the **Minimize** ⬜ icon on the top right of the block that contains the view you want to minimize.

The entire block that the view sits inside of will be minimized. For example, if your Data Manager were arranged like it is in the screen show above and you minimized the Datasets View, the Datasets View, Layers View, and Jobs View would all be minimized.

After the block of views is minimized, a toolbar with a **Restore** ⬓ icon and the icons of all the views appears on the left side of the Data Manager, as shown in the figure below. (inside the red circle).

Maximizing a View

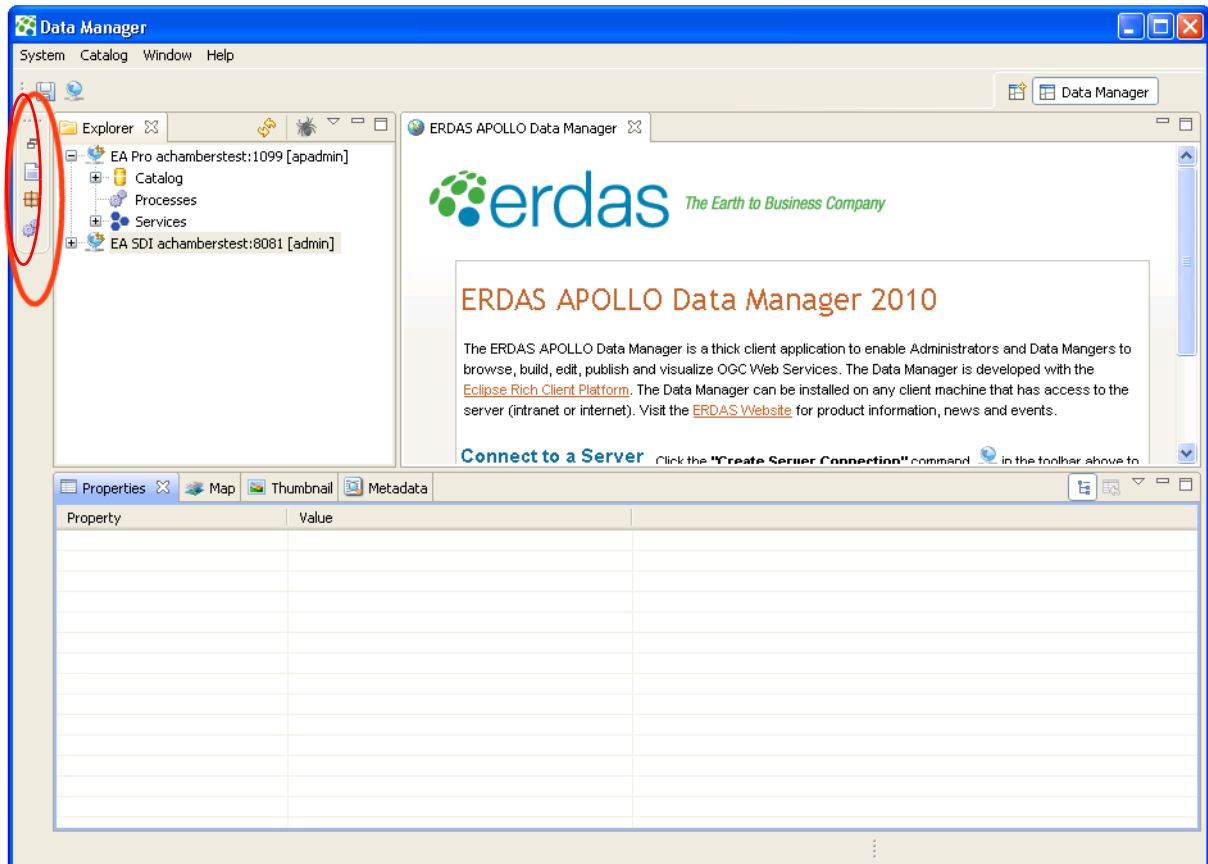To maximize any view, click the **Maximize** ☐ icon on the top right of the block that contains the view you want to minimize.

The entire block that the view sits inside of will be maximized. For example, if your Data Manager were arranged like it is in the screen shown above and you maximized the Properties View, the Properties View, Map View, Thumbnail View and Metadata View would all be maximized.

After the block of views is maximized, toolbars with Restore icon and the icons of all the other views appear on the left side of the Data Manager, as shown in the figure below. (inside the red circles).
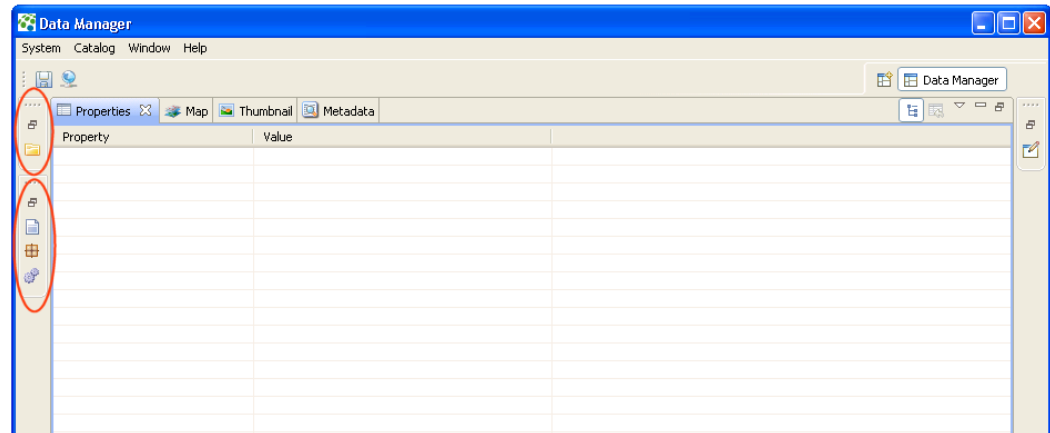
Opening & Closing a View

To open a view, select **Window > Show View** on the main Data Manager menu. A submenu appears that shows the Jobs, Layers, Map, Metadata, and Thumbnail views.

If you want to open a view that is not shown on the submenu, select the **Other...** option at the bottom of the menu.
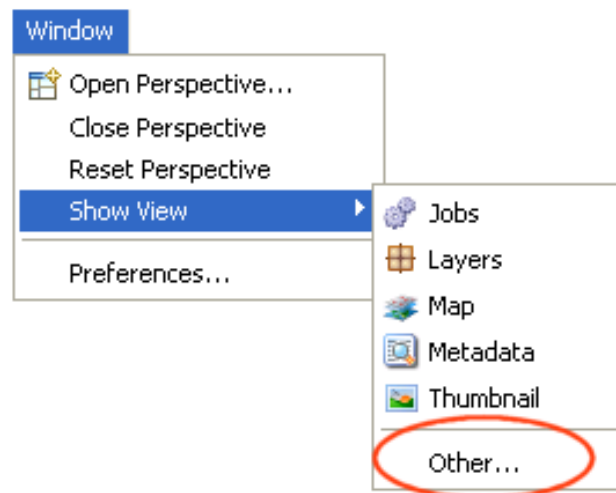
Resetting the Views to the Default Orientation

To reset the appearance of the Data Manager so that it shows all of the views in their default locations again, select **Windows > Reset Perspective** in the main Data Manager menu. Click OK when asked to confirm that you want to reset the perspective. In a couple of seconds, the Data Manager will appear just as it did when you opened it for the first time.

How to Manage Data with the Data Manager

This section describes all of the different data-related tasks that you can perform in the ERDAS APOLLO Data Manager application and provides step-by-step instructions on how to perform them.

The tasks that you will be able to perform in your installation of the ERDAS APOLLO Data Manager will vary depending on which type of server you are connected to, and the type of server you are connected to depends on which tier of the product you are licensed to use.

- **ERDAS APOLLO Professional** allows you to perform all of the data and image catalog management tasks, all of the service provider management tasks, and all of the geoprocessing tasks.

- **ERDAS APOLLO Advantage** allows you to perform all of the data and image catalog management tasks, and all of the service provider management tasks.

- **ERDAS APOLLO Essentials-SDI** allows you to perform all of the service provider management tasks

Data and Image Catalog Management Questions

The following questions relate to the image management tasks that you can perform in the ERDAS APOLLO Data Manager when you are connected to an ERDAS APOLLO Server (Advantage/Professional).

Service Provider Management Questions

The following questions relate to the service provider management tasks that you can perform in the ERDAS APOLLO Data Manager when you are connected to ERDAS APOLLO Server (all license levels).

Geoprocessing Questions

I want to create and use geospatial processes that are compatible with the Web Processing Service (WPS) standards established by the Open Geospatial Consortium. Will ERDAS APOLLO allow me to do this?

How do I create a process to use in my ERDAS APOLLO system?

How can I see which processes have already been set up for use in my ERDAS APOLLO system?

Can I specify which roles and users have authorization to run these processes?

How do I use a process in my ERDAS APOLLO system?

When a user runs a process, are the results stored in my system?

Answers to Data and Image Catalog Management Questions

How do I set up the ERDAS APOLLO Data Manager to automatically find new data and register it in my catalog?

The ERDAS APOLLO Data Manager Crawlers inspect a file directory, identify any imagery data in the directory, read information from the metadata and register the data in the catalog. You can set up a crawler to run only once, but for maximum convenience, you can also set it up to run automatically at any time you want and as often as you want.

The security for the data that is registered in your catalog will be defined when you create the crawler that registers it in the catalog.

The crawlers can also be set up so that as they discover data to register in the catalog they will also:

- create footprints for any datasets they find.

- create pyramid layers for datasets and aggregates that don't already have them.

- create thumbnails for any datasets and aggregates.

The table below shows the default image formats that can be discovered by the ERDAS APOLLO Data Manager crawlers.

Format Name	Extension	Version
IMAGINE Image	.img	1.0

MrSID	.sid	1.0
TIFF (tiled & stripped)	.tif	6.0
GEOTIFF (tiled & stripped)	.tif	1.0
RPF CADRG	A.TOC	1.0
NITF	.ntf	2.0 & 2.1
JPEG2000	.jp2	1.0

A file in a format that can hold several images, such as NITF, is added as an aggregate. The images themselves are the children of this aggregate and will appear in the Datasets View with names in the format

<*file_name*>[sbi=<*image_name*>]

where <*file_name*> is the name of the file and <*image_name*> is the name of the image that is stored in the file.

To create a crawler:

1. In the **Explorer View**, find the connection for the server that connects to the catalog you want to add data to.

2. Click the plus sign next to that connection to open the node.

3. Click the plus sign next to the **Coverages** node to open it.

4. Click the plus sign next to the **ROOT** node to open it.

5. Click on an aggregate to designate it to be the parent aggregate for any aggregates or datasets that are discovered during the crawl. You can:

    •   Select the ROOT node

    •   Select an aggregate within the ROOT node

    NOTE: If you do not want to use one of the existing aggregates as the parent, you can create a new aggregate.

    To create a new aggregate:

    a. Right-click on the aggregate that should be the parent for the aggregate you are about to create.

    b. Select **Create Aggregate** in the popup menu.
        The Create Aggregate dialog box opens.

    c. Type the name of the new aggregate in the box.

Using the ERDAS APOLLO Data Manager

d. Click **OK**.

The new aggregate now appears in the tree in the Explorer View.

6. Open the Crawl Schedule Wizard by clicking the ![spider button] button on the top right of the Explorer View.

7. The Crawler Schedule Wizard opens. Click **Next** to proceed with the crawler scheduling.

8. You are asked to specify which directory contains the data. To specify the directory:

   • Click **Browse** to locate the directory and add its path to the **Directory to Crawl** box.

      OR

   • Type the path of the directory in the **Directory to Crawl** box.

   The **Replicate Directory Hierarchy with Aggregates** option means that a subdirectory found within this directory will be shown as an aggregate in the Explorer View and will be treated as the parent aggregate for any datasets it contains.

   The program automatically begins the process of validating the path in the Directory to Crawl box when you place it in the box using the Browse button **or** when you begin typing it directly into the box. The Next button only becomes enabled once this process is complete and the path has been validated. After the path you want to use is in the box, you can expedite the validation process by clicking **Validate**.

Figure 4: Crawler Schedule Wizard - File System Directory
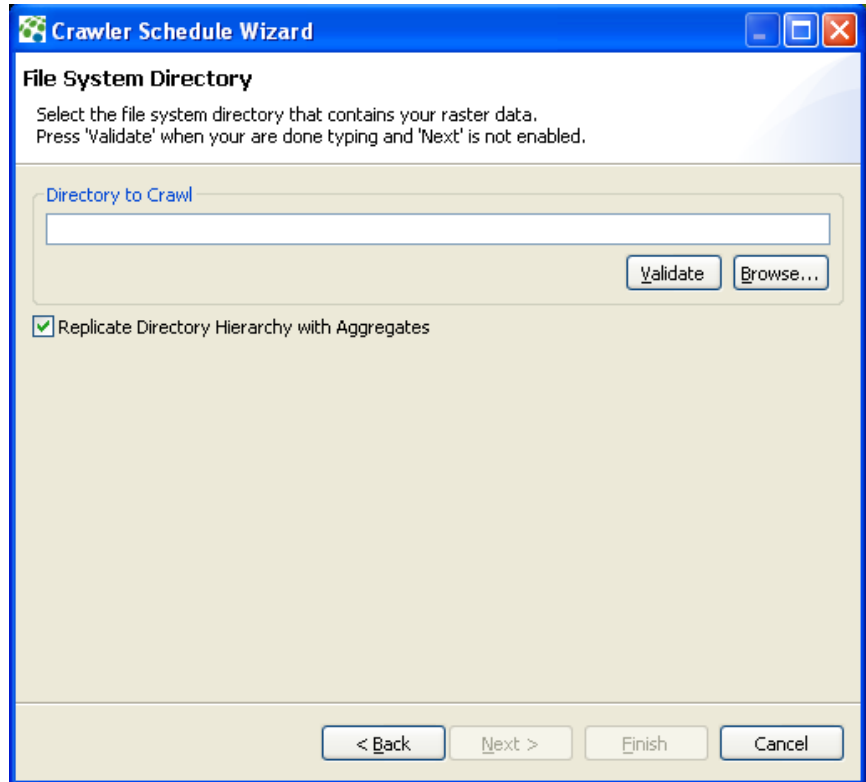
You cannot crawl for images with a file name outside of the selected language for your system. If English is your locale and the file name has French or Chinese characters, the crawl fails.

9. Next, you are asked to set up the schedule for the crawler. There are two different behaviors that you can select:

Run Immediately - The crawl will begin immediately after you complete the wizard.

Recurring - The crawl will run automatically at a specific interval and time that you define. The crawler can run hourly, daily, weekly, monthly, or once.

You can choose to have the crawler run immediately and then begin running automatically by checking both the Run Immediately and Recurring boxes.

Figure 5: Crawler Schedule Wizard - Scheduling Options
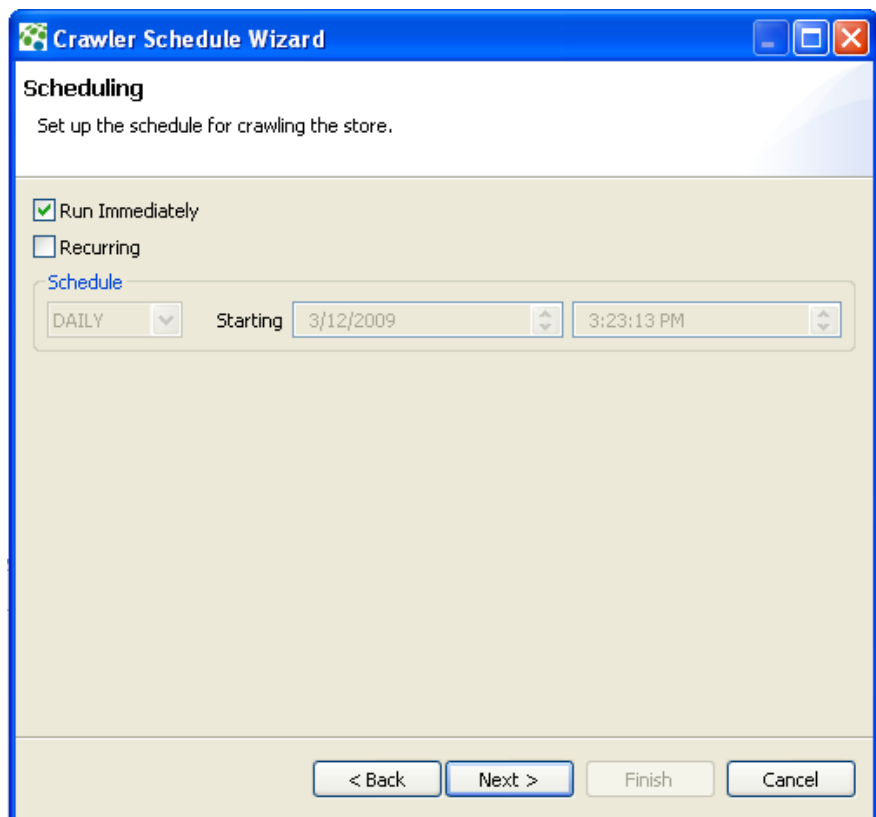
10. The next step asks you to specify the processing and web enabling options for the data discovered during the crawl. The figure below shows the default selections for the options. The following table explains how the options affect the crawler and the data discovered during a crawl.

Figure 6: Crawler Schedule Wizard - Processing and Web Options

Option	Description
WMS Enable	Makes the data discovered during the crawl available to an Web Map Service (WMS). The WMS is used to generate thumbnails, so if you clear the WMS Enable option for datasets, you will no longer have the option of generating thumbnails for aggregates or datasets. If you clear the WMS Enable option for aggregates, you will no longer have the option of generating thumbnails for the aggregates.

Option	Description
WCS Enable	Makes the data discovered during the crawl available to an Web Coverage Service (WCS).
	The WCS is used to generate pyramids, so if you clear the WCS Enable option for datasets, you will no longer have the option of generating pyramids or thumbnails for aggregates or datasets.
	If you select the WCS Enable option for aggregates, the coverages within the aggregate are mosaicked together when requested.
	If you clear the WCS Enable option for aggregates, you will no longer have the option of generating pyramids or thumbnails for aggregates.
Generate Footprints	This set of options specifies whether a footprint will be generated for each of the discovered datasets, and if so, how to generate it. Footprints are used in spatial searches of the catalog.
	Extent (fast) - The footprint is identical to the spatial extent of the dataset. Selecting this option allows the footprints to be generated faster, but some of the raster data within the footprint may be null and spatial searches may return extra results that are not useful.
	Active Area (precise) - The footprint for each dataset will contain only the valid data found within the dataset. The footprints are generated more slowly, but since all of the data in the footprints is valid the spatial searches are more precise.
Generate Pyramids	Makes the crawler generate pyramid layers when it discovers datasets or aggregates that do not already have them.
	The crawler initially tries to determine if pyramids already exist for the dataset. If the raster decoder configured for the data type can recognize that the dataset already contains pyramids, the system will use those and will not create new ones. If the raster decoder configured for the data type cannot recognize that pyramids exist, the system will automatically generate pyramids layers using a 2x2 resampling method until the minimum threshold of 64K is reached. Pyramids generated by the crawler are created in the GeoTIFF format and are stored in the system-configured pyramid storage location (see the *ERDAS APOLLO Server Administrator's Guide (Advantage/Professional Edition)*). Pyramids are first generated for the dataset, and then for the parent aggregate.

Option	Description
Generate Thumbnails	Makes the crawler generate a thumbnail, or small preview image, of each dataset and/or aggregate that it discovers. The thumbnail image is portrayed using the default Style Layer Descriptor (SLD) configured for the data type.

11. The next step allows you to set the security for the data discovered during the crawl.

You can add or remove roles or users (referred to as principals in the ERDAS APOLLO system), define which operations the principals will be allowed to perform on the data, and specify which spatial range each principal can view and the resolutions at which the principal can view images.

The principals **esp_administrator** and **esp_data_manager** appear in the Principals list automatically and by default they have permission to read, update, delete, and manage the discovered data. The options for the principal **esp_administrator** are always disabled so you cannot change them. This allows you to always have at least one principal with unrestricted access to the discovered data.

Figure 7: Crawler Schedule Wizard - Security Settings
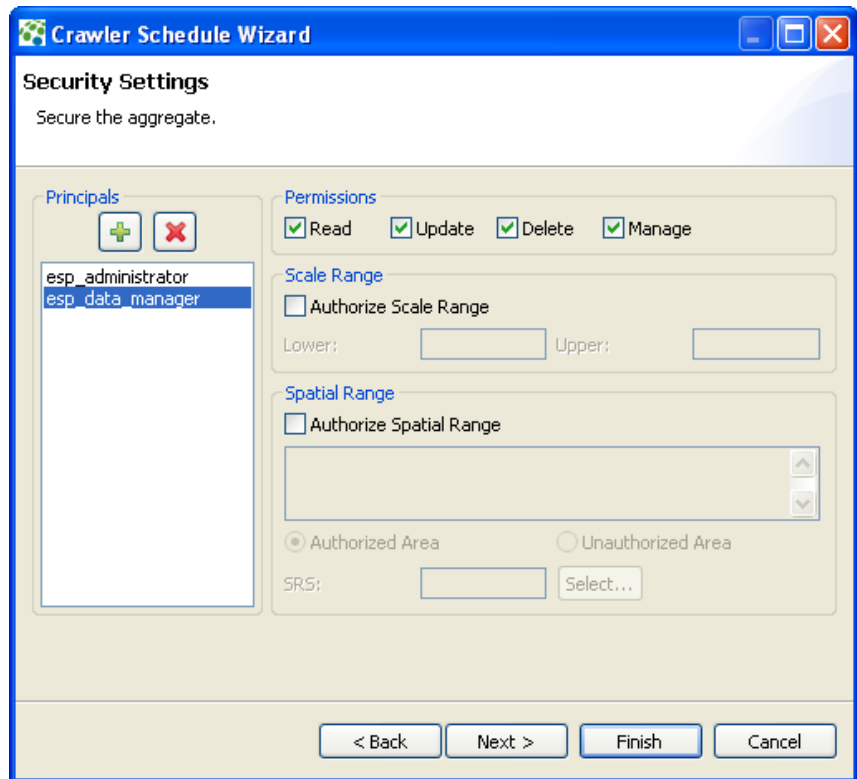
The **Principals** list shows every user or role who should have some type of access to the data discovered during the crawl.

To add a new principal:

a. Click the green plus sign button above the **Principals** list. The Add Principal box opens.

b. In the box, type or select the name of the user or role you want to add.

c. Click **OK**.

To remove a principal:

a. Select the user or role in the **Principals** list.

b. Click the red X button above the Principals list.

The users or roles that you add should have already been added to the ERDAS APOLLO system. To learn how to add new users or roles to your system, see the section "Add Default Security Users and Roles" in the *ERDAS APOLLO Server Administrator's Guide (Advantage/Professional Edition)*.

The **Permissions** setting allows you to specify what the selected principal will be allowed to do with the data discovered during the crawl.

- *Read* - ability to view the data.

- *Update* - ability to alter the data.

- *Delete* - ability to remove the data's entry from the ERDAS APOLLO Catalog.

- *Manage* - ability to define security settings for other users.

The **Scale Range** setting allows you to specify the scales at which the selected principal can view the data, or more simply, how detailed an image the principal will be able to see.
The values in the **Lower** and **Upper** boxes represent the minimum and maximum scales that the principal will be able to view.
The **Spatial Range** setting allows you to restrict the principal's access to the data by spatial range. You accomplish this by specifying a region and stipulating that the principal can either view *only* that region, or can view *everything except* that region.

To restrict the principal's access to the data by spatial range:

a. Select the principal in the **Principals** list.

b. Check the **Authorize Spatial Range** box.

c. Enter the points for the vertices of the polygon that represents the region you want to specify.

The points need to be entered in the format
$X_1,Y_1\ X_2,Y_2\ X_3,Y_3 ... X_n,Y_n$

The X and Y coordinates of each point should be separated by a comma, and each point should be separated by a space. If you choose to put one point per line, be sure to put a space on the end of each line.

d. Select **Authorized Area** to specify that the principal can view *only* that region OR select **Unauthorized Area** to specify that the principal can view *everything except* that region.

e. Click the **Select** button. The Spatial Reference Systems dialog opens.
You can search for the SRS you want by typing the name or number associated with it in the topmost box, or you can navigate through the list to find it.
Highlight it in the list and click **OK** to select it.

12. When new imagery data is discovered during the crawl, ERDAS APOLLO will use a basic, built-in *metadata parser* to detect the metadata that describes it and register it in the catalog. The following table shows which attributes that the basic metadata parser can read and shows examples of what the information for those attributes might look like.

Attribute Name	Sample Value
name	Center_atlanta_ll_wgs84.img
title	Downtown Atlanta 3 Band Color IKONOS Imagery
abstract	The IKONOS satellite sensor collected this Atlanta Downtown imagery in 6 strips. The source IKONOS imagery was mosaicked, stretched, and processed to create this 3-band single image.
node type	Dataset
data type	IMG
source name	Center_atlanta_ll_wgs84.img

source path	D:\ERDAS\Generation_4\APOLLO\data\IKONOS
bounding box	-84.36064665742737, 33.81559696757166, -84.32653756651828, 33.84410605848075
srs	EPSG:4326
sizes	334*280
band axis	Band1,Band2,Band3

If you need any metadata in addition to this, then the ERDAS APOLLO Data Manager will need to run additional metadata parsers during the crawl. The Metadata Parsers panel of the Crawler Schedule Wizard allows you to select which extended metadata parsers to run. All of the extended metadata parsers that are available for use in your system are shown in the list on the Metadata Parsers panel of the wizard.

The application will run any of the metadata parsers that you select in order from top to bottom.

If you select the **First successful** option it will start with the first parser selected in the list and try each additional selected parser until one of them works. The application will not run any more parsers after it is able to use one of them successfully to read additional metadata.
If you use the **Execute all** option the application will try attempt to

use every metadata parser selected in the list and will run all of the ones that it can.

The following metadata parsers are included in the ERDAS APOLLO system:

- **Landsat5 (Fast Format rev. B)** - decodes Landsat5 (Fast Format rev. B) satellite images metadata. These metadata files usually have an `.hdr` extension.

- **RADARSAT** - decodes RADARSAT satellite images metadata. Such metadata filenames usually begin with *VDF_DAT*, *TRA* or *LEA* prefixes (like the CEOS format does).

- **EROS** - decodes EROS satellite images metadata. Such metadata files usually have a `.pass` extension.

- **CEOS -** This metadata parser is intended to decode CEOS satellite images metadata. Such metadata files usually begin with *VDF_DAT* or *LEA* prefixes.

- **DIMAP** - decodes SPOT DIMAP satellite images metadata. Such metadata files usually have a `.dim` extension.

- **SPOT (CAP/CEOS) Format** - decodes SPOT satellite images metadata (SPOT CAP/CEOS format only). Such metadata files usually begin with *VOLD* or *LEAD* prefixes.

- **ERS** - decodes ERS satellite images metadata. Such metadata files usually begin with *VDF_DAT* or *LEA* prefixes (like the CEOS format does).

- **QuickBird** - decodes QuickBird satellite images metadata. Such metadata files usually have a `.imd` extension.

- **IRS 1C-1D (Fast Format)** - decodes IRS 1C-1D (Fast Format) satellite images metadata. Such metadata files usually have a header file of exactly 4608 bytes. There is no name pattern defined for this format.

- **ISO 19115/19139 (v 1.0)** - decodes ISO-19115/19139 metadata files, based on the 1.0 version of the specification. Such metadata files usually have an `.xml` extension.

- **Landsat7** - decodes metadata for Landsat7 (Level 1) satellite images. Such metadata files usually end with a `_hdf.met` or `_mtl.txt` suffix.

- **IKONOS** - decodes metadata for IKONOS satellite images. Such metadata files usually end with a `_metadata.txt` suffix.

- **Russian Satellite** - decodes metadata for Russian satellite images. Such metadata files usually have a `.txt` extension (`info.txt` or `readme.txt` are good metadata file candidates).

13. The final step shows a summary of the specifications for the crawler. Click **Finish** to begin crawling.

Figure 8: Crawler Schedule Wizard - Summary
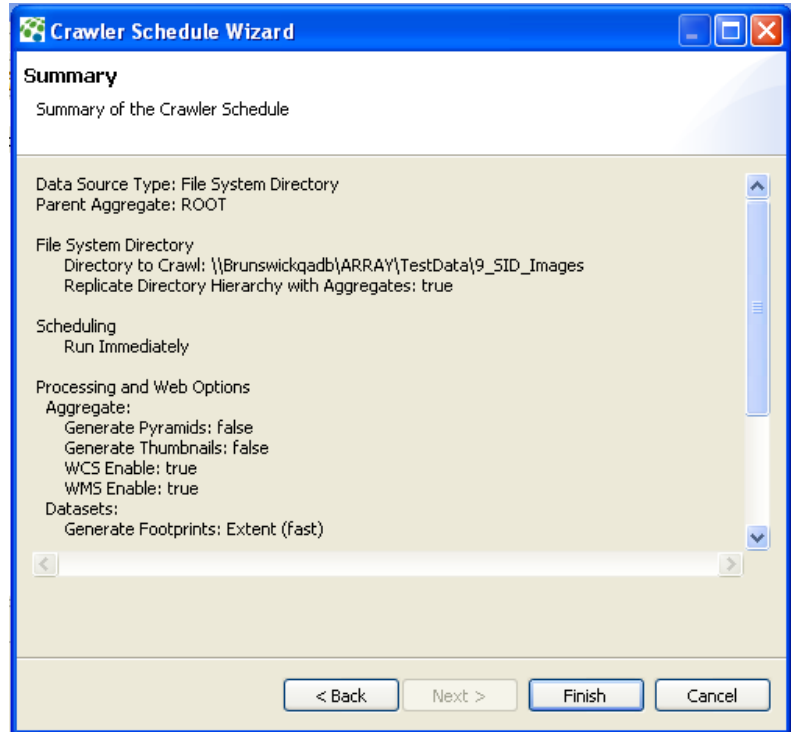
How can I manually add aggregates and datasets to my catalog?

You can populate your catalog by creating a crawler that will automatically detect data and register the aggregates and datasets in your catalog. You can also populate your catalog manually by creating an empty aggregate and selecting specific datasets to add to it. You can also manually add datasets to any of the aggregates that were registered by a crawler.

It is important to note that when you create and run a crawler, it allows you to specify the security settings that you want to apply to discovered data and it applies those settings for you as it runs.

If you populate the catalog manually, you must set up the security.

To create a new aggregate:

1. Find the **ERDAS APOLLO Server** that is connected to the catalog you want to work with.

2. Open the **Catalog** node by clicking the plus sign next to it.

3. Open the **ROOT** node by clicking the plus sign next to it.

4. Right-click on the aggregate that should be the parent aggregate for the new aggregate that you are creating. Your new aggregate can exist inside of another aggregate, or directly inside the ROOT node.

5. Select **Create Aggregate** in the menu that appears.
   The Create Aggregate dialog box opens.

6. Type the name of the new aggregate in the box.

7. Click **OK**.

The new aggregate now appears in the Explorer View.

To manually add datasets to an aggregate:

1. Right-click on the aggregate that you just created.

2. Select **Add Images** in the menu that appears.
    The Add Images wizard opens.

3. On the first panel of the wizard, use the **Add Images** button to specify the files that you want to add to the aggregate. Click Next when your list is complete.
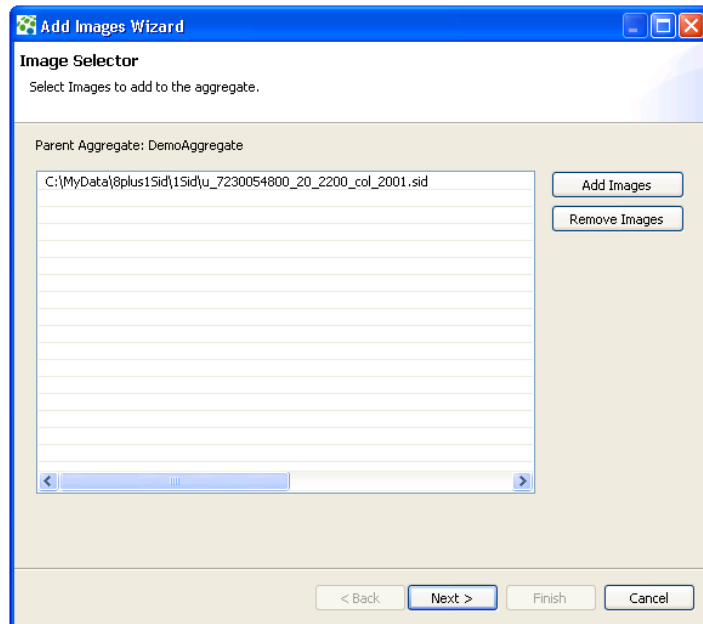
NOTE: The standard file selector (using the *.* option) lets you select files that may not be in the correct format. These files will not be added to the list on the Image Selector dialog and the message, **Some files are invalid and could not be selected** *displays.*

4. The next step asks you to specify the processing and web enabling options for the images. The figure below shows the default selections for the options. The following table explains how the options affect the images.

Option	Description
WMS Enable	Makes the data discovered during the crawl available to an Web Map Service (WMS).
	The WMS is used to generate thumbnails, so if you clear the WMS Enable option for datasets, you will no longer have the option of generating thumbnails for aggregates or datasets.
	If you clear the WMS Enable option for aggregates, you will no longer have the option of generating thumbnails for the aggregates.

Option	Description
WCS Enable	Makes the data discovered during the crawl available to an Web Coverage Service (WCS). The WCS is used to generate pyramids, so if you clear the WCS Enable option for datasets, you will no longer have the option of generating pyramids or thumbnails for aggregates or datasets. If you select the WCS Enable option for aggregates, the coverages within the aggregate are mosaicked together when requested. If you clear the WCS Enable option for aggregates, you will no longer have the option of generating pyramids or thumbnails for aggregates.
Generate Footprints	This set of options specifies whether a footprint will be generated for each of the discovered datasets, and if so, how to generate it. Footprints are used in spatial searches of the catalog. **Extent (fast)** - The footprint is identical to the spatial extent of the dataset. Selecting this option allows the footprints to be generated faster, but some of the raster data within the footprint may be null and spatial searches may return extra results that are not useful. **Active Area (precise)** - The footprint for each dataset will contain only the valid data found within the dataset. The footprints are generated more slowly, but since all of the data in the footprints is valid the spatial searches are more precise.
Generate Pyramids	Makes the Data Manager generate pyramid layers for the images when it adds them. It initially tries to determine if pyramids already exist for the images. If the raster decoder configured for the data type can recognize that the images already contain pyramids, the system will use those and will not create new ones. If the raster decoder configured for the data type cannot recognize that pyramids exist, the system will automatically generate pyramids layers using a 2x2 resampling method until the minimum threshold of 64K is reached. Pyramids generated by the Data Manager are created in the GeoTIFF format and are stored in the system-configured pyramid storage location (see the *ERDAS APOLLO Server Administrator's Guide (Advantage/Professional Edition)*).
Generate Thumbnails	Makes the Data Manager generate a thumbnail, or small preview image, of each original image. The thumbnail image is portrayed using the default Style Layer Descriptor (SLD) configured for the data type.

5. The next step allows you to set the security for the images.

You can add or remove roles or users (referred to as principals in the ERDAS APOLLO system), define which operations the principals will be allowed to perform on the images, and specify which spatial range each principal can view and the resolutions at which the principal can view the images.

The principals **esp_administrator** and **esp_data_manager** appear in the Principals list automatically and by default they have permission to read, update, delete, and manage the images. The options for the principal *esp_administrator* are always disabled so you cannot change them. This allows you to always have at least one principal with unrestricted access to the images.
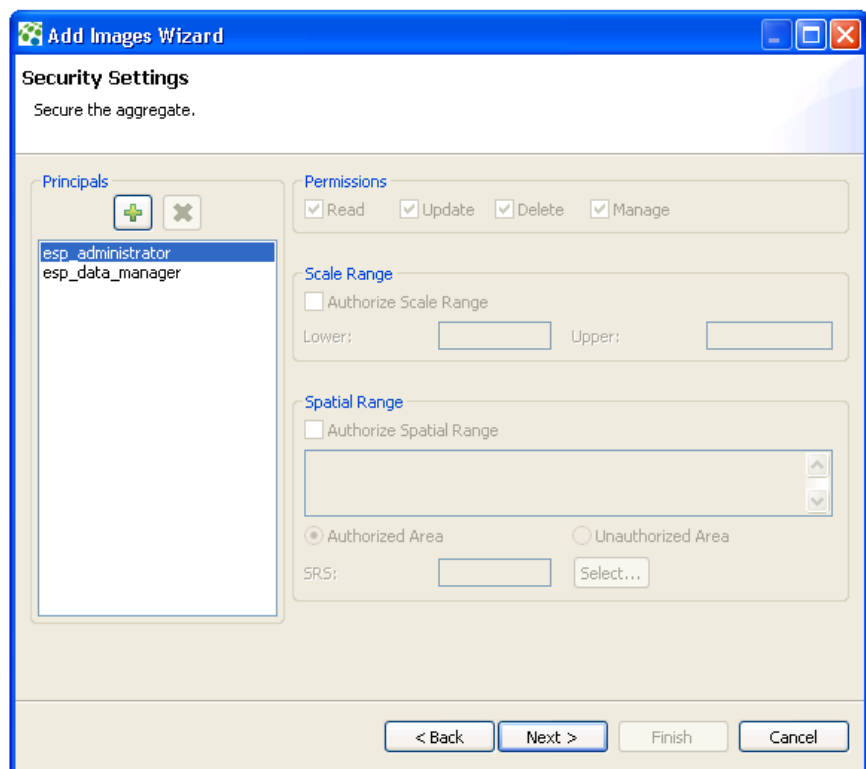
The **Principals** list shows every user or role who should have some type of access to the images.

To add a new principal:

a. Click the green plus sign button above the **Principals** list. The Add Principal box opens.

b. In the box, type or select the name of the user or role you want to add.

c. Click **OK**.

To remove a principal:

a. Select the user or role in the **Principals** list.

b. Click the red **X** button above the Principals list.

The users or roles that you add should have already been added to the ERDAS APOLLO system. To learn how to add new users or roles to your system, see the section "Add Default Security Users and Roles" in the *ERDAS APOLLO Server Administrator's Guide (Advantage/Professional Edition)*.

The **Permissions** setting allows you to specify what the selected principal will be allowed to do with the images.

- *Read* - ability to view the image.

- *Update* - ability to alter the image.

- *Delete* - ability to remove the data's entry from the ERDAS APOLLO Catalog.

- *Manage* - ability to define security for other users.

The **Scale Range** setting allows you to specify the scales at which the selected principal can view the image, or more simply, how detailed an image the principal will be able to see.
The values in the **Lower** and **Upper** boxes represent the minimum and maximum scales that the principal will be able to view.

The **Spatial Range** setting allows you to restrict the principal's access to the data by spatial range. You accomplish this by specifying a region and stipulating that the principal can either view *only* that region, or can view *everything except* that region.

To restrict the principal's access to the data by spatial range:

a. Select the principal in the **Principals** list.

b. Check the **Authorize Spatial Range** box.

c. Enter the points for the vertices of the polygon that represents the region you want to specify.

The points need to be entered in the format
$X_1,Y_1 \ X_2,Y_2 \ X_3,Y_3 ... X_n,Y_n$

The X and Y coordinates of each point should be separated by a comma, and each point should be separated by a space. If you choose to put one point per line, be sure to put a space on the end of each line.

d. Select **Authorized Area** to specify that the principal can view *only* that region OR select **Unauthorized Area** to specify that the principal can view *everything except* that region.

e. Click the **Select** button. The Spatial Reference Systems dialog opens.
You can search for the SRS you want by typing the name or number associated with it in the topmost box, or you can navigate through the list to find it.
Highlight it in the list and click **OK** to select it.

6. When ERDAS APOLLO adds the image it will use a basic, built-in *metadata parser* to detect the metadata that describes it and register it in the catalog. The following table shows which attributes that the basic metadata parser can read and shows examples of what the information for those attributes might look like.

Attribute Name	Sample Value
name	Center_atlanta_ll_wgs84.img
title	Downtown Atlanta 3 Band Color IKONOS Imagery
abstract	The IKONOS satellite sensor collected this Atlanta Downtown imagery in 6 strips. The source IKONOS imagery was mosaicked, stretched, and processed to create this 3-band single image.
node type	Dataset
data type	IMG
source name	Center_atlanta_ll_wgs84.img
source path	D:\ERDAS\Generation_4\APOLLO\data\IKONOS

bounding box	-84.36064665742737, 33.81559696757166, -84.32653756651828, 33.84410605848075
srs	EPSG:4326
sizes	334*280
band axis	Band1,Band2,Band3

If you need any metadata in addition to this, then the ERDAS APOLLO Data Manager will need to run additional metadata parsers when it adds the image. The Metadata Parsers panel of the Add Images Wizard allows you to select which extended metadata parsers to run. All of the extended metadata parsers that are available for use in your system are shown in the list on the Metadata Parsers panel of the wizard.

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The application will run any of the metadata parsers that you select in order from top to bottom.
If you select the **First successful** option it will start with the first parser selected in the list and try each additional selected parser until one of them works. The application will not run any more parsers after it is able to use one of them successfully to read additional metadata.

If you use the **Execute all** option the application will try attempt to use every metadata parser selected in the list and will run all of the ones that it can.

The following metadata parsers are included in the ERDAS APOLLO system:

- **Landsat5 (Fast Format rev. B)** - decodes Landsat5 (Fast Format rev. B) satellite images metadata. These metadata files usually have an `.hdr` extension.

- **RADARSAT** - decodes RADARSAT satellite images metadata. Such metadata filenames usually begin with *VDF_DAT*, *TRA* or *LEA* prefixes (like the CEOS format does).

- **EROS** - decodes EROS satellite images metadata. Such metadata files usually have a `.pass` extension.

- **CEOS -** This metadata parser is intended to decode CEOS satellite images metadata. Such metadata files usually begin with *VDF_DAT* or *LEA* prefixes.

- **DIMAP** - decodes SPOT DIMAP satellite images metadata. Such metadata files usually have a `.dim` extension.

- **SPOT (CAP/CEOS) Format** - decodes SPOT satellite images metadata (SPOT CAP/CEOS format only). Such metadata files usually begin with *VOLD* or *LEAD* prefixes.

- **ERS** - decodes ERS satellite images metadata. Such metadata files usually begin with *VDF_DAT* or *LEA* prefixes (like the CEOS format does).

- **QuickBird** - decodes QuickBird satellite images metadata. Such metadata files usually have a `.imd` extension.

- **IRS 1C-1D (Fast Format)** - decodes IRS 1C-1D (Fast Format) satellite images metadata. Such metadata files usually have a header file of exactly 4608 bytes. There is no name pattern defined for this format.

- **ISO 19115/19139 (v 1.0)** - decodes ISO-19115/19139 metadata files, based on the 1.0 version of the specification. Such metadata files usually have an `.xml` extension.

- **Landsat7** - decodes metadata for Landsat7 (Level 1) satellite images. Such metadata files usually end with a `_hdf.met` or `_mtl.txt` suffix.

- **IKONOS** - decodes metadata for IKONOS satellite images. Such metadata files usually end with a `_metadata.txt` suffix.

- **Russian Satellite** - decodes metadata for Russian satellite images. Such metadata files usually have a `.txt` extension (`info.txt` or `readme.txt` are good metadata file candidates).

7. The final step shows a summary of the options you specified in the wizard.
Click **Finish** to begin crawling.

How do I generate footprints for a dataset that I've already registered in my catalog?

When you create a crawler, you can set it up so that it creates footprints for all of the datasets you discover during a crawl.

You can also generate or regenerate footprints for datasets after you have registered them in the catalog.

The footprint creation process only applies to datasets, not to aggregates. The footprint for the aggregate is always its bounding box, and this information is always known.

You can create footprints for:

- an individual dataset (by selecting it in the Datasets View)

- multiple datasets (by selecting them in the Datasets View)

- all datasets within an aggregate (by selecting the aggregate in the Explorer View

- all datasets within and aggregate and all datasets within the aggregates it contains (by selecting the parent aggregate in the Explorer View)

To generate or regenerate footprints for a dataset:

1. Right-click on an aggregate in the Explorer View or a dataset in the Datasets View.

2. Select **Generate Footprints** in the menu that appears.
    The Generate Dataset Footprints dialog box opens.

3. Select the type of footprint that you want.

    Extent footprints are identical to the spatial extent of the aggregate or dataset. Selecting this options allows the footprints to be generated faster, but some of the raster data within the footprint may be null and spatial searches may return extra results that are not useful.

    If you choose this option, any active area footprints for the aggregate or dataset will no longer exist (although you can always go back and regenerate them by using this process and selecting the other option instead).

    Active Area footprints contain only the valid data found within the aggregate or dataset. The footprints are generated more slowly, but since all of the data in the footprints is valid, the spatial searches are more precise.

    Information about the original spatial extent of the aggregate or dataset will still exist.

4. If you accessed the Generate Dataset Footprints dialog box from the Explorer View, it contains the **Apply to children** option.

    Select this option if you want the Data Manager to create footprints for the aggregate you selected, as well as all of the aggregates and datasets that it contains.

5. When you are satisfied with the options you have selected, click OK.

   The ERDAS APOLLO Data Manager begins generating the footprints as you have specified. The Jobs View will show this generation process at work and indicate when it is complete.

How do I create pyramid layers for an aggregate or dataset?

There are two ways to create pyramid layers for an aggregate or dataset. You can either set up the crawler to create them when it registers the aggregates or datasets in the catalog or you can create the pyramids after the data has been registered in the catalog.

The instructions for creating a crawler will show you how to set up the crawler to create pyramids.

If you want to create the pyramids after the data has been registered in the catalog, there are two ways to initiate that process:

- Selecting an aggregate in the Explorer View.

- Selecting a dataset in the Datasets View.

When you select an aggregate in the Explorer View, you get the option of creating pyramids for:

- only the aggregate you selected

- only the datasets inside of the aggregate you selected

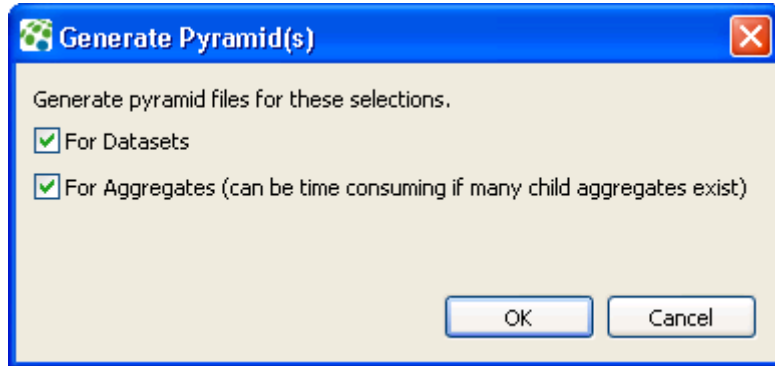- both the aggregate you selected and the datasets directly inside of it

When you select one or more datasets in the Datasets View, the Data Manager will create pyramids for the selected datasets only.

NOTE: To select more than one dataset in the Datasets View, hold down the Ctrl key on your keyboard while clicking on the Datasets you want to select.

To generate pyramids from the Explorer View:

1. Right click the aggregate in the Explorer View.

2. Select the **Generate...** option under the **Pyramids** menu option.

3. Choose whether to create pyramid layers just for the aggregate that you selected, for the datasets directly inside of the aggregate you selected , or for both.

4. Click **OK** when you are satisfied with your choices.

The Jobs View will show a new row for this job and will display the status of the job. When the job is complete, it will disappear from the Jobs View, and the icons will change for any aggregates and/or datasets for which you successfully created a pyramid.

For aggregates, the Explorer View icon changes from 🗀 to 🗀 .

For datasets, the Datasets View icon changes from 🗋 to 🗋 .

To generate pyramids from the Datasets View:

1. Right click the dataset (or a group of selected datasets) in the Datasets View.

2. Select **Generate Pyramids...** on the menu that appears. (*No dialog box will appear when you generate pyramids from the Datasets View*.)

The Jobs View will show a new row for this job and will display the status of the job. When the job is complete, it will disappear from the Jobs View, and the icons will change for any aggregates and/or datasets for which you successfully created a pyramid.

For aggregates, the Explorer View icon changes from 🗀 to 🗀 .

For datasets, the Datasets View icon changes from 🗋 to 🗋 .

If pyramid layers have already been created for the aggregate, how do I add them?

1. Locate the aggregate in the Explorer View and right-click on it.
    A context menu appears.

2. Select the **Add Existing...** option under the **Pyramids** menu option.
    The Add Existing Pyramids dialog box opens.

3. In the **Pyramid File** box, type the path of the pyramid layer file you want
    to add, or use the **Browse** button to navigate to the file.

    The program automatically begins the process of validating the path in
    the Pyramid File box when you place it in the box using the Browse
    button or when you begin typing it directly into the box. The OK button
    only becomes enabled once this process is complete and the path has
    been validated. To expedite the validation process once the path you
    want to use is in the box, click **Validate**.

4. The **decimation factor** is the number of pixels in a layer that will be
    represented by one pixel in the next pyramid layer. The most common
    decimation factor is 2, which means that a 2x2 square of pixels will be
    represented in the next layer.

    In the **Decimation Factor** box, type the decimation factor that was used
    to generate the pyramids. You can use ERDAS Imagine to find out this
    information.

5. Click **OK** when you are satisfied with the information you have entered.

How do I set up the security for an aggregate or dataset that I've already registered in my catalog?

You can set up the crawlers to automatically apply certain security
settings to datasets and aggregates when they register them in the
catalog.

You can also create or edit security settings for datasets and
aggregates after they have been registered in the catalog, provided that
you have permission to do so.

The basic process for adding/editing security settings is to:

1. Open the Coverage Security dialog box

2. Select a user or role so you can control his access to the
    aggregate or dataset

3. Select what this user or role should be allowed to do with this
   aggregate or dataset

You also have the option of controlling the access to this aggregate or dataset by specifying that the user or role can only see a certain spatial extent of the image or that he can only see the image at a certain scale.

To set up security for an aggregate or dataset:

1. First, you need to open the Coverage Security dialog box.

    To do this, either right click a dataset in the Datasets View or right click an aggregate in the Explorer View.

Figure 9: Coverage Security Dialog Box
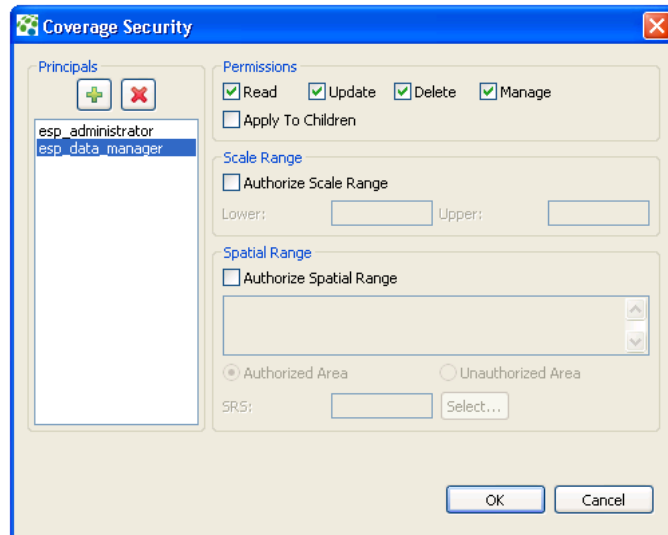
2. The **Principals** list shows every user or role who should have some type of access to the data discovered during the crawl.

    Select the principal whose access you want to control.

    If the principal you want to work with is not in the list, you will need to add it to your ERDAS APOLLO system, and then to the list box. To learn how to add new users or roles to your system, see the section "Add Default Security Users and Roles" in the *ERDAS APOLLO Server Administrator's Guide (Advantage/Professional Edition)*.

    To add a new principal to the list box:

    a. Click the green plus sign button above the **Principals** list. The Add Principal box opens.

    b. In the box, type or select the name of the user or role you want to add.

c. Click **OK**.

To remove a principal:

a. Select the user or role in the **Principals** list.

b. Click the red **X** button above the Principals list.

c. If you are removing that principal from an aggregate, the system will ask you if you want to also remove it from the datasets that are the children of that aggregate.

*NOTE: The system is designed so that you cannot change the level of access for the **esp_administrator** role. This guarantees that you always have at least one user who has complete access to the system, which prevents someone from accidentally locking everyone out.*

3. The **Permissions** options allow you to specify what the selected principal will be allowed to do with the data discovered during the crawl.

Check the boxes of the permissions that you want to grant to the principal.

The permissions that you can grant are:

- **Read** - ability to view the data.

- **Update** - ability to alter the data.

- **Delete** - ability to remove the data's entry from the ERDAS APOLLO Catalog.

- **Manage** - ability to define security for other principals. A principal who DOES NOT have the manage permission will be able to open this Coverage Security dialog box for an aggregate or dataset, but will not be able to alter the security.

4. The **Scale Range** setting allows you to specify the scales at which the selected principal can view the data, or more simply, how detailed an image the principal will be able to see.

If you want to specify a scale range for the principal, check the Authorize Scale Range box and fill in the Lower and Upper boxes.

The values in the **Lower** and **Upper** boxes represent the minimum and maximum scales that the principal will be able to view.

5. The **Spatial Range** setting allows you to restrict the principal's access to the data by spatial range. You accomplish this by specifying a region and stipulating that the principal can either view *only* that region, or can view *everything except* that region.

    To restrict the principal's access to the data by spatial range:

    a. Check the **Authorize Spatial Range with a Polygon** box.

    b. Enter the points for the vertices of the polygon that represents the region you want to specify.

    c. The points need to be entered in the format
    $X_1,Y_1\ X_2,Y_2\ X_3,Y_3\ ...\ X_n,Y_n$

    The X and Y coordinates of each point should be separated by a comma, and each point should be separated by a space. If you choose to put one point per line, be sure to put a space on the end of each line.

    d. Select **Authorized Area** to specify that the principal can view *only* that region OR select **Unauthorized Area** to specify that the principal can view *everything except* that region.

    e. Click the **Select** button. The Spatial Reference Systems dialog opens.
    You can search for the SRS you want by typing the name or number associated with it in the topmost box, or you can navigate through the list to find it.
    Highlight it in the list and click **OK** to select it.

6. If you are setting the security for an aggregate, the Coverage Security dialog box gives you the option to go ahead and apply all permissions settings, spatial range settings, and scale range settings for the selected principal to all of the aggregates and datasets that are children of the selected aggregate.

    To do this, check the **Apply to Children** box that is located just below the Permissions options.

7. When you are satisfied with the level of access you have granted to this principal, click **OK**.

How do I get the thumbnail for an aggregate or dataset to show up in the Thumbnail view?

1. Right click the aggregate in the Explorer View or the dataset in the Datasets View.

2. Select **Show Thumbnails** in the menu.

The Data Manager will open the Thumbnail View, which is located in the bottom right corner of the Data Manager by default.

If no thumbnail exists for the aggregate or dataset, the Thumbnail VIew opens, but says "No Thumbnail" at the bottom.
If no thumbnail exists for the aggregate or dataset, you will need to **create a thumbnail**.

How do I make a small preview image (thumbnail) for one of the aggregates or datasets in my catalog?

There are two ways to initiate the thumbnail generation process in the Data Manager.

- • Selecting an aggregate in the Explorer View.

- • Selecting a dataset in the Datasets View.

When you select an aggregate in the Explorer View, you get the option of creating thumbnails just for the aggregate you selected, or for the aggregate you selected AND all of its children (child aggregates and child datasets).

When you select one or more datasets in the Datasets View, the Data Manager will create the thumbnail for the selected datasets only, and will replace any thumbnails that may already exist for the dataset.

NOTE: To select more than one dataset in the Datasets View, hold down the Ctrl key on your keyboard while clicking on the Datasets you want to select.

To generate thumbnails from the Explorer View:

1. Right click the aggregate in the Explorer View.

2. Select **Generate Thumbnails...** on the menu that appears.
The Generate Thumbnails dialog box opens.
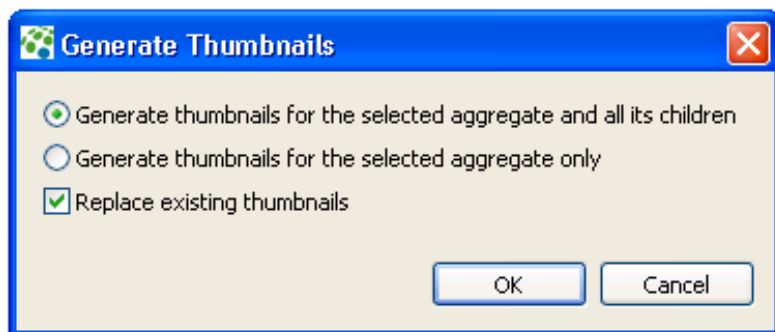
3. Choose whether to create thumbnails for just the aggregate that you selected, or for the aggregate you selected AND all of its children (child aggregates and child datasets).

4. Choose whether to replace any existing thumbnails.

5. Click **OK** when you are satisfied with your choices.

The Jobs View will show a new row for this job and will display the status of the job.

To generate thumbnails from the Datasets View:

1. Right click the dataset (or a group of selected datasets) in the Datasets View.

2. Select **Generate Thumbnail...** on the menu that appears. (*No dialog box will appear when you generate thumbnails from the Datasets View*.)

The Jobs View will show a new row for this job and will display the status of the job.

After you have created thumbnails, you can **display them in the Thumbnails View**.

What is the difference between properties and metadata?

The properties for an aggregate or dataset are information that is taken from information stored within the dataset files themselves. The properties are shown in the **Context Menus for Service Providers** of the ERDAS APOLLO Data Manager.

The metadata is the ISO-compliant metadata that is taken from information stored in separate files that are located along with the dataset files themselves. The metadata is shown in the of the ERDAS APOLLO Data Manager.

How do I look at the metadata for an aggregate or dataset in my catalog?

1. Right-click on the aggregate in the Explorer View or the dataset in the Datasets View.

2. Select **Show ISO Metadata** in the menu that appears.
   The Data Manager will activate the , which is located in the lower right corner of your application window by default.

3. To see a summary of the most commonly used metadata attributes, Click the **Summary** tab at the bottom of the Metadata View.

OR

Click the **Full** tab at the bottom of the Metadata View to see all of the metadata attributes.

Can I manually edit the metadata for an aggregate or dataset in my catalog? How do I do this?

Yes. The crawler will automatically detect the existing metadata when it locates the data and registers it in the catalog, but you can also change it yourself.

First, you need to look at the metadata (see the answer to the previous question).

 Indicates you cannot change this property.

Then, you need to find and click the Editor icon that appears to the right of the tab on the Metadata View.

When you click this icon, the Editor icon will change into the Viewer icon and the Metadata View transforms from a display type of interface into an editable interface.

**Figure 10: The Metadata View in Read-Only Mode**
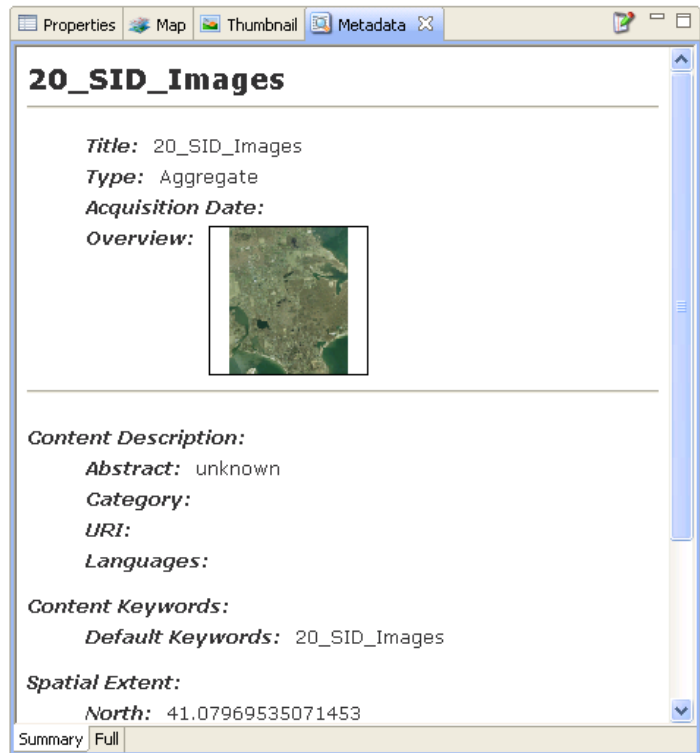
Figure 11: The Metadata View in Editable Mode
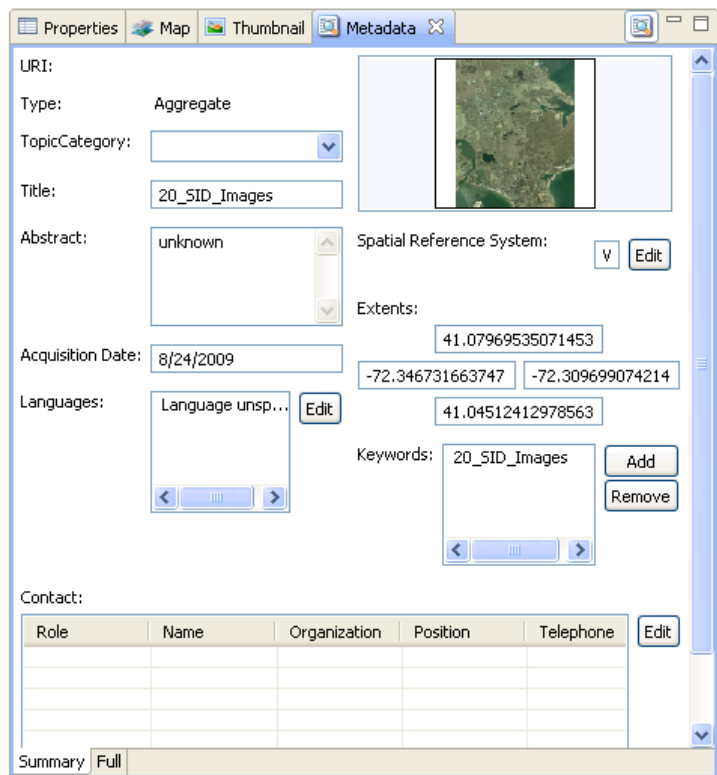
Even when the Metadata View is editable, it still features a *Summary* tab that shows the commonly used metadata attributes and a *Full* tab that shows all of the metadata attributes.

Because the Full tab may contain many different attributes, there is a tree view on the left that shows the categories of all the attributes. You can use this to find the attributes that you want to change.
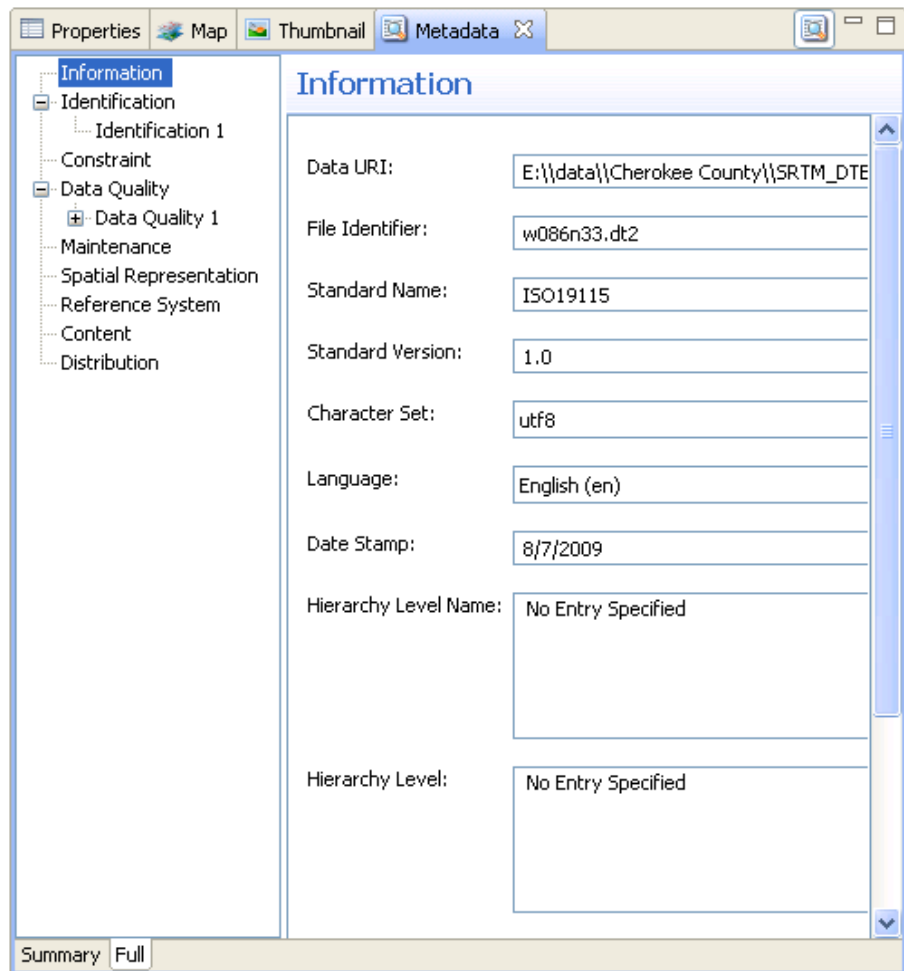
To edit many of the attributes, you can simply type in their boxes. Others may have an Edit button beside them. If an Edit button is present next to a field, you can click it to open a dialog box that will make it easier to change the attribute.

When you are finished changing the metadata attributes, you can save them by:

• Pressing **Ctrl + S** on your keyboard

- Clicking the **Viewer** 🖼️ icon on the top right corner of the Metadata View

- Clicking the **Save** icon on the main Data Manager toolbar
  (top left corner of the Data Manager, just under the main menu)

Can I manually edit the properties for an aggregate or dataset in my catalog? How do I do this?

Yes. The crawler will automatically detect the properties when it locates the data and registers it in the catalog, but you can also change those properties yourself.

When you select the aggregate in the Explorer View or the dataset in the Datasets view, the properties will appear in the Properties View.

To change a property, find it in the list and type the appropriate information in the **Value** column.

By clicking the **Show Categories** 📋 icon in the top right corner of the Properties View, you can toggle between displaying the properties alphabetically or by category.

When you are finished changing the properties, you can save the changes by clicking the **Save** icon on the main Data Manager toolbar (top left corner of the Data Manager, just under the main menu)

The Jobs view indicated that one of the jobs that I was running had errors. How can I see what the errors were?

The Job Errors dialog box shows detailed information about the specific error that occurred. This information will allow the ERDAS technical support engineers to assist you better in the event that one of your Data Manager jobs encounters problems.

Click the View Errors icon 🖼️ that appears on the top right corner of the Jobs View to open the Jobs Error dialog box. You can also open it by right-clicking on the job and selecting **View Errors** in the menu that appears.

The screen shot below should give you a better idea of where to find the icon if you want to use it. The icon is circled in red.
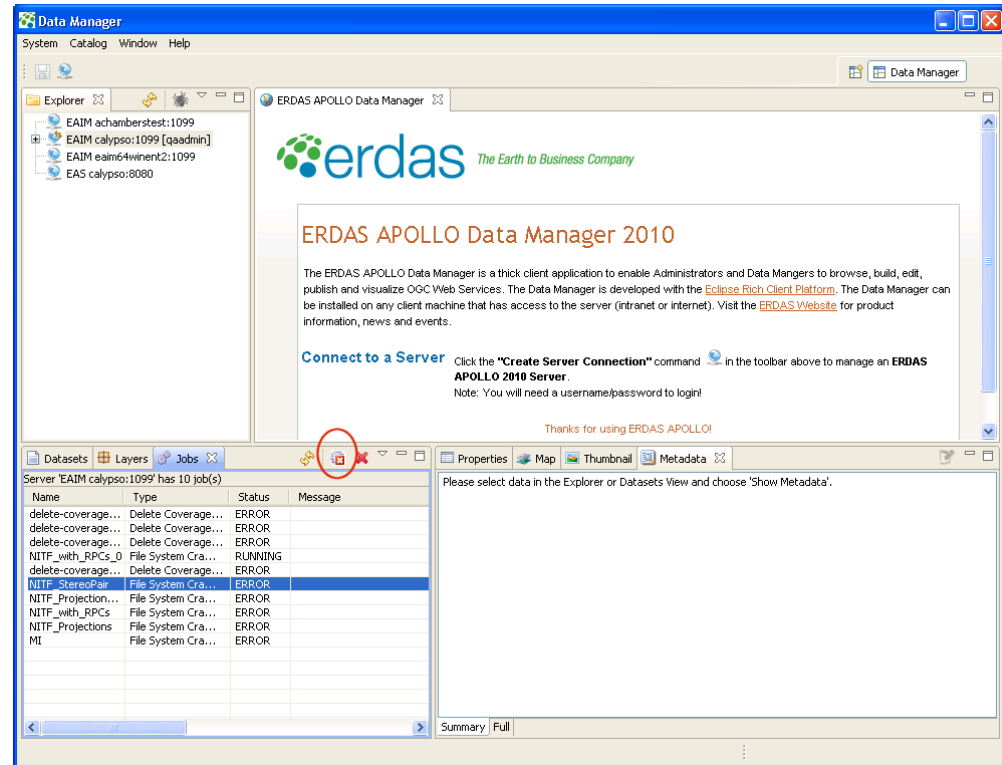
Can I create styles that will be used to render maps of this data in the web client?

Yes, you can create a default style that will be used to render maps created from the raster data within an aggregate. The style is used whenever a user views a map created from this data in the ERDAS APOLLO Web Client or when a user views a WMS map of the data in any client configured to work with the ERDAS APOLLO system.

To create a new style for an aggregate:

1. Right-click the aggregate in the Explorer View.

2. Select **Edit Styles...** in the menu that appears.
    The Style Sheets dialog box will open.

3. Click the **Add** icon above the Available Styles list.

4. The Add Style dialog box opens.
    Type the name of your new style and click OK.
    If you want this style to be the default, you need to name it *default*.
    The name of your new style will now appear in the Available Styles list.

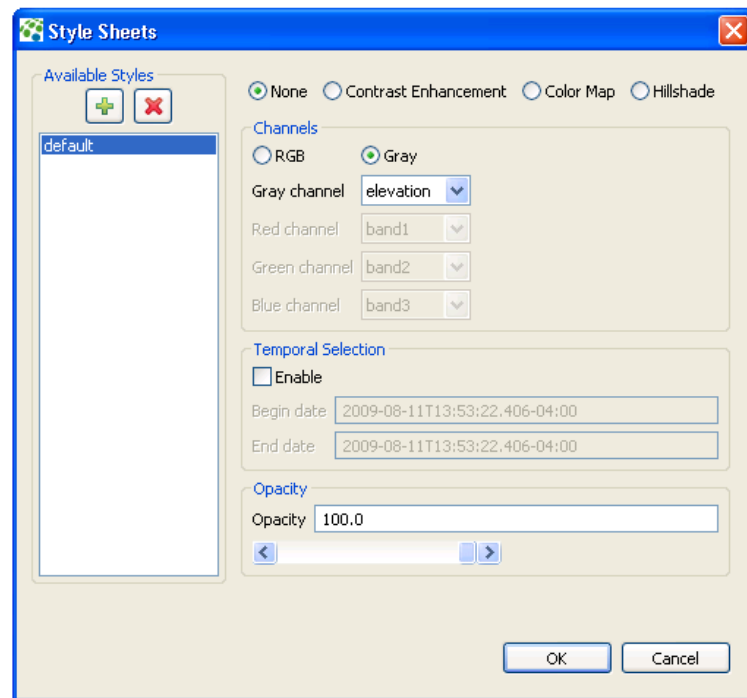**5.** Select the type of style that you want your new style to be.

The Style Sheets dialog box will change appearance so that it can show you the style options associated with that type of style.

The choices are:

- None

- Contrast Enhancement

- Color Map

- Hillshade

None

Figure 12: Creating a Style of the Type *None*

The *None* style allows you to:

- map one coverage band on the grey channel (grey) or three coverage bands to RGB channels (color)

- select data to render along temporal extent and custom range extents

- configure the opacity of the result

  - 0 is transparent

Using the ERDAS APOLLO Data Manager

- 1 is opaque

Contrast Enhancement

Figure 13: Creating a Style of the Type *Contrast Enhancement*
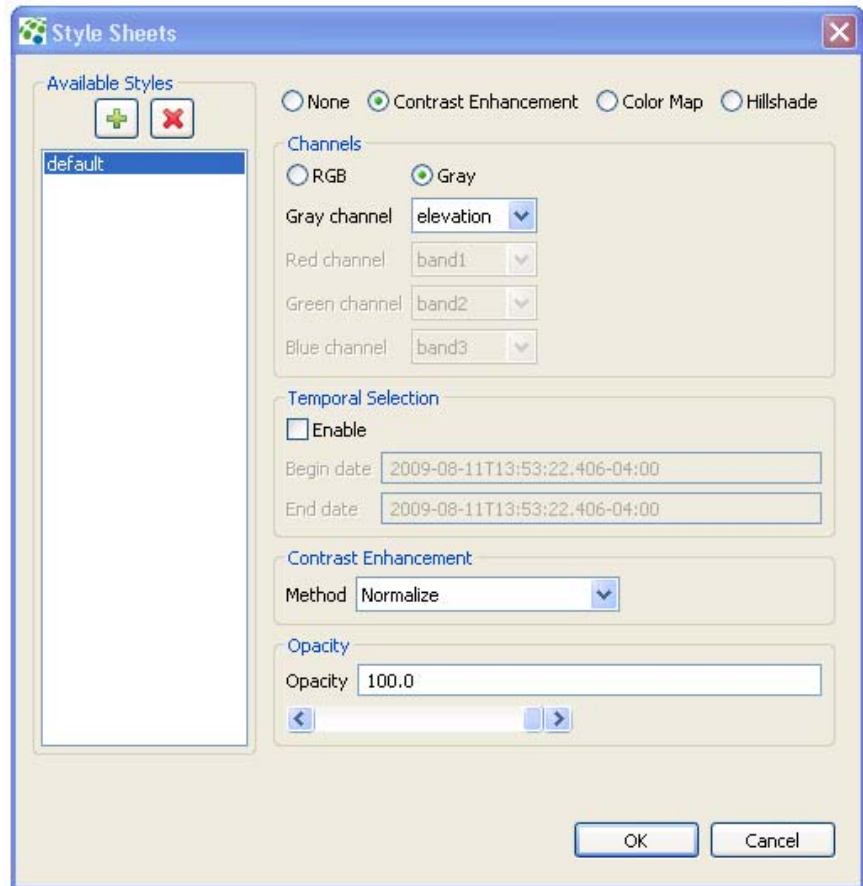

The *Contrast Enhancement* style allows you to:

- map one coverage band on the grey channel (grey) or three coverage bands to RGB channels (color)

- select data to render along temporal extent and custom range extents

- configure the opacity of the result and configure the mapping from data range of values to colors using a user-friendly GUI

  - 0 is transparent

  - 1 is opaque

- apply contrast enhancement to stretch data values along the grey or RGB range

- Normalize: linear stretch of the values to enhance contrast

- Histogram: statistical spread of the values to enhance contrast

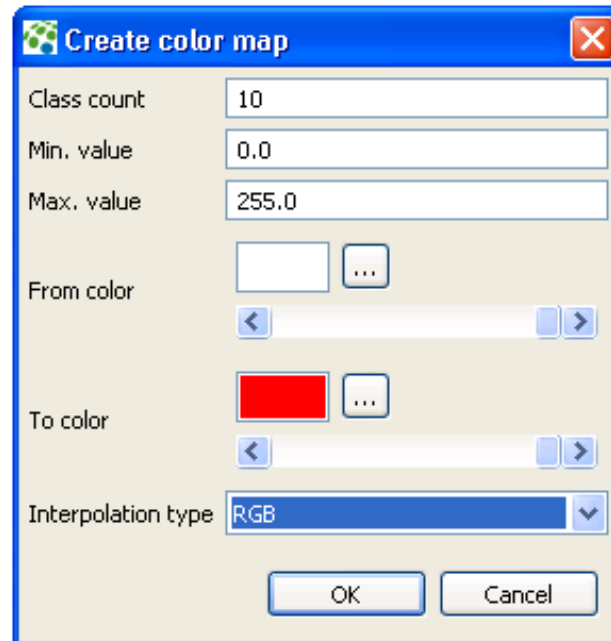- None: equivalent to 'None' style

Color Map

Figure 14: Creating a Style of the Type *Color Map*
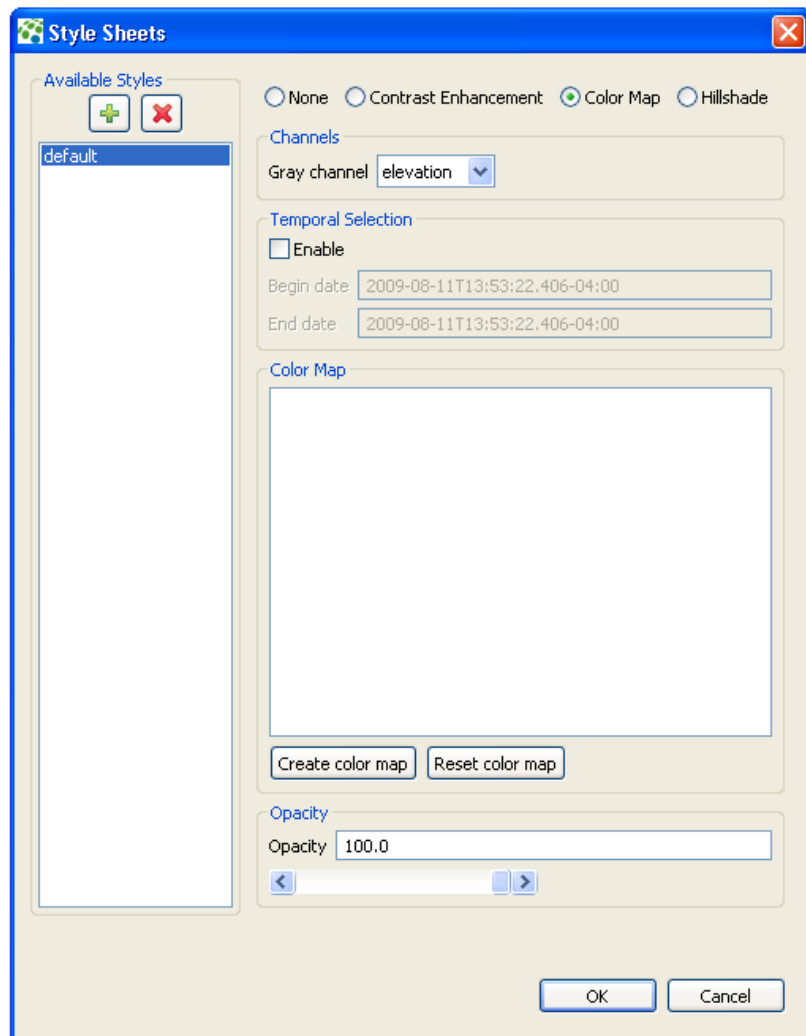
The *Color Map* style allows you to:

- select one coverage band as input of the color mapping process

- select data to render along temporal extent and custom range extents

- configure the opacity of the result
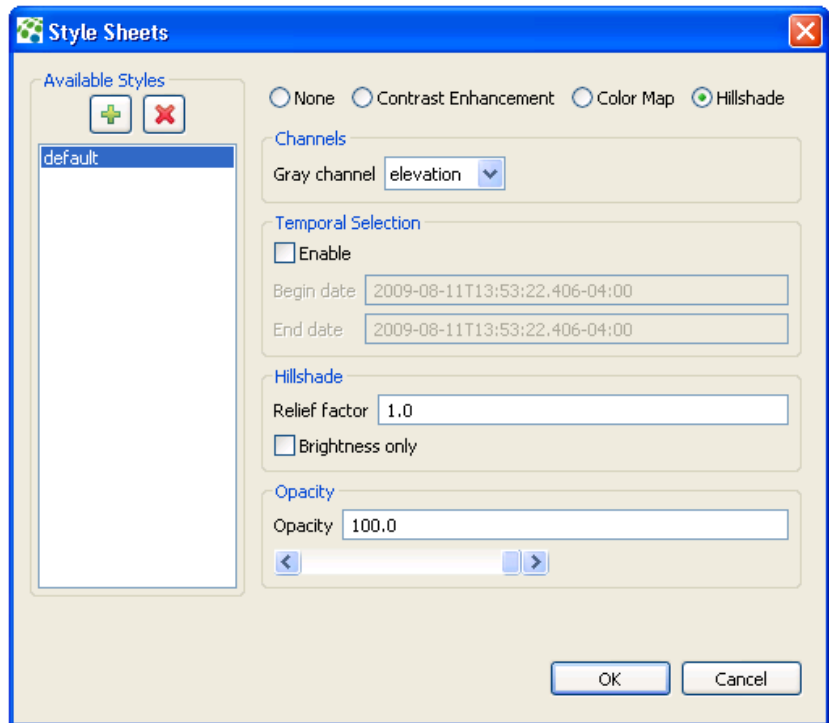
- 0 is transparent

- 1 is opaque

• configure the mapping from data range of values to colors using the following dialog box:

• choose number of classes

• choose source range of values

• generate a classification of colors using:

  - RGB interpolation

  - HSB interpolation

  - gradient files

  - palette files

  - fine tune the color map by editing each value or color

Hillshade

Figure 15: Creating a Style of the Type *Hillshade*

The *Hillshade* style allows you to:

- select one coverage band as input of the hill shading process

- select data to render along temporal extent and custom range extents

- configure the opacity of the result

  - 0 is transparent

  - 1 is opaque

- configure the shading parameters

  - The "relief factor" parameter allows you to enhance the elevation dimension regarding the other dimensions and then to accentuate the relief.

6. When you have satisfied with all of the options you have selected for your new style, click **OK**.

How can I hide a specific spatial extent that I don't want people to see?

The ERDAS APOLLO Data Manager allows you to create a *mask*, or a layer that can be used to hide a region on maps created from this data.

You can configure the mask so that it causes that area to be shown at a reduced resolution, or you can configure it to appear as a solid area of color over that extent.

After you create the mask layer, you can toggle it off and on.

To configure and enable a mask layer:

1. Right-click on the server connection whose catalog contains the coverage you need to mask.
   Select **Masking...** in the menu that appears.
   The Masking dialog box opens.

Figure 16: The Masking Dialog Box
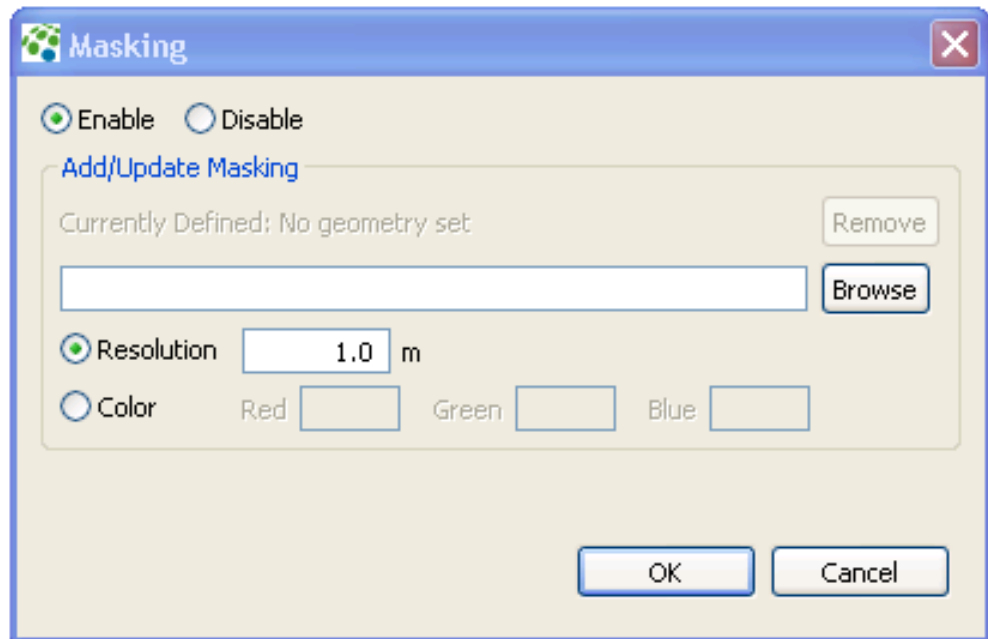
2. Select the **Enable** option if it is not selected already.

3. If a mask layer has already been created in the system, the Currently Defined label will be enabled and will contain the name of the shapefile with the polygon information used to create the current mask. To stop using this shapefile for the mask, click **Remove**. To keep using this shapefile for the mask, skip steps 3-5 and continue with step 6 below.

4. Click the **Browse** button.
   The Select Masking Shapefile dialog box will appear with the file filter preset to show *.zip files.

5. Find the zip file that contains the shapefile with the polygon information that should be used to create the mask layer.
   Select it and click Open.

6. The name of the shapefile will appear after the **Currently Defined** label on the Masking dialog box.

7. To mask the spatial extent with a reduced resolution layer, select **Resolution** and type the desired resolution of the mask layer in the Resolution box.
   The resolution is the number of square meters shown per pixel and must be greater than zero.
   The resolution may be entered as an integer or non-integer value.

   To mask the spatial extant with a polygon of solid color, select **Color** and type the Red, Green, and Blue values of the color that you want the polygon to be.

8. Click **OK** when you are satisfied with your choices.

9. The Masking dialog will be dismissed and the mask layer will be used in the ERDAS APOLLO Web Client any time a user tries to view this spatial extent. The polygons included in the mask layer will either appear at your specified resolution or in your specified color, while the polygons outside of the masked area will appear as they did before the mask was created.

To disable the mask layer:

1. Right-click on the server connection whose catalog contains the coverage you need to unmask.
   Select **Masking...** in the menu that appears.
   The Masking dialog box opens.

2. The mask you want to disable should appear after the **Currently Defined** label. If it doesn't then it has already been disabled.

3. If the mask is still enabled, choose the **Disable** option.

4. Click **OK**.

The Masking dialog will be dismissed and the mask layer will no longer be used in the Web Client. The information about the mask layer is retained in the system, so the mask can be reapplied by reopening the Masking dialog, selecting the Enable option, and clicking **OK**. To completely remove a mask from your system, click the **Remove** button

**Answers to Service
Management Questions**

How do I create a new raster service provider?

You can create a new raster service provider for an ERDAS APOLLO Server (Advantage/Professional) or an ERDAS APOLLO Server (Essentials-SDI). Your ERDAS APOLLO Server creates both a WCS and WMS interface for your data when you create a raster service provider.

The new raster service provider will be stored under the **Rasters** service type node. The Rasters node is located directly under the connection node for an ERDAS APOLLO Server (Essentials-SDI). For ERDAS APOLLO Server (Advantage/Professional), it is located inside the **Services** node.

To create a new raster service provider:

1. In the **Explorer View**, locate the server connection that you want to use to create your service.
   Click the plus sign next to the connection node to open it.

2. Right-click on the **Rasters** service type node.
   Select **Create service** on the menu that appears.
   The Service Creation Wizard opens.

3. The first panel of the wizard allows you to specify the type of service you want to create and where the data comes from.

   In the **Service Type** box, the *Raster data* option is already selected for you.

   Select the **Data Source Type** in the list. The options are:

   • *File* - the data to be accessed by this service provider is located inside of a file or a directory of files.

   • *Database* - the data is located inside of a database.

   • *Advanced* - allows you to create a scale service.

   NOTE: You are free to change the Service Type selection if you want to. When you are finished creating the service, the system will automatically place it in the correct service type node in the Explorer View.
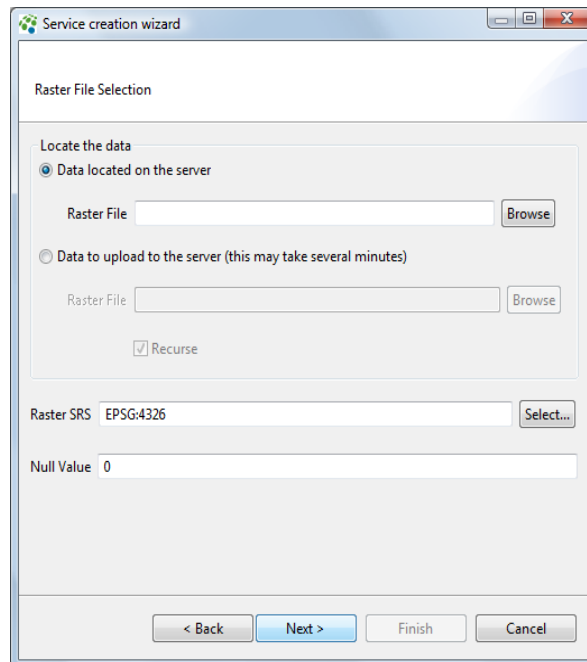
4. The next panel of the wizard allows you to select the service type. The options that are available in the Service type dropdown box will vary depending on the options that you selected in the Data Source Type in the previous step of the wizard.

The table describes each of the service type options that are available in this second step of the wizard for each of the data source type selections you can make in the first step.

Data Source Type	Service Type	Description
File	List	The service provider represents multiple images, and each image will be represented as a layer.
	Single	The service provider represents a single image.
	Mosaic	The service provider represents multiple images, and the images will be mosaicked to form a single layer.
Database	ArcSDE (native) Service	The service provider represents data stored in a database that is spatially enabled by ArcSDE (native).
	ArcSDE (portable) Service	The service provider represents data stored in a database that is spatially enabled by ArcSDE (portable).
	GeoRaster Service	The service provider represents data stored in a GeoRaster database.
Advanced	Scale Service	A scale service provider is attached to other service providers. It dispatches incoming requests to the other providers depending on the scale of the requested bounding box. a common use for the scale service is to create a pyramidal group of service providers where each provider represents the same data, but at a different scale.

5. If your data source is a *file* or a *file directory*, then the next step of the wizard asks you to supply the information that the service will need in order to locate the file or file directory. Otherwise, the Service Creation Wizard skips to **step 6** below, in which the wizard asks you to specify the basic properties for the service provider.

To specify the data location information:

*You can access any network drive as long as JBoss is started with the same user who shared the drive.*

a. If the file is located on the same computer as the ERDAS APOLLO Server, select the **Data located on the server** option.

- Then, click the **Browse** button to select an individual file as the data source.

b. If the file is located on a different computer than the one with ERDAS APOLLO Server installed on it, select the **Data to upload to the server** option.

- Then, click the **Browse** button to specify the file that contains the data.

- If you are creating a *list* or *mosaic* raster service provider, you will also see a **Browse Dir** button, which you can click to select the path to an entire directory of shapefiles.

- If you specify a file directory as the data source, the **Recurse** option becomes available. Select it if you want to add all the files in the selected directory and all the files in its children directories. If you only want to add the files directly under the selected directory, do not select this option.

c. Check the **Raster SRS** field to see if it is correct. If not, click the **Select...** button to open the Spatial Reference Systems dialog box and select the correct one.

The Spatial Reference Systems dialog box contains a list of all the valid SRSs for your system in a categorized list.
You can select the SRS you want by finding it in this list, clicking on it, and then click the **OK** button.

You can also perform an automated search for the one you want In this step, by typing its number or part of its name in the box at the very top of the dialog box. When the SRS you want appears in the list, click on it, and click the **OK** button.

d. Check the **Null Value** field for the data. The null value is the number you want to use to represent the rasters that have no valid data.

e. Click **Next** when you are satisfied with your selections.

6. The Data Manager will now allow you to start specifying the basic properties for the service, such as the name, title, abstract and keywords.

Using the ERDAS APOLLO Data Manager
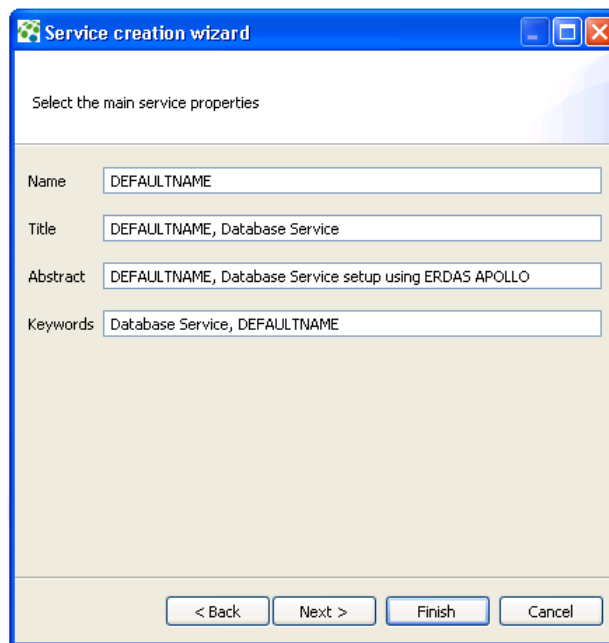
7. The next step of the wizard allows you to specify some additional properties for the service.
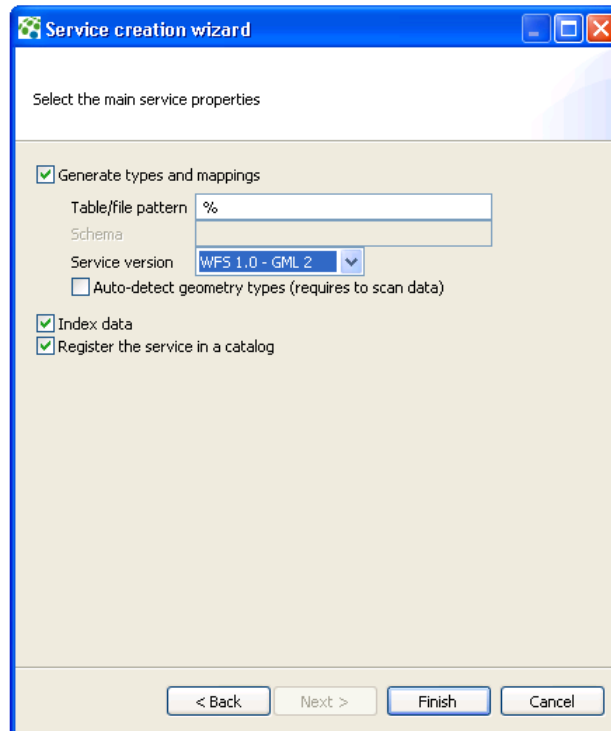
8. After you are satisfied with the options you have selected, click **Next**. The Data Manager will create the service and display it with the other services of its type in the Explorer View.

How do I create a new map service provider?

You can create a new map service provider for an ERDAS APOLLO Server (Advantage/Professional) or an ERDAS APOLLO Server (Essentials-SDI).

The new map service provider will be stored under the **Maps & Proxies** service type node. The Maps & Proxies node is located directly under the connection node for an ERDAS APOLLO Server (Essentials-SDI). For ERDAS APOLLO Server (Advantage/Professional), it is located inside the **Services** node.

To create a new map service provider:

1. In the **Explorer View**, locate the server connection that you want to use to create your service.
    Click the plus sign next to the connection node to open it.

2. Right-click on the **Maps** service type node.
    Select **Create service** on the menu that appears.
    The Service Creation Wizard opens.

3. The first panel of the wizard allows you to specify the type of service you want to create and where the data comes from.

    In the **Service type** box, the **Maps & Proxies** option is already selected for you.

    Select the **Data Source Type** in the list. The options are:

    •   Advanced - the service provider will be a proxy, context, MapPresentation, Scale, or Portray service provider.

    NOTE: You are free to change the Service Type selection if you want to. When you are finished creating the service, the system will automatically place it in the correct service type node in the Explorer View

4. The next panel of the wizard allows you to select the service type. The options that are available in the Service type dropdown box will vary depending on the options that you selected in the Data Source Type in the previous step of the wizard.

The table describes each of the options that are available in the dropdown box.

Data Source Type	Service Type	Description
Advanced	Proxy Service	A service provider that connects to any WFS-compliant service provider for the purpose of enhancing its capabilities. For example, you can use a proxy service to extend the supported formats and SRSs.
	Context Service	A service provider that connects to a map context XML file.
	MapPresentation Service	A service provider that allows you to decorate maps with things such as a title, or a compass.
	Scale Service	A service provider that is attached to other service providers. It dispatches incoming requests to the other providers depending on the scale of the requested bounding box. a common use for the scale service is to create a pyramidal group of service providers where each provider represents the same data, but at a different scale
	Portray Service	A service provider that does not hold any data; it forwards requests to a WFS or a WCS, ingests a collection of features or coverages, and portrays them using the SLD document. The SLD document is submitted along with the GetMap request and produces an image in the format requested.

5. The next step allows you to start specifying the basic properties for the service.

6. The next step of the wizard allows you to specify some additional properties for the service.

Figure 17: Additional Service Properties

7. After you are satisfied with the options you have selected, click **Next**. The Data Manager will create the service and display it with the other services of its type in the Explorer View.

How do I create a new vector service provider?

You can create a new vector service provider for an ERDAS APOLLO Server (Advantage/Professional) or an ERDAS APOLLO Server (Essentials-SDI). Your ERDAS APOLLO Server creates both a WFS and WMS interface for your data when you create a vector service provider.

The new vector service provider will be stored under the **Vectors** service type node. The Vectors node is located directly under the connection node for an ERDAS APOLLO Server (Essentials-SDI). For ERDAS APOLLO Server (Advantage/Professional), it is located inside the **Services** node.

To create a new vector service provider:

1. In the **Explorer View**, locate the server connection that you want to use to create your service.
   Click the plus sign next to the connection node to open it.

2. Right-click on the **Vectors** service type node.
   Select **Create service** on the menu that appears.
   The Service Creation Wizard opens.

3. The first panel of the wizard allows you to specify the type of service you want to create and where the data comes from.

   In the **Service Type** box, the *Vector data* option is already selected for you.

   Select the **Data Source Type** in the list. The options are:

   • *File* - the data to be accessed by this service provider is located inside of a file or a directory of files.

   • *Database* - the data is located inside of a database.

   • *Advanced* - the service provider will be either a simple serve provider or a proxy service provider.

   NOTE: You are free to change the Service Type selection if you want to. When you are finished creating the service, the system will automatically place it in the correct service type node in the Explorer View

4. The next panel of the wizard allows you to select the service type. The options that are available in the Service type dropdown box will vary depending on the options that you selected in the Data Source Type in the previous step of the wizard.

The table describes each of the options that are available in this second step of the wizard for each of the data source type selections you can make in the first step.

Data Source Type	Service Type	Description
File	GML Service	The data for the service provider is stored inside of a Geographic Markup Language (GML) file
	Read-only GML Service (deprecated)	The data for the service provider is stored inside of a read-only Geographic Markup Language (GML) file
	Shape Service	The data for the service provider is stored inside of a set of shapefiles.
	FME Service	The data for the service provider is stored as a DGN V7 file or a DGN V8 file.
Database	Oracle Service	The data for the service provider is stored inside of an Oracle database.
	OracleOCI Service	The data for the service provider is stored inside of an Oracle database that is using an OCI driver.
	PostgreSQL Service	The data for the service provider is stored inside of an PostgreSQL database.
	ArcSDE Service	The data for the service provider is stored in an ArcSDE-enhanced database.
	ODBC Service	The data for the service provider is stored inside of an ODBC data source. You can create a WFS on any ODBC data sources that have 2 columns for the coordinates.

Data Source Type	Service Type	Description
	Microsoft SQL Server Service	The data for the service provider is stored inside of a Microsoft SQL Server database.
	MS Access Service	The data for the service provider is stored inside of an Microsoft Access database.
Advanced	Simple Service	A service provider that has been designed to provide the ability to implement your own WFS connector on the top of any file format.
	Proxy Service	A service provider that connects to any WFS-compliant service provider for the purpose of enhancing its capabilities. For example, you can use a proxy service to extend the supported formats and SRSs.

5. If your data source is a:

- **GML file**

- **shapefile or shapefile directory**

- **DGN V7 or DGN V8 file**

- **Oracle database**

- **PostgreSQL database**

- **Microsoft SQL Server database**

then this step of the wizard asks you to supply the information that the service will need in order to connect to the data source.

Otherwise, the Service Creation Wizard skips to **step 6**, in which the wizard asks you to specify the properties for the service provider.

You can access any network drive as long as JBoss is started with the same user who shared the drive.

To use a GML file as the data source for your vector service provider:

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a. If the GML file is located on the same computer as the ERDAS APOLLO Server, select the **Data located on the server** option.

  - Then, use the **Browse** buttons next to the **GML file** and **Type File** boxes to specify the GML file that contains your data and the type file that describes the GML feature types in your GML file.

b. If the GML file is located on a different computer than the one with ERDAS APOLLO Server installed on it, select the **Data to upload to the server** option.

  - Then, use the **Browse** buttons next to the **GML file** and **Type File** boxes to specify the GML file that contains your data and the type file that describes the GML feature types in your GML file.

c. Select the **Transactional** option if you also need to enable the WFS-T interface for this vector service provider. The WFS-T interface allows you to create, delete, and update the features.

d. Click **Next** when you are satisfied with your selections.

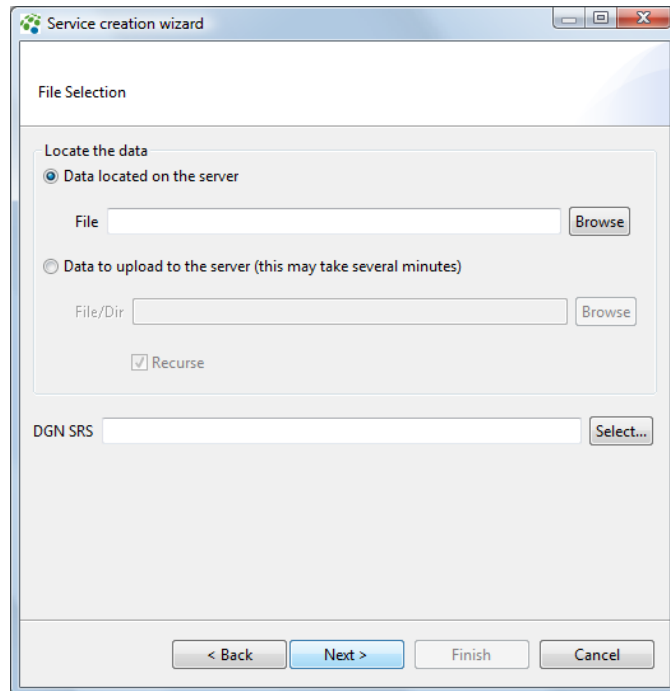**To use a shapefile as the data source for your vector service provider:**
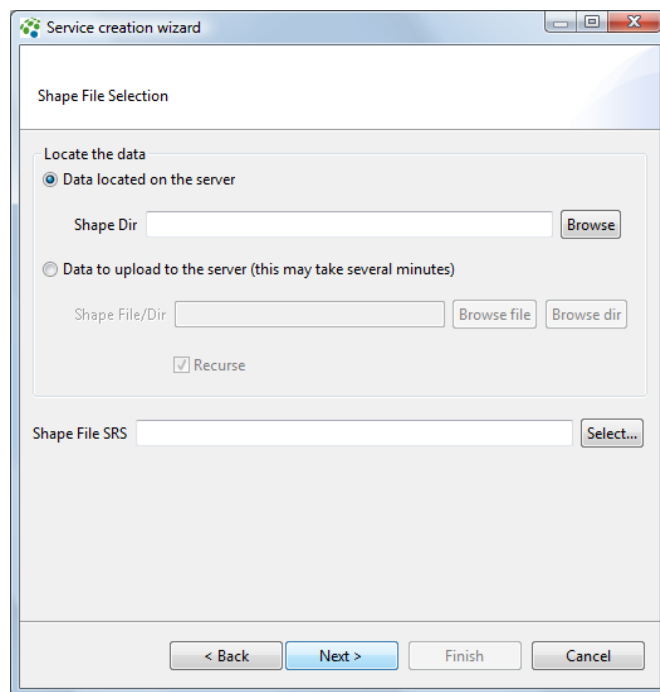
a. If the shapefile is located on the same computer as the ERDAS APOLLO Server, select the **Data located on the server** option.

    -   Then, click the **Browse** button to specify an individual shapefile as the data source.

b. If the shape file or shape file directory is located on a different computer than the one with ERDAS APOLLO Server installed on it, select the **Data to upload to the server** option.

    -   Then, click the **Browse file** button to specify an individual shapefile or click the **Browse dir** button to specify a file directory that contains multiple shapefiles.

    -   If you specify a file directory as the data source, the **Recurse** option becomes available. Select it if you want to add all the files in the selected directory and all the files in its children directories. If you only want to add the files directly under the selected directory, do not select this option.

c. Check the **Shape File SRS** field to see if it is correct. If not, click the **Select...** button to open the Spatial Reference Systems dialog box and select the correct one.

    The Spatial Reference Systems dialog box contains a list of all the valid SRSs for your system in a categorized list.
    You can select the SRS you want by finding it in this list, clicking on it, and then click the **OK** button.

    You can also perform an automated search for the one you want. by typing its number or part of its name in the box at the very top of the dialog box. When the SRS you want appears in the list, click on it, and click the **OK** button.

d. When you are satisfied with the options you have specified on this panel of the wizard, click **Next**.

a. If the file is located on the same computer as the ERDAS APOLLO Server, select the **Data located on the server** option.

    -   Then, click the **Browse File** button to specify an individual file as the data source.

b. If the file is located on a different computer than the one with ERDAS APOLLO Server installed on it, select the **Data to upload to the server** option.

    -   Then, click the **Browse** button to specify an individual file as the data source.

c. Check the **DGN SRS** field to see if it is correct. If not, click the **Select...** button to open the Spatial Reference Systems dialog box and select the correct one.

    The Spatial Reference Systems dialog box contains a list of all the valid SRSs for your system in a categorized list.
    You can select the SRS you want by finding it in this list, clicking on it, and then click the **OK** button.

    You can also perform an automated search for the one you want. by typing its number or part of its name in the box at the

very top of the dialog box. When the SRS you want appears in the list, click on it, and click the **OK** button.

d. When you are satisfied with the options you have specified on this panel of the wizard, click **Next**.

To use an Oracle database as the data source for a WFS:

a. In the **Host** box, type the name of the server where the Oracle database is located.

b. In the **Port** box, type the listener port number (default is set to 1521).

c. In the **User** box, type the name of a user account that can be used to connect to this database.

d. In the **Password** box, type the password for the user account that can be used to connect to this database.

e. In the **SID** box, type the database server ID for that instance of Oracle.

f. In the **Service** box, type the Oracle service name.

NOTE: Even though the SID and Service both appear as required fields, you only need to provide one or the other, not both.

g. Check the **Default SRS** box to see if that is the correct SRS for your data. If not, click the **Select...** button to open the Spatial Reference Systems dialog box and select the correct one.

The Spatial Reference Systems dialog box contains a list of all the valid SRSs for your system in a categorized list.
You can select the SRS you want by finding it in this list, clicking on it, and then click the **OK** button.

You can also perform an automated search for the one you want. by typing its number or part of its name in the box at the very top of the dialog box. When the SRS you want appears in the list, click on it, and click the **OK** button.

h. Click the **Test Connection** button to make sure you can connect using the information you typed. Click **Next** after you know you can connect with this information.

NOTE: If you cannot connect, check to make sure that you typed the information correctly. If you typed your information correctly and still cannot connect, speak with the database administrator to make sure you have the correct information to connect to this database.

To use a PostgreSQL database as the data source for a WFS:

a. In the **Host** box, type the name of the server where the PostgreSQL database is located.

b. In the **Port** box, type the listener port number (default is set to 5432).

c. In the **User** box, type the name of a user account that can be used to connect to this database.

d. In the **Password** box, type the password for the user account that can be used to connect to this database.

e. In the **Database** box, type the name of the database.

f. Check the **Default SRS** box to see if that is the correct SRS for your data. If not, click the **Select...** button to open the Spatial Reference Systems dialog box and select the correct one.

The Spatial Reference Systems dialog box contains a list of all the valid SRSs for your system in a categorized list.
You can select the SRS you want by finding it in this list, clicking on it, and then click the **OK** button.
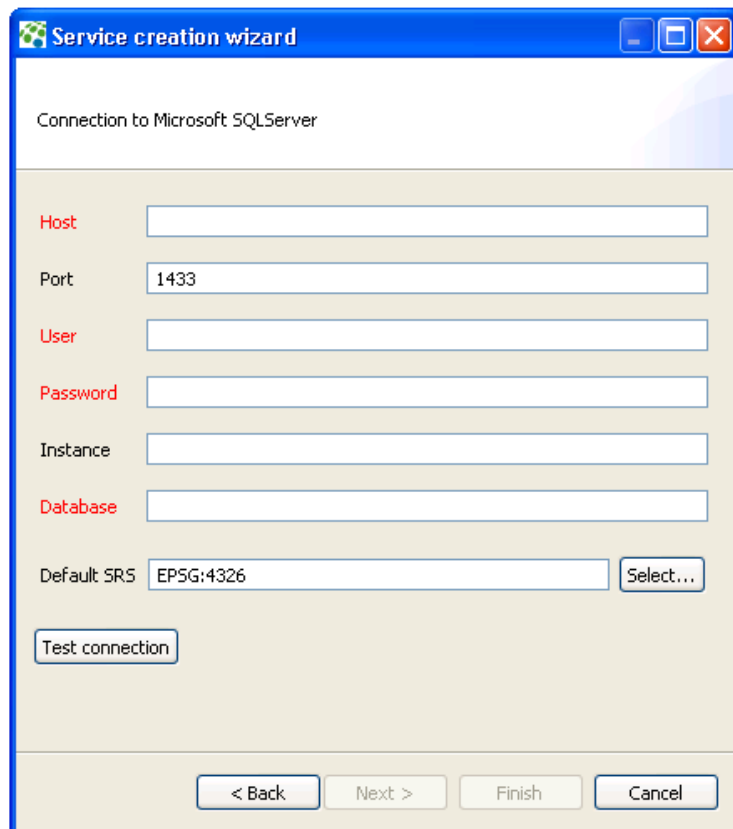
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You can also perform an automated search for the one you want. by typing its number or part of its name in the box at the very top of the dialog box. When the SRS you want appears in the list, click on it, and click the **OK** button.

g. Click the **Test Configuration** button to make sure you can connect using the information you typed. Click **Next** after you know you can connect with this information.

NOTE: If you cannot connect, check to make sure that you typed the information correctly. If you typed your information correctly and still cannot connect, speak with the database administrator to make sure you have the correct information to connect to this database.

To use a Microsoft SQL Server database as the data source for a WFS:

a. In the **Host** box, type the name of the server where the SQL Server database is located.

b. In the **Port** box, type the listener port number (default is set to 1433).

c. In the **User** box, type the name of a user account that can be used to connect to this database.

d. In the **Password** box, type the password for the user account that can be used to connect to this database.

e. If Microsoft SQL Server is installed as a *named* instance, type the name in the **Instance** box. If it was installed as the *default* instance, you can allow the box to remain empty.

f. In the **Database** box, type the name of the database.

g. Check the **Default SRS** box to see if that is the correct SRS for your data. If not, click the **Select...** button to open the Spatial Reference Systems dialog box and select the correct one.

The Spatial Reference Systems dialog box contains a list of all the valid SRSs for your system in a categorized list.
You can select the SRS you want by finding it in this list, clicking on it, and then click the **OK** button.
You can also perform an automated search for the one you want. by typing its number or part of its name in the box at the very top of the dialog box. When the SRS you want appears in the list, click on it, and click the **OK** button.

h. Click the **Test connection** button to make sure you can connect using the information you typed. Click **Next** after you know you can connect with this information.

NOTE: If you cannot connect, check to make sure that you typed the information correctly. If you typed your information correctly and still cannot connect, speak with the database administrator to make sure you have the correct information to connect to this database.

6. The Data Manager will now allow you to start specifying the basic properties for the service, such as the name, title, abstract and keywords.

Figure 18: Specifying Basic Service Properties

7. The next step of the wizard allows you to specify some additional properties for the service.

Figure 19: Additional Service Properties
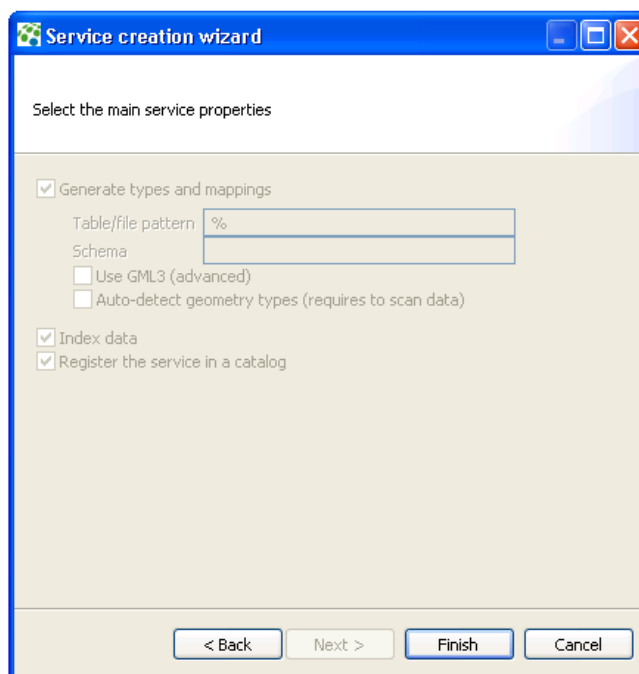
NOTE: The value to put in the "schema" field may vary depending on the type of data source. In particular for Oracle and PostGIS, an empty field means only the current schema will be scanned. For PostGIS, it means the "public" schema is not scanned except if "%" or "public" is encoded in that field.

8. After you are satisfied with the options you have selected, click **Next**. The Data Manager will create the service and display it with the other services of its type in the Explorer View.

I want to create a service provider that is similar to one I already have. Is there an easy way to do that?

You can clone the service provider that is most like the one you want to create, and then edit the clone to make it exactly the way you want.

To clone a service provider:

1. Find the service provider you want to clone in the Explorer View.

2. Right-click it and select **Clone Provide**r on the menu that appears.

3. Type the name of the new service provider in the box in the middle of the dialog box that appears and click **OK**.

The Data Manager will create the service provider and place it under the correct service type node in the Explorer View.

You should then edit it to make it exactly like you want.

How do I edit an existing service provider?

Any service providers that exist in your system are shown in the Explorer View.

If you right-click on the service provider and select **Edit Provider** in the menu that appears, a new Service Provider Editor View will open. The name of the service provider will appear in the main tab for the Service Provider Editor View.

The parameters for this service provider are grouped together by function on different tabs within the view. You can change the service provider by editing the parameters on the tabs. For a more detailed explanation of the parameters for a service provider, see the section on page 24.

After you have changed the parameters that you want to change, you need to save the changes. There are 3 ways to save your changes:

- Select **System > Save** on the main Data Manager menu.

- Click the **Save** icon 💾 that appears just below the main Data Manager menu.

- Use Ctrl + S on your keyboard.

Before the system will save the changes to the service provider, it will ask you if you also want to save these modifications to the catalog.

Select either **Yes** or **No**.

NOTE: If you want the system to do the same thing with the catalog every time you save changes to a service provider, check the **Remember my decision** *box before you click Yes or No.*
If you ever want to change your decision or start receiving a prompt again before you save changes to service providers, change the System Manager Preferences.

The Data Manager will restart the service with this new configuration whenever you save your changes to the service provider.

How do I delete a service provider?

1. Find the service provider that you want to delete in the **Explorer View**.

2. Right-click the service provider node.

3. Select **Delete Provider** in the menu that appears.

4. Before the system will try to delete the service provider, it will ask you if you also want to also remove the service provider from the catalog.

   Select either **Yes** or **No**.

   NOTE: If you want the system to do the same thing with the catalog entry every time you delete a service provider, check the **Remember my decision** *box before you click Yes or No.*
   If you ever want to change your decision or start receiving a prompt again before you delete providers, change the System Manager Preferences.

5. The system will ask you if you are sure you want to delete the selected service provider. Select **OK** to proceed with deletion or **Cancel** to stop the deletion process.

How do I add a dataset to an existing service provider?

1. Find the service provider in the Explorer View.

2. Right-click it and select **Add Dataset...** in the menu that appears.
   A wizard will open.

3. Select the source type for the dataset you want to add.
   Select **Coverage file** if the data is stored in a file or select **GeoRaster** database if the data is stored in a database.

4. The next step of the wizard asks you to indicate where the data is located and how to access it. This step looks different depending on the data source type you selected in the first step of the wizard.

This panel of the wizard will look like the following figure.
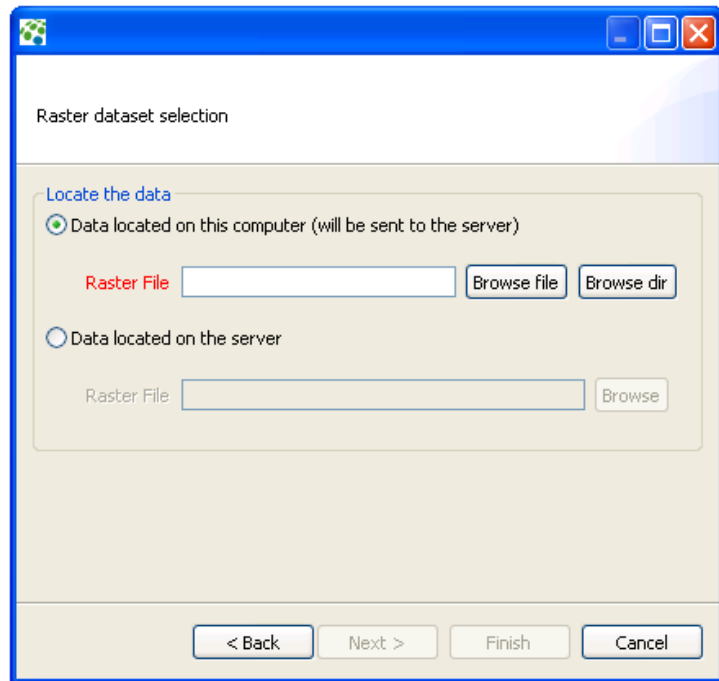
a. Select the option that indicates where the dataset is located.

Select **Data located on this computer** if the data is located on the computer on which the Data Manager is installed. Select **Data located on the server** if the dataset is located on the computer on which the ERDAS APOLLO Server is installed.

b. Specify the location of the file or files to add. Click **Browse File** to add the path to a single file, or click **Browse Dir** to add the path to an entire directory of files.

c. Click **Finish** when you are satisfied with the settings on the wizard panel.

This panel of the wizard will look like the following figure.

a. On the top half of the panel, specify the connection information for the Oracle GeoRaster database.

b. On the bottom half of the wizard panel, specify the details about the GeoRaster database, such as the schema and table name.

When the service provider was created initially, the Data Manager indexed the data inside of it. After you add new datasets to a service provider, you need to re-index the data.

To re-index the data in the service provider:

1. Right-click the service provider in the Explorer View.

2. Select **Edit provider** in the menu that appears.
   The Service Provider Editor View opens with the information for that service provider.

3. Open the **Data Source** tab in the Service Provider Editor View.

4. Make sure the **Path** parameter shows the correct path for the data source.

5. Find the **Index Data** link at the bottom of the tab and click it.

Can I define the way that a map created from my coverage data should look?

Yes, you can create a style the defines how a map created from a raster dataset should look.

To create a style:

1. Find the dataset. It will be located under a service provider node inside the **Rasters** node.

2. Right-click on the dataset and select **Add New Style...** in the menu that appears.

3. The Add New Style dialog box opens.
   Type the name of your new style and click **OK**.

4. The name of your new style now appears as a node under your dataset node, and the Coverage Style Editing dialog box opens.

5. Select the type of style that you want your new style to be.
The Coverage Style Editing dialog box will change appearance so
that it can show you the style options associated with that type of
style.

The choices are:

- **None**

- **Contrast Enhancement**

- **Color Map**

- **Hillshade**

None

Figure 20: Creating a Style of the Type *None*
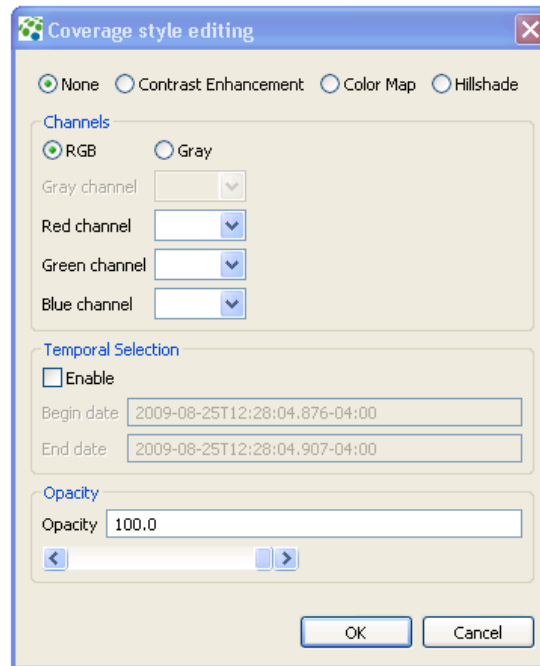
The *None* style allows you to:

- map one coverage band on the grey channel (grey) or three
  coverage bands to RGB channels (color)

- select data to render along temporal extent and custom
  range extents

- configure the opacity of the result

Using the ERDAS APOLLO Data Manager

- 0.0 is completely transparent

- 100.0 is completely opaque

Contrast Enhancement

Figure 21: Creating a Style of the Type *Contrast Enhancement*
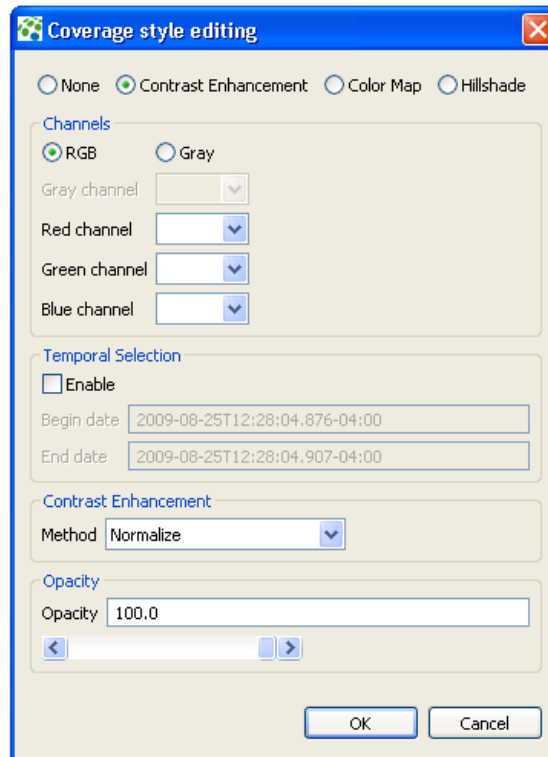
The *Contrast Enhancement* style allows you to:

- map one coverage band on the grey channel (grey) or three coverage bands to RGB channels (color)

- select data to render along temporal extent and custom range extents

- configure the opacity of the result and configure the mapping from data range of values to colors using a user-friendly GUI

  - 0.0 is completely transparent

  - 100.0 is completely opaque

- apply contrast enhancement to stretch data values along the grey or RGB range

  - Normalize: linear stretch of the values to enhance contrast

- Histogram: statistical spread of the values to enhance contrast

- None: equivalent to 'None' style

Color Map

Figure 22: Creating a Style of the Type *Color Map*
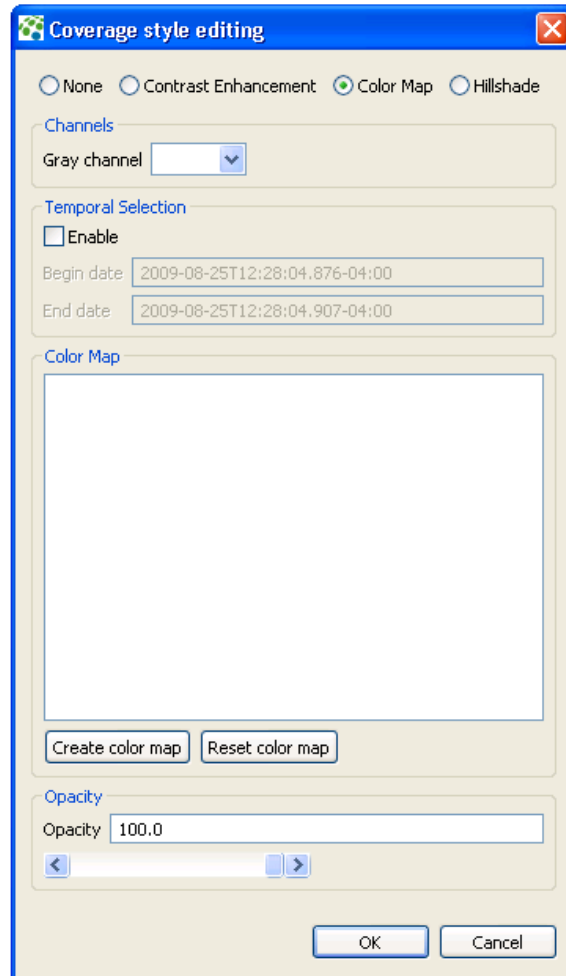
The *Color Map* style allows you to:

- select one coverage band as input of the color mapping process

- select data to render along temporal extent and custom range extents

- configure the opacity of the result

  - 0.0 is completely transparent

  - 100.0 is completely opaque

- configure the mapping from data range of values to colors using the following dialog box:

- choose number of classes

- choose source range of values

- generate a classification of colors using:

  - RGB interpolation

  - HSB interpolation

- fine tune the color map by editing each value or color

Figure 23: Creating a Style of the Type *Hillshade*
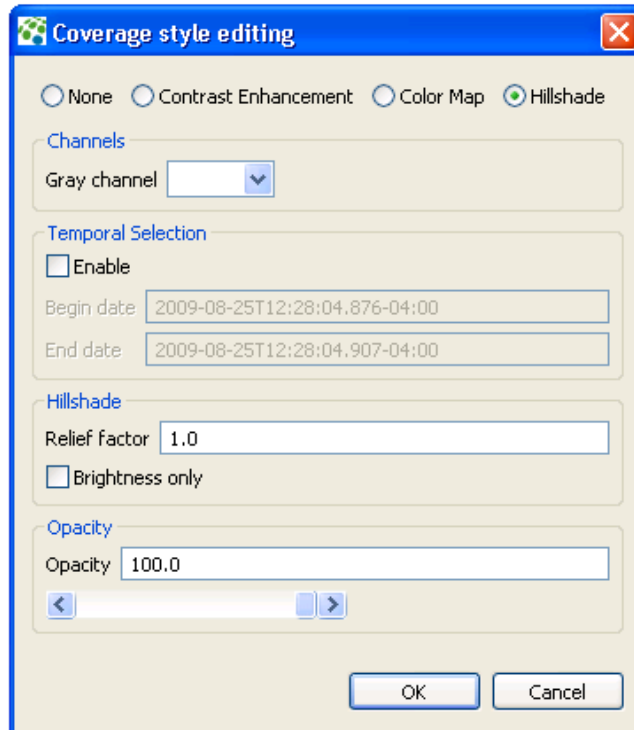
The *Hill Shading* style allows you to:

- select one coverage band as input of the hill shading process

- select data to render along temporal extent and custom range extents

- configure the opacity of the result

    - 0.0 is completely transparent

    - 100.0 is completely opaque

- configure the shading parameters

    - The "relief factor" parameter allows you to enhance the elevation dimension in relation to the other dimensions and then to accentuate the relief. It depends on the ratio of the elevation unit and the unit of the spatial reference system of the data.

6. When you have satisfied with all of the options you have selected for your new style, click **OK**.

How do I get the service provider to show up in any searches of the catalog?

If you want the service provider to show up in searches of the catalog, such as the searches that will be conducted inside your ERDAS APOLLO Web Client, you need to register the service provider in the catalog.

To register a service provider in a catalog:

1. Right-click on the node for the service provider in the Explorer View.

2. Select **Register Service** in the menu that appears.
A message box that shows the progress of the operation appears.

3. After the service provider is registered in the catalog, the Data Manager will ask you if you would like to see it in your favorite web browser. If you click Yes, your default web browser will launch and display the information for the service provider.
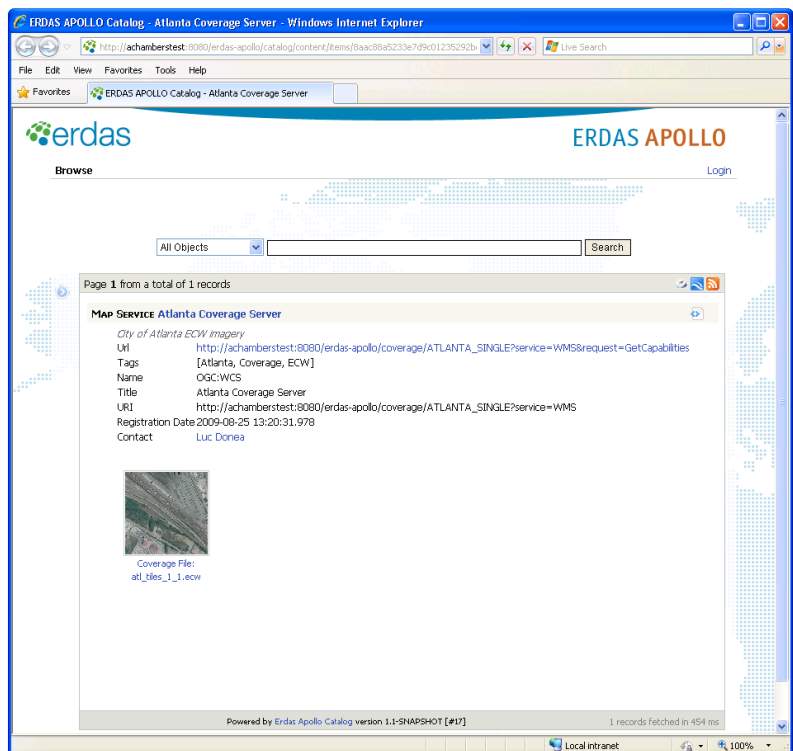
If you no longer want people to be able to find the service provider when they search the catalog, you need to remove the service provider's entry from the catalog. The service provider will still exist, but it will not appear in catalog searches.

To remove the catalog entry for a service provider:

1. Right-click on the node for the service provider in the Explorer View.

2. Select **Unregister Service** in the menu that appears.
   A message box that shows the progress of the operation appears.

Are there any other types of resources I can register in my catalog besides imagery files and service providers?

The most common use of the ERDAS APOLLO catalog is to store imagery and service providers. However, you can also store other types of objects in it, such as spreadsheets, PDFs, movies, and text files.

You can add additional resources using the ERDAS APOLLO Data Manager, the ERDAS APOLLO Catalog Web Interface, or the REST interface of the ERDAS APOLLO Catalog. Once you add a resource, you will be able to locate it and view it in the Search tab of the ERDAS APOLLO Web Client or on the Browse page of the Catalog Web Interface tool.

You can use the Data Manager to add additional resources to your ERDAS APOLLO Catalog if the data is located somewhere on your network. You can add them one at a time, or you can add many at once using a special resource crawler.

Adding the resources to your catalog one at a time works well if the object is located either on your server computer or your local computer. The Data Manager provides a dialog box that allows you to specify the object and some basic information about it. The system can generate a special XML file for you that describes the object.

Adding resources with the crawler works well if you have multiple resources to add to the catalog and they each already have the special XML file like the one created by the ERDAS APOLLO Data Manager when you add the resources one at a time. This might be the case if you have cataloged this object before (perhaps in another catalog).

Once your resources are in the Catalog, they appear in the Data Manager in the Explorer View under the Resources node.

To add additional resources to the catalog one at a time:

1. Right-click the **Resources** node.
   Select **Create Resource** in the menu that appears.

2. The Create Resource dialog box opens.
You must complete the fields shown in red in order to register the resource in your catalog. The rest of the fields are optional.

3. In the **Resource** field, provide the path and name of the file you want to register.

If the file is located on the server:

   a. Click the **Browse** button.

   b. Find the file.

   c. Click **OK**.

If the file is located on your local machine:

a. Click the **Upload** button.
The upload dialog box opens.

b. Click the **Browse** button next to the **Local File to Upload** field and select the file you want to add to your catalog.

c. Click the **Browse** button next to the **Destination Directory** field to select the directory on your server in which to store this file.

d. Click **OK** when you are satisfied with your selections.

4. In the **Name** field, type a name to be used internally for the object.

5. In the **Title** field, type an official title for the object.

6. In the **Description** field, type a brief description of the object so people know exactly what it is.

7. In the **Keywords** field, type a comma-separated list of keywords that a catalog search can use to locate this object.

8. In the **Type** field, type the names of the nodes that the Data Manager should create inside the Resources node in which to store your resource.

   For example, if you type **pdf_maps/Belgium** in the Type field, your Resources node would look like the following after your resource was added:

9. In the **Thumbnail** field, provide the path and name of a file that contains an image you want to use as a thumbnail for this resource, if you have one.
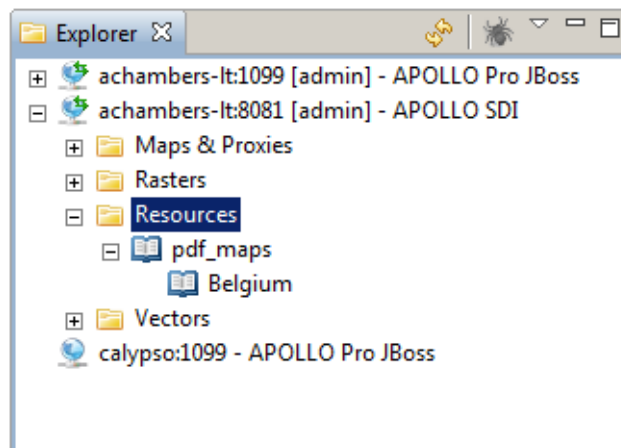
   If the file is located on the server:

   1. Click the **Browse** button.

2. Find the file.

3. Click **OK**.

If the file is located on your local machine:

1. Click the **Upload** button.
The upload dialog box opens.

2. Click the **Browse** button next to the **Local File to Upload** field and select the file you want to add to your catalog.

3. Click the **Browse** button next to the **Destination Directory** field to select the directory on your server in which to store this file.

4. Click **OK** when you are satisfied with your selections.

10. In the **Footprint** fields, select the SRS that could be used to georeference this resource in the in the top field, and type the coordinates for the bounding box in the bottom field.

If you click the **Select** button to the right of the Footprint fields, the Spatial Reference Systems dialog opens.
You can search for the SRS you want by typing the name or number associated with it in the topmost box, or you can navigate through the list to find it. Highlight it in the list and click **OK** to select it.

11. If you have any additional metadata items that you would like to add for this resource, you can enter then in the **Custom Properties** area of the Create Resource dialog box.

To add a custom property, click the **Add** button. You can add multiple properties. To remove a property, click the minus button to the right of the property you want to remove.

To specify a property, click the name of the property in the first box, the value of the property in the second box, and select the data type of the property in the third.

12. The **Save Metadata on Disk as XML** option is selected by default. This will save all the information you have specified about this resource in an XML file as well as saving it in the catalog entry.

The XML files are helpful because they make it easier to register this same resource in another catalog or to re-register the resource in this catalog if you should ever remove it by mistake.

13. Click **Catalog** when you are satisfied with your selections.

To add custom resources to the catalog with a crawler:

1. Right-click the **Custom Objects** node.
   Select **Crawl Custom Objects** in the menu that appears.

2. Use the **Browse** button to find the directory that you want to crawl.

3. Click **OK**.

When the crawler completes, it displays a message box that indicates how many rescores were created, updated, deleted, and ignored. The resource crawler can only add objects that already have the special XML file like the one created by the ERDAS APOLLO Data Manager when you add the resources one at a time. This might be the case if you have cataloged this resource before (perhaps in another catalog).

Answers to Geoprocessing Questions

I want to create and use geospatial processes that are compatible with the Web Processing Service (WPS) standards established by the Open Geospatial Consortium. Will ERDAS APOLLO allow me to do this?

Yes!

ERDAS IMAGINE allows you to create and publish these processes and you can then work with them in your ERDAS APOLLO system.

The processes will be available on the ERDAS APOLLO Web Client and can also be made available on any client that has been built or configured to work with your ERDAS APOLLO system.

You can also use the ERDAS TITAN client for WPS execution, provided that you do not remove the APOLLO-CLIENT.WAR from the ERDAS APOLLO Application Server. The APOLLO-CLIENT.WAR file must remain in place in the ERDAS APOLLO installation in order for the WPS to work in ERDAS TITAN even if you do not plan to use the ERDAS APOLLO Web Client.

If you want to work with WPS-compatible processes, please notify your ERDAS sales representative or technical service representative so he or she can help you get the Professional editions of ERDAS APOLLO and ERDAS IMAGINE.

How do I create a process to use in my ERDAS APOLLO system?

Before you can use a process in the ERDAS APOLLO system, you need to create it and publish it using ERDAS IMAGINE. these processes are called spatial models in ERDAS IMAGINE.

You will use the Model Maker tool in ERDAS IMAGINE to create the process.

To access the Model Maker tool in ERDAS IMAGINE:

1. Open ERDAS IMAGINE.

2. Click the **Toolbox** tab on the ribbon.

3. Click the top half of the Model Maker button.

The New_Model window opens.

To learn how to use the Model Maker tool:

1. Click the **Windows Start** button.

2. Click **All Programs**.

3. Select
    ERDAS 2010 > ERDAS Desktop 2010 >Documentation > Help

4. When the help opens and you can see the main table of contents, open **Modeling Tools > Spatial Modeler**.

After you create the process, you will need to publish it so that it is available for your ERDAS APOLLO Server. The ERDAS IMAGINE help section that you will see when you open
Modeling Tools >Spatial Modeler > Publish Spatial Model to a Server
from the main table of contents explains the correct way to do this.

How can I see which processes have already been set up for use in my ERDAS APOLLO system?

Any processes that are available on your ERDAS APOLLO system are shown in the **Processes** node, which is located inside a server connection node. The processes will be grouped by category.

For example, in the figure below, the category *NDVI* contains two processes, *IMAGINE: SMS:ndvi_burn* and *IMAGINE SMS:veg_index*.

You will only be able to work with processes if the ERDAS APOLLO Server you are connected to is the Professional edition.

Figure 24: The Processes in the ERDAS APOLLO System
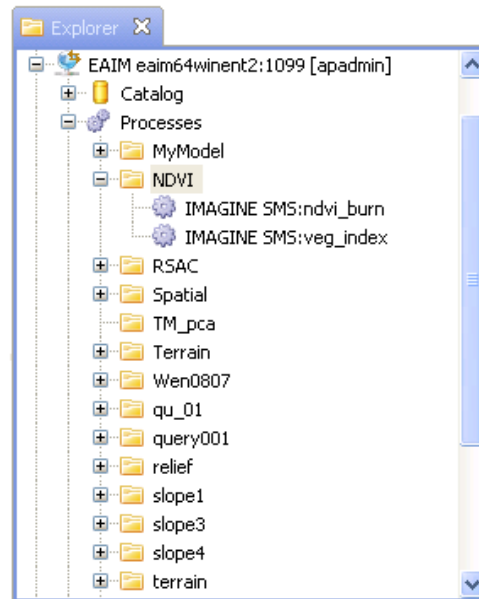
### How do I use a process in my ERDAS APOLLO system?

To run the process, you must open the ERDAS APOLLO Web Client and log in to it. All of the processes that you have access to will be shown on the Process tab. Instructions for running the processes and viewing the results are included in the ERDAS APOLLO User Guide. You can also see the instructions by clicking the Help link in the ERDAS APOLLO Web Client.

Can I specify which roles and users have authorization to run these processes?

Yes, you can set up security that controls which roles and users will have authorization to work with these processes in the Data Manager and in the ERDAS APOLLO Web Client.

To set up security for a process:

1. Locate the process in your Explorer View.
   The processes are stored by category inside the Processes node and are shown with an engine cog ⚙ icon next to them.
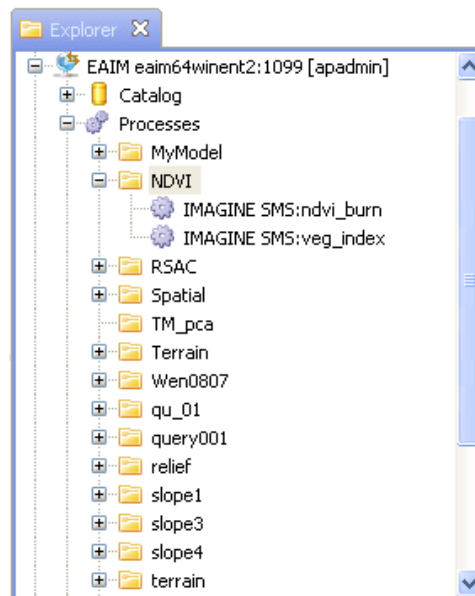
2. Right-click on the process and select **Security** in the menu that appears. The Process Security dialog box opens.
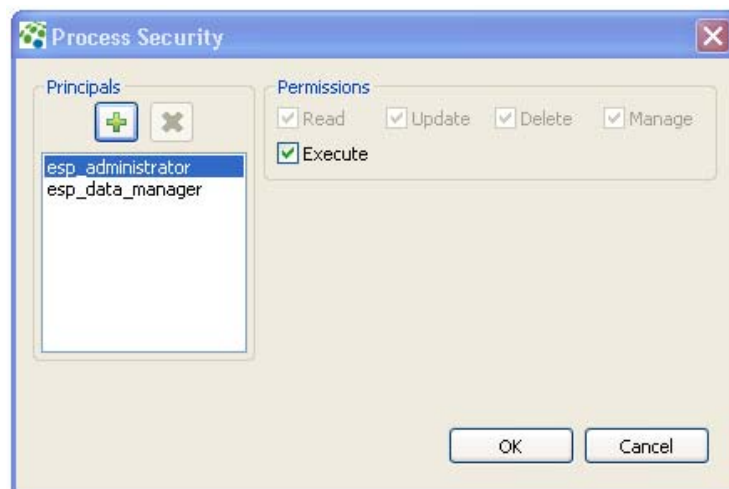
3. The **Principals** list shows every user or role who should have some type of access to processes in the Data Manager or the ERDAS APOLLO Web Client.

    Select the principal whose access you want to control.

    If the principal you want to work with is not in the list, you will need to add it to your ERDAS APOLLO system, and then to the list box. To learn how to add new users or roles to your system, see the section "Add Default Security Users and Roles" in the *ERDAS APOLLO Server Administrator's Guide (Advantage/Professional Edition)*.

    To add a new principal to the list box:

    a. Click the green plus sign button above the **Principals** list. The Add Principal box opens.

    b. In the box, type or select the name of the user or role you want to add.

    c. Click **OK**.

    To remove a principal:

    a. Select the user or role in the **Principals** list.

    b. Click the red **X** button above the Principals list.

    NOTE: The system is designed so that you cannot change most of the permissions for the esp_administrator role. This guarantees that you always have at least one user who has complete access to the system, which prevents someone from accidentally locking everyone out.

4. The **Permissions** options allow you to specify what the selected principal will be allowed to do with the processes.

    Check the boxes of the permissions that you want to grant to the principal.

    The permissions that you can grant are:

    •   **Read** - ability to view the process in the Data Manager and ERDAS APOLLO Web Client.

    •   **Update** - ability to change the properties for the process in the Properties View.

    •   **Delete** - ability to remove the process entry from the ERDAS APOLLO Catalog.

- **Manage** - ability to define security for other principals. A principal who DOES NOT have the manage permission will be able to open this Process Security dialog box, but will not be able to alter the security.

5. Click **OK** when you are satisfied with the security settings you have chosen.

When a user runs a process, are the results stored in my system?

Whenever a user runs a process, new datasets will be created. These new datasets are stored inside your catalog along with your other datasets.

To see these datasets:

1. Open the **Explorer View** in your Data Manager.

2. Open the connection node for the server with the processes.

3. Open the **Catalog** node.

4. Open the **ROOT** aggregate node.

5. Open the **GEOPROCESSING** aggregate node.

Each user who has run a process will have an aggregate within the GEOPROCESSING aggregate. All of the datasets created by running processes will be stored in that user's aggregate.

To see the datasets that user has created, click on the user's aggregate node. The datasets will be listened in the Datasets View.

Figure 25: Location of Datasets Created by Geoprocesses
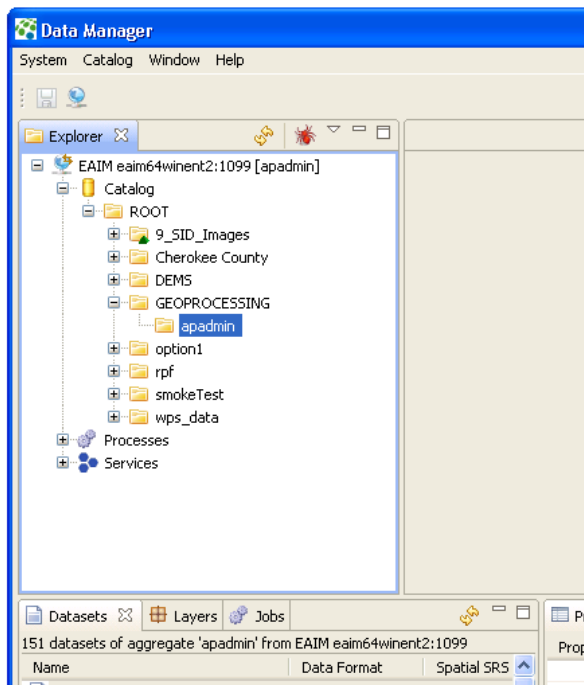
By default, the ERDAS APOLLO Server will begin a clean-up task every day just before midnight and it will remove any datasets in the Geoprocessing aggregate that are more than 30 days old.

Customizing the ERDAS APOLLO Data Manager

Create New Metadata Harvesters

A metadata harvester is a server process that discovers and extracts metadata from geospatial information and registers the metadata in the catalog. A metadata harvester is aware of individual metadata entities, how they are stored in the source data, and how to map the metadata entity to a defined catalog metadata entry. The following metadata entities can be discovered by the default metadata harvesters:

Catalog Metadata Name	Sample Value
name	Center_atlanta_ll_wgs84.img
title	Downtown Atlanta 3 Band Color IKONOS Imagery
abstract	The IKONOS satellite sensor collected this Atlanta Downtown imagery in 6 strips. The source IKONOS imagery was mosaicked, stretched, and processed to create this 3-band single image.
node type	Dataset
data type	IMG
source name	Center_atlanta_ll_wgs84.img
source path	D:\ERDAS\Generation_4\APOLLO\data\IKONOS
bounding box	-84.36064665742737, 33.81559696757166, -84.32653756651828, 33.84410605848075
srs	EPSG:4326
sizes	334*280
Band axis	Band1,Band2,Band3

Third party developers can develop custom metadata harvesters for indexing metadata from other data sources such as xml files or databases, and to harvest additional metadata items (see the Custom Queryables section below). The Data Manager crawlers will execute all metadata harvesters that have been configured for a data type.

Custom Queryables

Custom queryables are custom metadata that you can add to the discovered data. They are called queryables because they implement additional search criteria that can be directly requested in the web client or through the remote querying APIs. The *ERDAS APOLLO Administrator Guide (Advantage/Professional Edition)* includes instructions on setting up the custom queryables.

Getting the Most from the ERDAS APOLLO Data Manager

Schedule Your Crawlers for Evenings or Weekends

The load from users is relatively low at these times, so your crawlers can run faster and are less likely to interfere with user activities.

Organize Your Data

In order for you to get the best performance from your ERDAS APOLLO Catalog, it needs to be well-organized. The organization of the ERDAS APOLLO Catalog is based upon the organization of the data that is being cataloged.

First of all, each subdirectory in the directory you crawl will probably be generated as an aggregate by your crawler. To ensure that the generated aggregates are easy to work with, you should:

- Make continuous composite extents of imagery within a directory.

- Collect datasets of the same resolution within a directory if the generated aggregates are going to be published as a WMS or WCS or if pyramids are to be generated.

- Think about the size of the aggregate that will be formed by all of the datasets within the directory. Try to keep the aggregate size below a size of ~10,000 x 10,000.

The following diagram illustrates an aggregate composed of two datasets where the extents of each dataset are not continuous. The coverage offering for that aggregate contains gaps between the extents for each dataset, and those gaps contain no actual usable data. Storing aggregates that contain these gaps is an inefficient use of disk space. Also, if a crawler generates pyramids for that aggregate, parts of the pyramids would not contain any data. When users search the catalog, their results might include the part of the aggregate that contains no data.

The pixel resolutions of the datasets also affect the resolution and size of the generated aggregate. In the figure, if the resolution of Dataset 1 is 1 meter and the resolution of Dataset 2 is 30 meters, the resolution of the parent aggregate needs to match the resolution of the dataset with the highest resolution. The system must create unnecessary data to resample Dataset 2 to the higher resolution.

Figure 26: Extent of an aggregate composed of two widely separated datasets
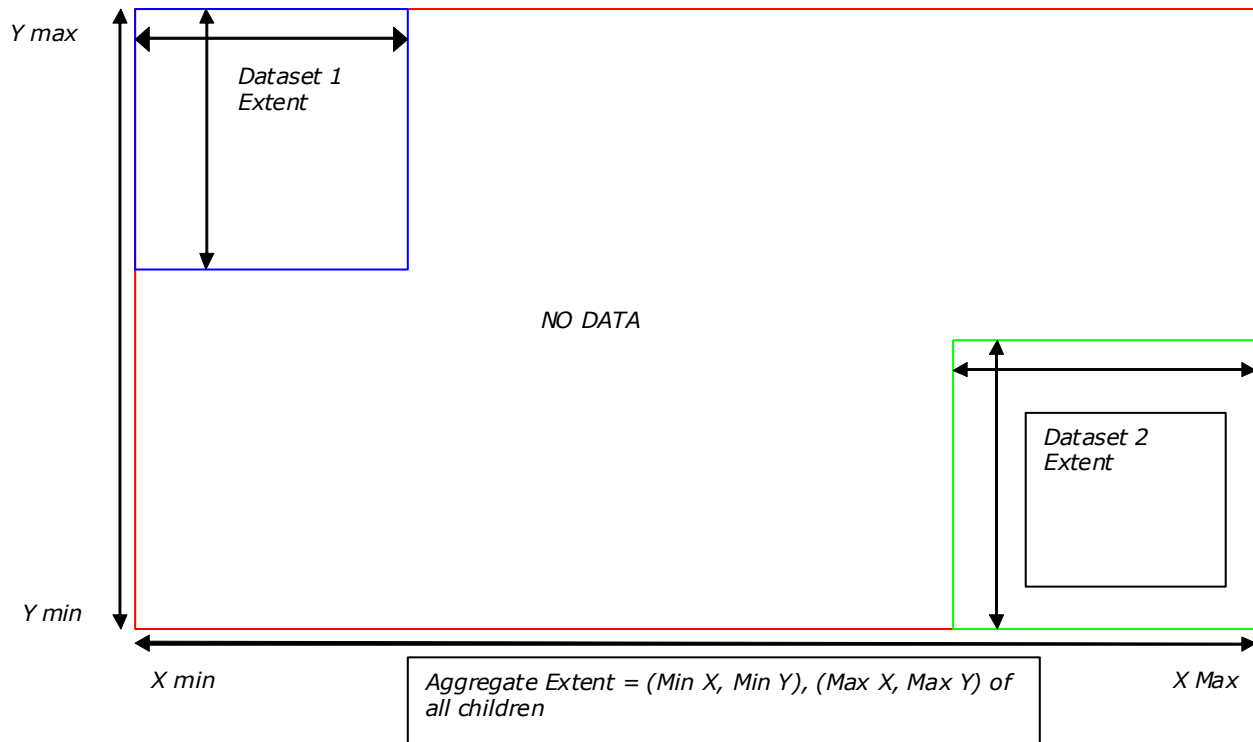
Pre-generate Pyramids for Data in the Formats Supported by the ERDAS Geographic Imaging Objects (GIO) Decoder

You can set up an ERDAS APOLLO Data Manager crawler so that it will generate basic pyramids for datasets as it discovers them. Keep in mind that the crawling process may take longer if the crawler has to generate a lot of pyramids.

To reduce the amount of time required for crawling, you can pre-generate pyramids for datasets in any of the imagery formats supported by the ERDAS GIO Decoders. The crawler will be able to detect that pyramids already exist for these datasets and will use those instead of creating new ones.

Data Manager Localization

The APOLLO Data Manager Localization toolkit allows you to translate the user interface into a language other than English. The toolkit comes as a stand-alone installer (separate from the APOLLO Data Manager Installer). The toolkit uses Ant (from the Apache Software Foundation) to extract translatable properties files, encode the files when necessary, and repackage them as OSGi language bundles for the APOLLO Data Manager.

Requirements

Before you begin the installation, complete these requirements.

- install JDK6 Update 21 (JRE alone will not be sufficient)

- set the environment variable for JAVA_HOME to point to the location of the JDK

- install the MS language pack for your language (this language does not have to be active)

Install

To install the ERDAS Localization toolkit for the APOLLO Data Manager follow these instructions.

1. Look up the ISO codes for the language and country you want to translate. These are the same codes that identify the language your operating system uses. Two possible websites are listed below.

    - Language - ISO 639:1988
      http://sunsite.berkeley.edu/amher/iso_639.html

    - Country - ISO 3166
      http://www.iso.org/iso/english_country_names_and_code_elements

2. Start the installer and enter the Data Manager install folder when prompted.

Unpackage

3. When the installer completes, open a Windows Command line and navigate to the Data Manager install folder. This folder contains the localization scripts and a copy of Apache Ant.

4. Run the Unpackage batch file. This creates a localization bundle for your selected language and country.

5. When prompted, enter the language code then the country code, separated by an underscore (from **step 1.**) Use lowercase letters for language code and uppercase letters for the country code.

- You can run the unpackage batch files multiple times and enter different language and country codes to create multiple language bundles.

- Do not run the unpackage batch file for any language/country that you already translated as it overwrites any existing bundles.

6. Navigate to the \localization_bundles folder created in the Data Manager install folder by the unpackage batch file.
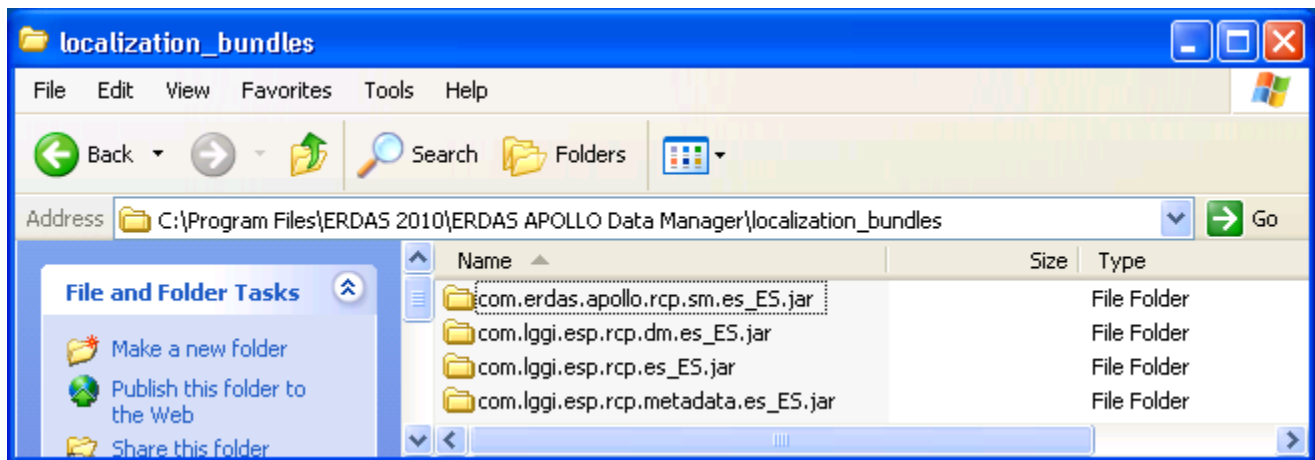

Translate

7. Use any text editor that can save files in unicode format to edit every *.properties file in the \localization_bundles folder. Modify the text on the right side of the equal sign (=). Do not change the text (string key values) on the left.

- Do not remove any formatting place holders such as %s or %d. These place holders must remain after the translation to hold strings and numeric values from the Data Manager.

- Be sure you save the file with the original *.properties extension.

- Do not move any files. Save all files to the original location.

- Because the translation task can be long and tedious, back up the entire 'localization_bundles' folder often. When you complete the translation, the translated files must be in the folder named, 'localization_bundles', to run the repackage batch file.

- If you are translating to a language requiring UNICODE characters such as Chinese, Japanese, Korean, or Arabic, save the file as a Unicode Text Document (*.txt), rename the file with a *.properties extension. then delete the *.txt file.

Data Manager Localization
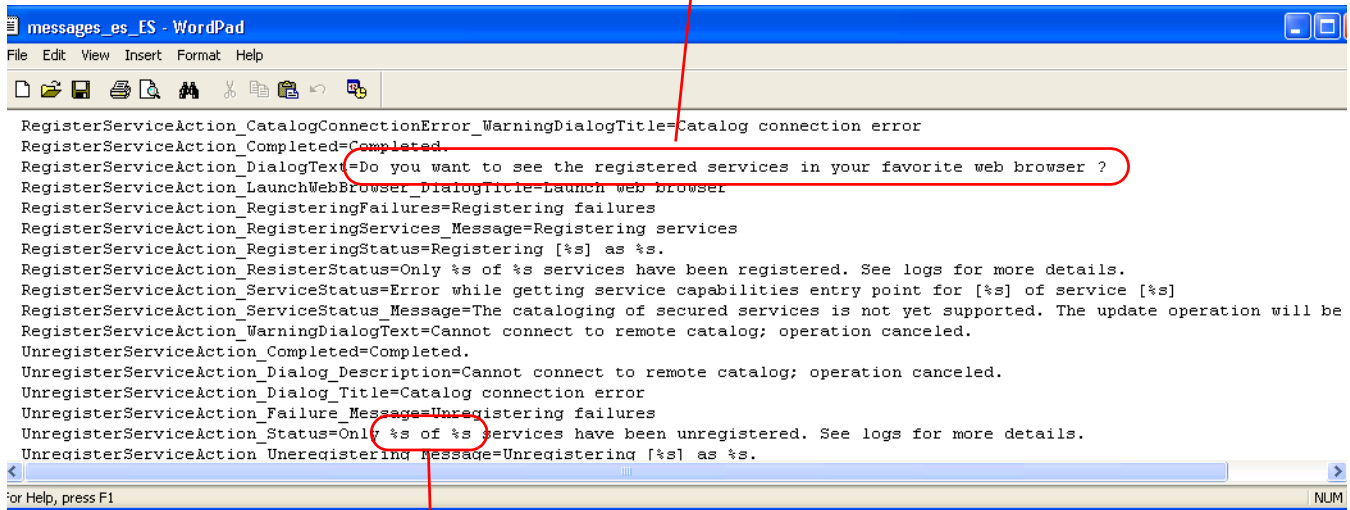
Leave all formatting characters as is.

Unicode

8. If you use UNICODE characters, you must run the encode batch file which encodes the files to replace the characters with unicode escape characters to display the characters properly in the Data Manager. Open a Windows Command line, navigate to the Data Manager install folder, and run the encode batch file. Otherwise, continue with the next step. Two messages ask you if you want to continue. Be sure that you have are working with Unicode languages before you continue.

- Translate all the properties files before you run the encode batch file, otherwise the untranslated files will be encoded incorrectly. You can run the encoding step only once.

⚠️

Run the encode batch file only on properties files translated into languages requiring wide characters (UTF-16 encoding) and never on properties files with translation based on Latin languages. If you run encode.bat on properties files containing only Latin-based characters, the files will be damaged and not usable.

Repackage

After you complete the translations (and encoding, if needed) run the the repackage batch file to create the OSGi language bundles used by the Data Manager. You can distribute translated language bundles to any user with the same language/country.

9. Open a Windows Command line and run the repackage batch file. The message "Enter Locale of Translated bundles you wish to repackage(xx_XX)" displays.

10. Enter the language and country code (from **step 1.**).

11. Look for the message, "BUILD SUCCESSFUL" to verify that the repackage completed and look in the /plugins folder of the Data Manager install folder to verify the JAR files created by the repackage batch file.
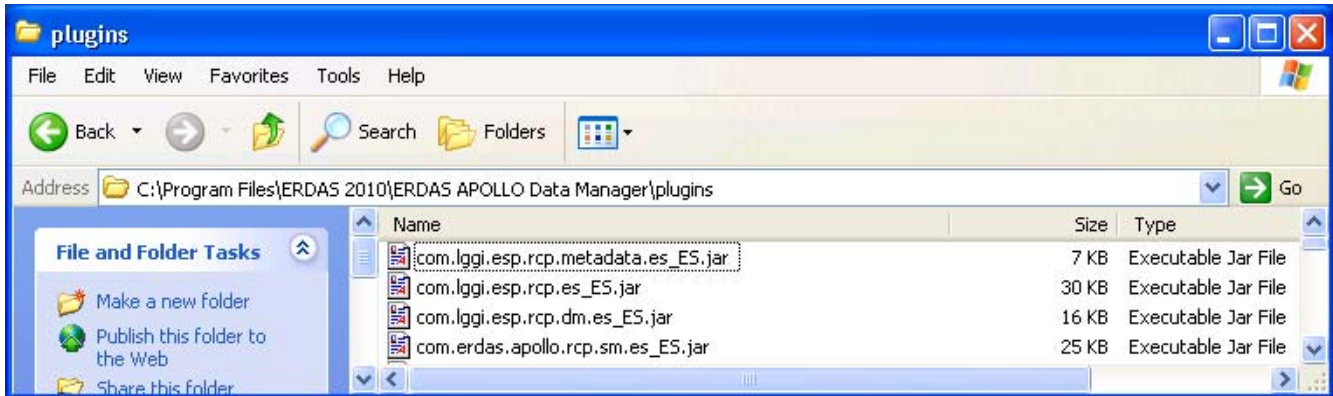
Translate Eclipse Strings   After you translate the ERDAS-created plugins of the Data Manager using the toolkit, follow these steps to obtain translations for the core Eclipse strings using the separate language bundles from the Eclipse project site:
http://download.eclipse.org/technology/babel/babel_language_packs/europa.php

The Data Manager is built on Eclipse 3.0.0 (Europa) so be sure to access the "Babel Language packs for europa" webpage and use those language bundles.

12. Download the "eclipse" bundle for the desired language from the Eclipse project site.

13. Extract the contents of the /plugins folder from the ZIP file to the /plugins folder of the Data Manager installation.

14. Start the APOLLO Data Manager. The new language is activated.

Test your Translation   You can manually set the locale and test multiple language packs on the same Data Manager installation. Set the Data Manager locale by adding a line such as, osgi.nl=es_MX, in the 'config.ini' file found in <Data Manager Install>\configuration. This modification forces the Data Manager to attempt to load the designated locale *.properties files if available, otherwise the default English versions will be used.