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INTRODUCTION

Welcome to the ArcGIS Diagrammer user guide.

ArcGIS Diagrammer is a productivity tool for GIS professionals to create, edit or analyze geodatabase schema. Schema is presented as editable graphics in an environment familiar to users of Microsoft Visual Studio 2005. Essentially ArcGIS Diagrammer is a visual editor for ESRI's Xml Workspace Document which are created by ArcCatalog, the management application in the ArcGIS Desktop product suite.

The first few chapters of this guide detail the installation and un-installation of ArcGIS Diagrammer. However the most useful part of this guide is the chapter entitled <u>getting started</u>. This chapter contains two easy to follow tutorials and is strongly recommended for new users.

Enjoy!

HOW TO INSTALL

DOWNLOADING THE SETUP PROGRAMS

ArcGIS Diagrammer can be downloaded from ESRI's ArcScripts website. Please read all the terms and conditions before downloading this or any other code/application from the site.

http://arcscripts.esri.com/details.asp?dbid=14407

If you have received this application from an alternative source or are a current user, please check the ArcScripts website regularly for updates.

RUNNING THE SETUP PROGRAM

Listed below is a step-by-step installation guide for ArcGIS Diagrammer.

Start the Microsoft Windows Explorer application. Navigate to the folder containing the zip file downloaded from the ArcScripts website. Extract ESRI.ArcGIS.Diagrammer.Setup.2007xxxx.msi from the Zip file and double click on ESRI.ArcGIS.Diagrammer.Setup.2007xxxx.msi to start the installer. When the installer will first display a splash screen. Press Next >

ArcGIS Diagram	mer
Version 1.0 Beta	
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	GIS by ESRI
copyright⊚ 2007 ESRI. All Rights Reserved. This prog I.S. and International copyright laws as described in th	ram is protected by e about box.

The next dialog will display a welcome message. Press Next >

Welcome to the ArcGIS Diagrammer S	atun Minord
The installer will guide you through the steps required to install Arc	:GIS Diagrammer on your
WARNING: This computer program is protected by copyright law Unauthorized duplication or distribution of this program, or any por or criminal penalties, and will be prosecuted to the maximum exter	rtion of it, may result in severe civil

The next dialog displays a detailed license agreement. Read through the agreement, if you agree with the statement click **I Agree** and then click **Next >**.

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ArcGIS Diagrammer		
icense Agreemen	t	
lease take a moment to read t gree", then "Next". Otherwise LICENSE AGREEMENT		the terms below, click "I
Rights-This is a (Agreement) and p ESRI and its lice collectively refe retains exclusive ownership of the	mership and Grant of license agreement oot an agreement for sald ensor(s) (hereinafter irred to as "Author") > rights, title, and copy of the ArcGIS = code (hereinafter	
⊙ I Do Not Agree	O I Agree	

Following the license agreement, a dialog will display a prompt with the installation folder, by default his is: C:\Program Files\ArcGIS Diagrammer

If you prefer to install the application on another drive (or folder) then enter a new installation folder or click the **Browse** button to navigate to a folder. The **Disk Cost...** button will display the amount of space required to install this application. Click **Next >** to continue to the next dialog,

🖗 ArcGIS Diagrammer	
Select Installation Folder	
The installer will install ArcGIS Diagrammer to the following fold To install in this folder, click "Next". To install to a different fold Eolder:	ler, enter it below or click "Browse".
C:\Program Files\ArcGIS Diagrammer\	Browse Disk Cost
Cancel	<back next=""></back>

Finally, the installation wizard will display a confirmation message prior to commencing the installation. Click **Next >** to start the installation.

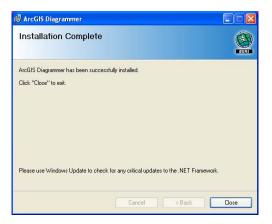
🖶 ArcGIS Diagrammer			
Confirm Installation			
The installer is ready to install ArcGIS Dia	grammer on your o	computer.	
Click "Next" to start the installation.			
	Cancel	K Back	Next >

During the installation process the installation wizard will display a progress bar. At anytime the installation process can be cancelled by clicking the **Cancel** button however this is strongly not recommended. If you would like to cancel the installation we recommend that you first let the install complete and then follow the uninstall procedure detailed in the following section.

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i ArcGIS Diagrammer	
Installing ArcGIS Diagrammer	
ArcGIS Diagrammer is being installed.	
Please wait	
Cancel	Back Next >

On successful completion of the install this final dialog will appear. Click **Close** to dismiss dialog.



HOW TO UNINSTALL

UNINSTALLING ARCGIS DIAGRAMMER

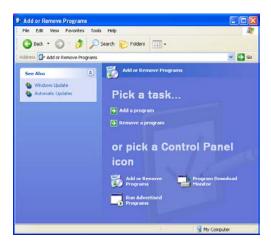
Diagrammer can be uninstalled using the Add or Remove Programs dialog available from the Windows Control Panel. Launch the Windows Control Panel. Click **Start > Control Panel** as illustrated below.



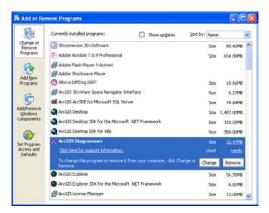
Start the Add or Remove Programs dialog. Click the Add or Remove Programs item.



When the following dialog appears click **Remove a program**.



From the Add or Remove Program dialog select ArcGIS Diagrammer as illustrated below.



Click **Remove**. A dialog box will appear confirming that you want to remove ArcGIS Diagrammer. Click **Yes**.

Add or I	lemove Programs	
?	Are you sure you want to remove ArcGIS Diagrammer from your computer?	2
	Yes No	

The uninstall process will take just a few seconds, during which the following progress dialog will be visible.

ArcGIS Diagrammer	
19	
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	Cancel

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INSTALLATION REQUIREMENTS

OPERATING SYSTEM

ArcGIS Diagrammer supports the same platform as ArcGIS Desktop 9.2, this includes the following:

- Microsoft Windows 2000 SP3 (or later)
- Microsoft Windows 2003 Server SP1 or SP2
- Microsoft Windows 2003 Server Terminal Services SP1 (with limitations)
- Microsoft Windows XP Home Edition SP1 or SP2 (with limitations)
- Microsoft Windows XP Professional Edition SP1 or SP2 (with <u>limitations</u>)
- Microsoft Windows XP Professional Edition 64-bit (with <u>limitations</u>)
- Microsoft Windows Vista 32-bit (with limitations)
- Microsoft Windows Vista 64-bit (with limitations & limitations)

MICROSOFT .NET FRAMEWORK

ArcGIS Diagrammer requires Microsoft .Net Framework version 2.0. The .Net framework can be installed from <u>here</u>.

ESRI SOFTWARE

ArcGIS Diagrammer requires ArcGIS Desktop 9.2.

Please ensure that you have the latest service pack installed. For a list of the latest services packs please click <u>here</u>.

LICENSING

To read this user guide you must have already installed ArcGIS Diagrammer and accepted the license agreement presented in the setup program. A copy accepted license agreement is located within the "license" subfolder of the installation folder. ArcGIS Diagrammer has a runtime dependency of either ArcGIS Engine or ArcGIS Desktop. The Engine (or Desktop) product must installed and licensed.

ArcGIS Diagrammer uses the following third party components.

- ERM Diagram 4.1 Crainiate Software <u>http://www.crainiate.net/products/erm4/default.htm</u>
 SandDock
- 2) SandDock Divelements http://www.divil.co.uk/net/controls/sanddock/
- 3) SandBar Divelements <u>http://www.divil.co.uk/net/controls/sandbar/</u>

These components can be used indirectly through ArcGIS Diagrammer without any cost to you as an end user. However you are legally compelled to purchase a developer license(s) if you reference these components directly. This includes modifications to the core ArcGIS Diagrammer assemblies. Please contact Crainiate Software or Divelements for more information on licensing.

STORAGE REQUIREMENT

The installation size of ArcGIS Diagrammer is approximately 10MB.

SOURCE CODE

The source code for ArcGIS Diagrammer is located in the "Source" sub-folder in the installation folder.

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POST INSTALLATION REQUIREMENTS

ESRI .NET ASSEMBLIES

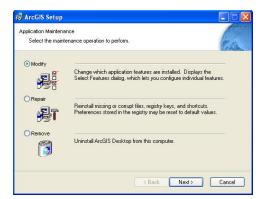
ArcGIS Diagrammer requires the ESRI .Net assemblies to be installed in the Global Assembly Cache (or GAC). If you installed the Microsoft .Net Framework 2.0 prior to installing ArcGIS 9.2 then the ESRI assemblies will have been automatically installed in the GAC.

If the .Net Framework was installed after ArcGIS then you must following the steps below to install the ESRI assemblies into the GAC. You may also use the following the steps to verify the installation of the ESRI assemblies.

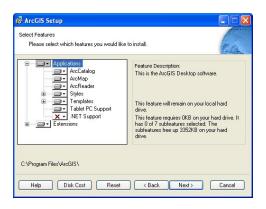
Display the Add or Remove Programs dialog from the Windows Control Panel (see <u>How to Uninstall</u> above for details), select ArcGIS Desktop from the list of installed programs



Click the **Change** button to launch the installer. At this point you may be asked for the source media or access to a network folder that was used to install ArcGIS Desktop.



Select **Modify** and then click **Next >**. The following dialog will appear listing all the currently installed components of ArcGIS 9.



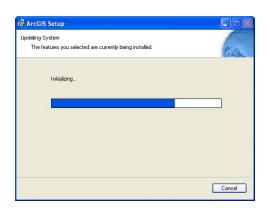
Click on .NET Support and select Will be installed on local hard drive.

뤻 ArcGIS Setup	
Select Features Please select which features you would like	to install.
Applications ArcCatalog ArcMap ArcMap ArcReader Styles Compares Templates Table PC Support	Feature Description Select this feature to install the ArcGIS .NET primary intergo samethiles into the global assembly cache. These are required to develop and use ArcGIS. NET customizations. This feature will be completely removed. This feature frees up 3352K8 on your hard
Will be installed on local h	alled on local hard drive.
Help Disk Cost Reset	Cancel

Click Next >



At the confirmation prompt click **Next >** again. As the new files are installed the following progress dialog will appear. If necessary, the installation can be cancelled by clicking the **Cancel** button, but this is strongly not recommended.



When the installation is complete the following dialog is displayed.

记 ArcGIS Setup	
-C-	ArcGIS Desktop has been successfully installed.
1 to	Click Finish to exit this installation.
	KBack Einish Cancel

Finally, click **Finish** to dismiss the dialog.

GETTING STARTED

INTRODUCTION

This chapter will step through two exercises. The first exercise will use ArcGIS Diagrammer (AD) to design a simple geodatabase. The second exercise will start by analyzing an existing the schema of an existing geodatabase, make a few modifications and then load the edited schema to a new geodatabase.

Ultimately the goal of these exercises is to demonstrate AD's usefulness and ease of use.

EXERCISE ONE: DESIGNING A GEODATABASE

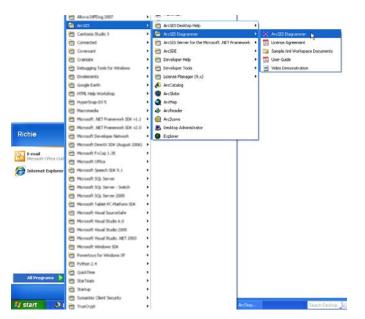
Prior to AD there were two ways of authoring geodatabase schema, designers could use ArcCatalog or third party CASE tools like IBM's Rational Rose or Microsoft's Visio.

ArcCatalog is a very focused application for schema creation. But is, of course, non-graphical making a design collaboration and validation difficult. For complex designs, schema creation with ArcCatalog would be very time consuming.

CASE tools allow designers to create industry standard UML diagrams but had performance issues with complex designs. Additionally, some geodatabase objects like topology datasets and annotation feature classes were not supported.

In this exercise you will discover a third method of schema creation.

Let's commence this exercise by starting AD from the windows start menu. On computer with Windows XP click **Start > All Programs > ArcGIS > ArcGIS Diagrammer > ArcGIS Diagrammer** as shown below.



AD will start without any diagrams loaded. To create a new empty diagram click File > New.

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	10	Print Pre	view		_	
	-	Print	Ctrl+P			
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A new tab will be added to the AD application with the name Untitled, this is the default name for new diagrams.

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Annotation				Properties			×
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2 Polygon				Width	1000		
Polyline				E Schema Mode	10000		£
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In the Palette window scroll down until you see the Feature Dataset item. As you place you cursor over this and other items a brief description will appears in a balloon tooltip.

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		common
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Datasets geographic		
Datasets geographic		

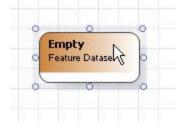
Drag the Feature Dataset item from the palette and drop it into the diagram.

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◎ Feature Dataset Geometric Network			 77723	Ļ	Ľ	Ì. ™±		

The drag and drop operation added a new feature dataset called *Empty* to the diagram. By default, datasets added from the palette will have a WGS84 spatial reference.

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To change the name of the feature dataset select it by clicking it with the left mouse button.



In the Properties window highlight the text Empty next to the (Name) properties in the Dataset category.

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	Opacity	100	
Ξ	Dataset		
	(Name)	Empty	
	CanVersion	False	
	ChildrenExpanded	True	
	DatasetType	esriDTFeatureDataset	
	DSID	-1	~
	Name) ataset Name		

Type World and then press Enter to update the feature dataset.

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Scroll up the list of geodatabase objects in the Palette window and locate the Polygon item under the FeatureClasses category.

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Drag and drop the Polygon item into the diagram.

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Similarly add a Raster Dataset and Rater Band to the diagram as shown below.

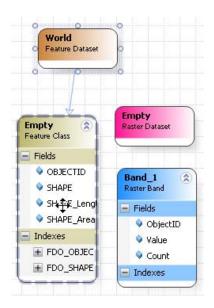
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Network	- Fields			DSID	-1	-
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Next we need to indicate some geodatabase structure. Namely, the feature class needs to associated with the feature dataset and the raster band to the raster dataset. To associate objects AD must to switched to *Link Mode*.

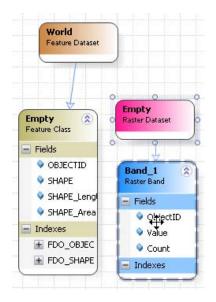
Click Tools > Link Mode.



To link the feature class to the feature dataset start by dragging a link from the center of the feature dataset to the center of the feature class.



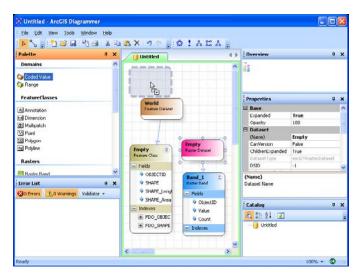
Likewise, link the raster band to the raster dataset by dragging a link from the center of the raster dataset to the center of the raster band.



Before continuing let's restoring the normal interaction mode by clicking **Tools > Normal Mode**.

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Palette	🍾 Link Mode
	🧏 Schema Report
🙆 Multipatch ⊡ Point	D Data Report
🖾 Polygon	Validate Ctrl+Q
🛨 Polyline	Doptions
Rasters	

Returning to the Palette, drag and drop a coded value domain to the diagram.



In a previous step you renamed the feature dataset from *Empty* to *World*. This time rename the newly added domain to *Language*. Start by selecting the domain by click it with the left mouse button. In the property window change the (*Name*) from *Empty* to **Language**.

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Polyline		Empty 2	Rester Dataset		FieldType	esriFieldTypeStrin	-	
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We are going to use this coded value domain to host a list of language names and codes. New coded value domains added from the palette window have a sample coded value. Let's start by modify the sample coded value and then move on to added additional coded values for other languages.

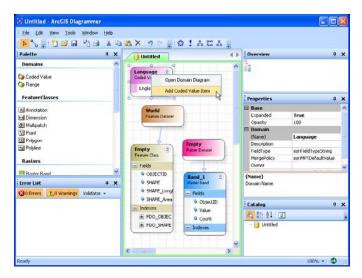
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Select the first coded value item in Language domain.

In the properties window set code to EN and name to English.

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To add other coded value items right click on the domain and select **Add Coded Value Item**. Repeat this so that there are two new blank coded value items.

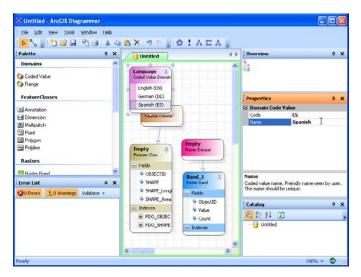


Select the second coded value item in the Language domain.

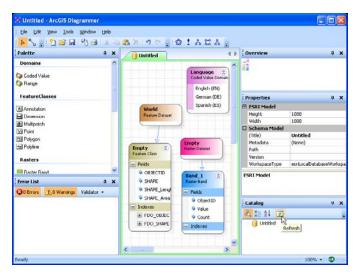
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Set the code and name for the second coded value item to **DE** and **German** respectively. Likewise, assign **ES/Spanish** to the third and last coded value item.



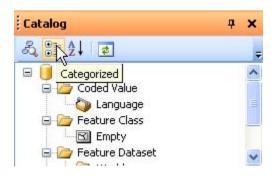
The easiest way to browse the objects in your diagram is to use the Catalog Window. If the catalog window is not visible then click **View > Catalog**. For performance considerations the catalog is not automatically updated when objects are removed, added, linked or unlinked. In the catalog window click the **Refresh** button as shown below.



The catalog window has three view types. The first and default view is similar to the tree structure displayed in ArcCatalog. However unlike ArcCatalog, this view lists domains and other geodatabase object that are not normal shown like subtypes.



Click the **Categorized view** button. This button groups all geodatabase objects based on type. This view allow you to quick answer questions like "Does the geodatabase have a topology dataset?" or "How many geometric networks are there?".



Lastly click the **Alphabetical view** button. This view arranges all geodatabase objects in an alphabetical order irrespective of the geodatabase hierarchy. This view allows you to efficiently locate objects that may be difficult to locate in the catalog view, for example, "Where is the subtype called 'residential'?".



Hint: If the alphabetical view contains hundreds or thousands of objects scrolling may be cumbersome. To auickly locate an object by name, type some or all of the object's name into the window. This will automatically scroll the view to the named object.

Right clicking on any geodatabase object in any view will display a context menu with the items *Scroll* and *Flash*. Selecting scroll will cause the diagram to pan to the location of the selected object. Scroll will not affect the diagram zoom scale. Flash will cause the object in the diagram to flash yellow three times. To illustrate this, right click on the raster band called *Band_1* and select **Flash**.

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Below is a screenshot demonstrating the flashing effect that you will see after selecting Flash.

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So far you have added a domain, feature dataset, feature class, raster dataset, raster band and made some associations. Before continuing let's validate the diagram. Validate is the process of scanning the diagram for errors and inconsistencies.

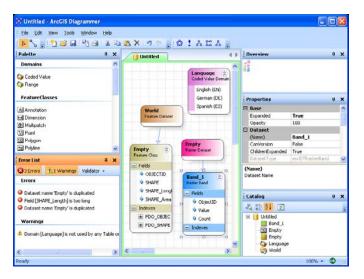
Click Tools > Validate.

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If the Error List window is currently not display then click **View > Error List**. Please ensure that the Errors and Warnings buttons on the toolbar are depressed. Depressed buttons will be colored orange as pictured below.

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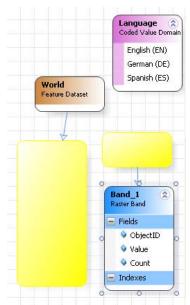
You should see three errors and one warning displayed in the error list window. Over the next few pages we are going to locate and fix these errors.



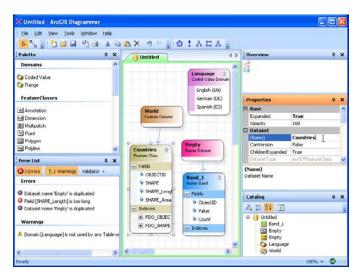
Of the three errors, two have the description "Dataset name 'Empty' is duplicated". Obviously there is a name conflict, let's start by locating the offending objects. Select the two errors. To select more than one error use the CONTROL key. Right click over one of the selected errors and click **Flash**.

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In the diagram you will see both the feature class and the raster dataset flash yellow. One of these objects must be renamed to avoid the naming conflict.



Select the feature class called Empty and change its (Name) to Countries.



Similarly, change the (Name) of the raster dataset from Empty to Temperature.

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Refresh the list of errors by clicking Tools > Validate. Now, you only have one error and one warning. The error description is "Field [SHAPE_Length] is too long". To find out what table or feature class the field belongs to, right click on the error and click **Select**.

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The Countries feature class is selected in the diagram.

To check table and field names the validate command uses a database specific validator. In this exercise you will be ultimately applying the schema generated from this diagram to file geodatabase. So, let's select a file geodatabase validator and re-validate the diagram.

Click the validator dropdown button on the error list window toolbar, select **file geodatabase**.

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Revalidate the diagram by clicking **Tools > Validate**.

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Now, we only have a single warning. All table and field names are valid for file geodatabases.

The warning description explains that the domain *Language* is not used. This is classified as a warning because it will not cause an error in the target geodatabase. For this reason, warnings can be ignored.

In this case, let's create new field in the feature class Countries and assign the domain Languages to it. To create a new field on Countries, right click on the feature class and select **Add Field**.

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Select the newly added field.

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In the property window update the following properties.

Property	Value
(Name)	SpokenLanguage
AliasName	Spoken Language
DefaultValue	EN
Domain	Language
FieldType	esriFieldTypeString
Length	2

Notice that both the Domain and FieldType properties have dropdown menus. This helps eliminate typographical errors.

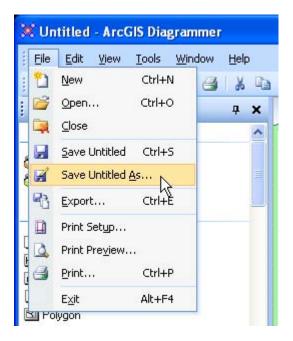
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Once again, click Tools > Validate to verify that you have eliminated all errors and warnings.

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With the three errors and warnings removed we can move on to creating an xml workspace document from this diagram.

Click File > Save Untitled As...

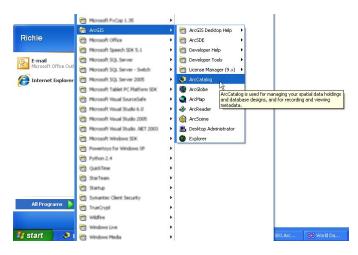


When the save as dialog appears, navigator to the **C:\Temp** folder and enter **World Data Model** as the output file name. Click **Save**.

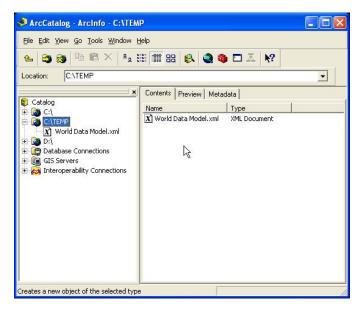
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Xml workspace documents can be loaded into new or existing geodatabase using ArcCatalog. In this exercise we will load the document into a new file geodatabase.

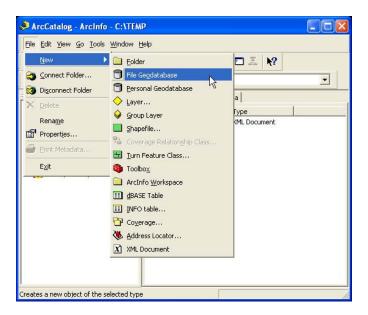
Click Start > All Programs > ArcGIS > ArcCatalog to start ArcCatalog.



In ArcCatalog, navigate to the C:\Temp folder as shown below. You will see the Xml file created in the previous step.



Create a new file geodatabase by clicking File > New > File Geodatabase.



Select the new file geodatabase in the ArcCatalog table of contents. Right click and select **Import > XML** Workspace Document.

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	Export	•	Eeature Class (multiple)	
	Compress File Geo		Table (single)	
	Uncompress File G		<u>T</u> able (multiple) Raster Datasets	
	Compact Database	;	Raster Datasets (mosaic)	
	Search		XML Workspace Document	
	Publish to ArcGIS S			
	Properties			
Import data from	XML file into geodatabas	ie		//

Xml Workspace Documents can contain schema, data or both. When the Import Xml Workspace Document window appears click **Schema Only** to indicate that no data will be imported.

Enter the full file name of the Xml Workspace Document created by AD, for example, C:\Temp\World Data Model.xml.

Click Next >.

	e Document		?
This wizard lets you impo	rt data and schema from an XML to geodatabase	L.	
Importing data to:	C:\TEMP\New File Geodatabase.gdb		
What do you want to imp	iort:		
C Data			
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	to import:		
Specify the XML source C:\TEMP\World Data M		6	
Specify the XML source I		2	
Specify the XML source I		2	
Specify the XML source I			_

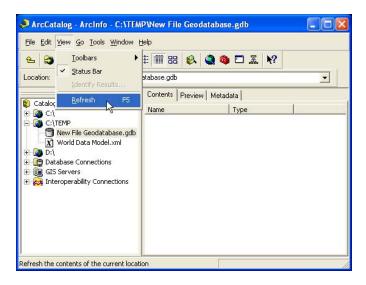
The next dialog will summarize the datasets and domains in the xml workspace document. Click **Finish** to start the schema loading process.

Feature dataset World World Feature class Countries Countries DEFAULTS Raster Dataset Temperature DEFAULTS	
Raster Dataset Temperature DEFAULTS	
	-
CV domain Language Language	
	~

As the dataset and domains are loaded the following progress dialog will appear.

XML Import Works	space Schema
	Importing XML Schema
Importing XML Sc Total Progress:	hema: Temperature (0 objects)
	Cancel

When the progress dialog disappears click **View > Refresh** in ArcCatalog to refresh the contents of the file geodatabase.



In the ArcCatalog, examine the geodatabase structure. Confirm that the Countries feature class was created in the World feature dataset.

ArcCatalog - ArcInfo - C:\TEM	PWew File Geodate	abase.gdb	
Eile Edit <u>V</u> iew <u>G</u> o <u>T</u> ools <u>W</u> indow E	ielp		
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X	Contents Preview	Metadata	
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E C:\ E C:\TEMP	Bworld	File Geodatabas	
Mew File Geodatabase.gdb World Countries Temperature World Data Model.xml D1 D1 D3tabase Connections G G5 Servers Interoperability Connections	IIII Temperature	File Geodatabas	
Displays the properties of the selected ite	m	2	11

Right click on the Countries feature class and select **Properties**. Click the **Fields** tab and **SpokenLanguage** field list. Verify that the alias, default value, domain and length are correct and identical to the properties assigned in AD.

General XY Coordin Fields Indexes	ate System Tolerand Subtypes Rel	a l'averenzare l'	Domaii entations
Fie	ld Name	Data Type	^
OBJECTID		Object ID	
SHAPE		Geometry	
SpokenLanguage		Text	
SHAPE_Length		Double	
SHAPE_Area		Double	
ick any field to see its proj Field Properties	perties.		
Alias	Spoken Language		
Allow NULL values	Yes		
Default Value	EN		
Domain	Language		
Length	2		
		Imp	ort,,,
	e name into an empty row in oose the data type, then eo		lick in

Click **Cancel** to dismiss the Feature Class Properties window.

Returning to the AD application, click **File > Close**.

Ele	Edit View Tools Window t	elp					_
1	New Ctrl+N Open Ctrl+O	_	ax ne a	! A 🗆 A 🖕			
4		×	World Data Model	4.4	Overview	9	×
-	Close D	^			i i		
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10	Buik Ctrl+P				AliasName	Spoken Language	
	Ext Alt+F4				DefaultValue	EN	
La Po				the second s	Domain	Language	
Po		1.5		Temperature	DomainFixed	False	
- 10	syane		Countries (2)	Raster Dataset	Editable	True	
Error	List	x			FieldType	esriFieldTypeString	9
-		-	- Fields		GeometryDef	(None)	
300	rrors 1,0 Warnings Validator +		OBJECTID	Band 1	IsNullable	True	
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When prompted to close the current diagram without saving click No.

ArcGIS I	Diagrammer			
?	Do you want to) close the curre	ent diagram withou	t saving?
	Yes	No	Cancel	

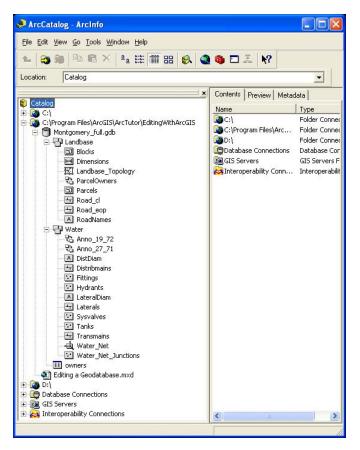
Congratulations. You have just designed a geodatabase using ArcGIS Diagrammer.

EXERCISE TWO: MODIFYING THE SCHEMA OF AN EXISTING GEODATABASE

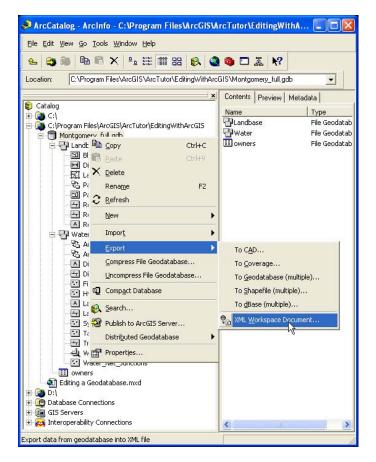
In the previous exercise you started with a blank diagram and authored new geodatabase schema by adding items from the palette. In this exercise you will take the schema from an existing geodatabase, modify it in AD and then apply it to a new geodatabase.

This exercise assumes you have ArcTutor installed. The screenshots and instructions below are based on an ArcTutor installation folder of C:\Program Files\ArcGIS\ArcTutor, but this may be different on your computer.

In ArcCatalog navigate to the EditingWithArcGIS sub-folder in the ArcTutor installation folder.



Right click on the Montgomery_full.gdb geodatabase and select Export > XML Workspace Document.



When the Export XML Workspace Document window appears check **Schema Only** so that no data is exported. In the output XML file box, enter **C:\Temp\Montgomery.xml**. By default, metadata (if any) will be included in the xml workspace document.

Click Next to proceed to the next step.

Exporting data from:	C:\Program Files\AreGIS\AreTuto\Edition\WithAreGIS\Montoemeru_full.adb
What do you want to export:	
○ Data Schema Only	
How do you want the geome	try to be represented in the XML document:
 Binary (smaller) Normalized (larger) 	
Specify the output XML file:	
C:\TEMP\Montgomery.xml	E
	6

The next dialog will summarize the geodatabase objects that will be exported to the XML file. By default, all geodatabase objects are selected for export. Click **Finish** to commence the export.

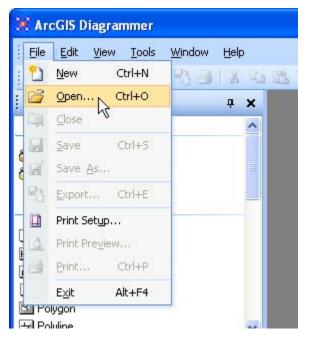
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ব	Landbase	Feature Dataset	
V	Bred on		1
	Road_eop	Feature Class	
V	Blocks	Feature Class	
N	Road_cl	Feature Class	
V	Parcels	Feature Class	
V	RoadNames	Feature Class	
V	Dimensions	Feature Class	
ম	ParcelOwners	Relationship Class	
	Water	Feature Dataset	-
V	Distribmains	Feature Class	
V	Fittings	Feature Class	
V	Hvdrants	Feature Class	
			>

During the export operation the following progress dialog will appear.

XML Export Works	pace Schema
Ĵ,	Exporting Workspace Definition
Exporting Workspa Total Progress:	ace Definition: (0 objects)
	Cancel

When the export operation has completed the progress dialog will disappear. Returning to AD, select **File > Open** from the main menu.



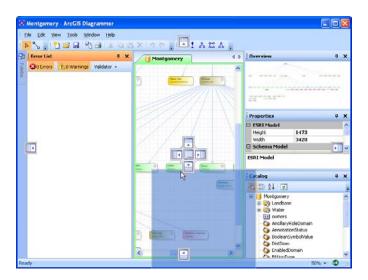
An open file dialog will appear. Navigate to the C:\Temp folder and select the export XML workspace document Montgomery.xml. Click OK to load XML workspace document.

# ArcGIS Diagram	ner						
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	My Computer	File name: Files of type:	Montgomery.xml All Diagrammer Docum	er/s (".xmi: ".diagram)	× (× (Open Cancel Help	
Ready							0

When AD has finished loading the XML workspace document a new tab will added to application. The intial title on the tab is taken from the filename of the source XML workspace document.

AD features a docking environment very similar to Microsoft Visual Studio 2005. Take some time to famialize yourself. First click the pushpin icon on the Palette window, this collapses the window to the side of the application. Next, click and drag the Error List window, as you commerce dragging you will see docking prompts appear around the application as shown below.

The docking prompts are drop targets for dragged windows. In the center of the application there are five docking prompts, drop the Error List window on the bottom prompt.



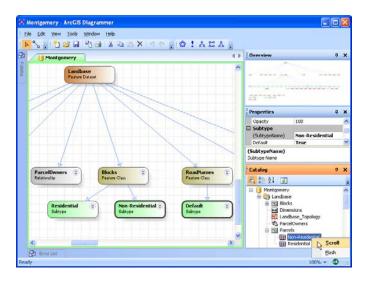
The Error List window will not be used in this exercise, for now, collapse the window to the bottom of the application by clicking the pushpin icon in the title bar.

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B Montgomery	4 b Overview 0	×
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Ready	50% • 🖤	-12

Diagrams are often much larger than your screen. AD provides three ways to navigate diagrams, the first and most obvious is to use the scroll bars on the right and bottom of the diagram. The second way, shown below, is to click in the Overview window. If the Overview window is not displayed then click **View > Overview**. Clicking in the Overview window will center the diagram around the location without changing the diagram scale.

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Landbase Ferbre Distant	
	Properties 0
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	Height 1473 Width 3420
	Width 3420
	ESRI Model
ParcelOwners (2) Blocks (2)	RoadNames 8 Catalog 9
Relationship Feature Class	Feature Class
Residential () Satype	Default Skings
<	EnabledDomain

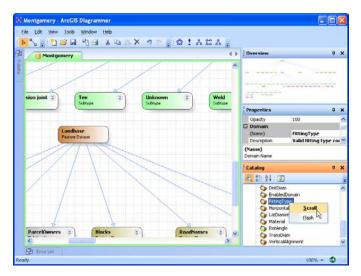
When the diagrams are large, objects in the Overview widnow may be difficult to recognize. The third and last way to navigate diagrams is to use the Catalog window. If the Catalog window is not displayed then click **View > Catalog**. This is easily the most efficient way to navigate your diagram. Let's locate Parcel's Non-Residential subtype. In the Catalog window, expand the **Landbase** feature dataset and **Parcels** feature class. Right click on **Non-Residential** and select **Scroll**.



The diagram will center around the Non-Residential subtype belonging to the Parcels feature class. Notice that it is selected in the diagram and its properties are displayed in the Properties window.

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	Parcels Feature Cla	۲	Road_cl Feature Class	Dimen		Default	True		
	Feature Cla		FERGING CLASS		1261.	(SubtypeName) Subtype Name			
	4	0	× 0 0			Catalog		ņ	
	Residential		ton-Residential			& 11 21 E			
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e	and a state of the						Non-Residential Residential		

Next, let's locate the domain called *FittingType*. In the Catalog window, right click on **FittingType** and select **Scroll**.



Until now we have been interacting with the main diagram. However AD allow the creation of additional sub-diagrams for analyzing or modifying complex objects. Domains, relationships, geometric networks and topology datasets all have sub-diagrams.

Right click on the FittingType domain and select Open Domain Diagram.

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Montgomery			^,			
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ers 🛞	Boole an Symbol V Coded Value Domain		De Open Domain Diagran	(Name) n nain Name		
			Add Colled Value Iter	m italog	1	ģ
				🔾 DistDi		

A new tab will be added to AD with the name of the selected domain in the title. A domain diagram is not editable, its primary use is to show what tables and/or feature classes are using the domain, if any.

By default, the diagram scale is 100% or actual size. Because the domain diagram is quite large let's change the diagram scale to 50% so that more is visible. In the lower right hand corner of the application, click the left mouse button on the **scale dropdown menu** and select **50%**.

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	ontgomery Ca FittingType X	4.9	Overview	0.5
			Properties	a :
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			ESRI Model	
			Catalog	ņ
			2 2 21 21	
< Q1 Erro			DistDiam DistDiam EnabledDomain FittingType Historn/Allignme	Enl

Domain diagrams only displays objects fields and subtypes fields that directly reference the selected domain. By default, AD uses a hierarchical layouts for new diagrams. Click the **Circular button** on the Layout toolbar.

S. 10 ≥ L	30 X 3 8 3	AZA: 9 . PCX		
Montgomery	FittingType X	Circular 4	Dverview	0 5
			Properties	a x
			E ESRI Model	
			Height 633 With 2440	
			1000	
			ESRI Model	
-			: Catalog	0 ×
50.740	Sa THE SA THE	Dis THE DIS THE DIS THE	2 11 21 2	
6			DisDiam DisDiam DisDiam DisDiam DistringType Horizontaklignment LatDiameter Material RotAngle TrestDiam VerticalAlignment	

The shapes in the domain diagram will be displayed in a circular pattern as shown below. Feel free to experiment with the other layouts like Forced Direct and Orthogonal.

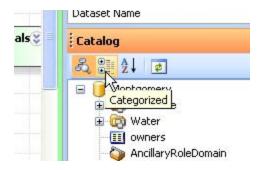
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FittingType ×		4.1	Overview	ů.	,
	and danks bu		**********		
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Alter .			E ESRE Model		
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		//	Catalog	ą	×
		1	2 21 21 2		
	THE		DistDiam DistDiam DistDiam EnabledDomain FittingType HorizontalAlignment LatDiameter		1
				Transition Transition	Control of the second sec

Close the domain diagram for *FittingType* by click the close button on the tab.

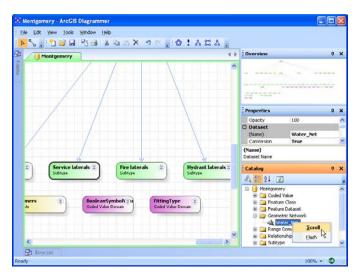
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Eile	<u>E</u> dit	<u>V</u> iew	<u>T</u> ools	<u>W</u> indow	Help	
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8	间 Mo	ntgom	ery	🏷 Fitti	ngType	
Palette						Close THE

We have now returned to the main diagram. Next we want to make some changes to the Water_Net geometric network. It may take some time to locate the geometric network in the diagram so let's use the catalog window. Click the **Categorized** button in the Catalog window.

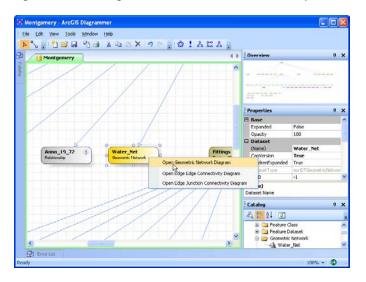
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The categorized view is great for finding geodatabase objects if you are unsure of the exact name or its location. Expand the Geometric Network node, we can see that this xml workspace document only has one geometric network called *Water_Net*. Right click on the geometric network and select **Scroll**. This will move the horizontal and vertical scrollbars so that the geometric network is located in the center of the application.



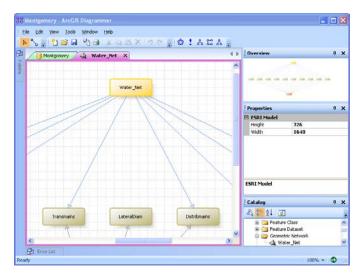
Right click on the geometric network and select Open Geometric Network Diagram.



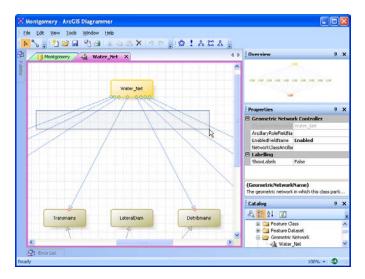
A new geometric network diagram will be added to AD. The geometric network is located near the top of the diagram and its parent feature dataset at the bottom. All feature classes that belong to the feature dataset are located in the middle of the diagram. Participating feature classes will have a blue link

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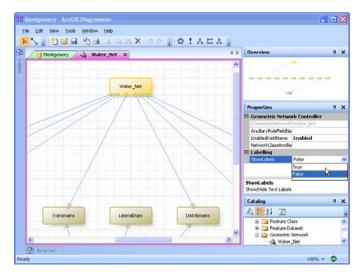
connecting them to the geometric network. In the screenshot below we can see that LaterialDiam does not participate in the geometric network.



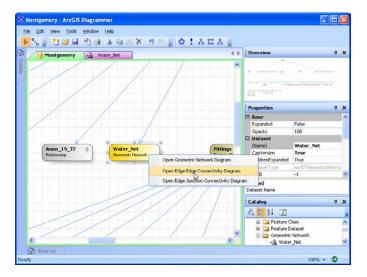
With the left mouse button drag a box over the blue links to select them.



After selecting the links change the ShowLabels property in the property window to True.



The link labels will display the network ancillary role which can be either *Normal* or *Source/Sink*. Click the Montgomery tab to return to the main diagram. Right click on the Water_Net geometric netwok and select **Open Edge Edge Connectivity Diagram**.



The edge edge connectivity diagram allows the visualization and modification of edge edge connectivity rules. The *from* and *to* edge feature classes are positioned at the top and bottom of the diagram respectively. Each blue link represents an edge edge connectivity rule. Locate the rule that connects the *Distmains* feature class to the *Hydrant Laterals* subtype. Select the link (or rule) with your mouse, in the properties window change the **ShowLabels** property to **True**.

		X O C , Q ! & C	4.1	Overview	ø
			*		
	Transmains	Distribunaires		· Properties	
JARWATI S	iervice laterals	Hydrant, laterals	Uniza	3unctionSubtypes (Collection ToClassED Laterals ToEdueSubtypeCod Hydrant Rule (Cotegory) -1 (Cubeld) 60 HelpString StortLateb False	
Later als				ShowLabels ShowLabels ShowJhide Text Labels	6
				21 21	

The rule label shows a list of valid junctions for this edge edge connectivity rule. There must always be at least one junction for a rule and one of which must be the default.

Now lets add a new edge edge connectivity rule. Click **Tools > Link** mode from the main menu.

Montgomery -	ArcGIS Diagrammer				
Ele Edit Yew	Tools Window Help	5× 9 0 0 1 4 2		1.	
Montgom	S Schema Report D Data Report Validate Orri+Q D Options	Water_Net (FE Rules) ×	41		a x
				Properties	÷Χ
	Service laterals	Filtrops:fag.(beford) Fittrops:fag. Fittrops:fag. Wahar_blat_Anctions Hydront laterols	Unive	Default turntonslate (barre) FromClassitio Destribut FromClassitio Destribut FromClassitio Destribut FromClassition Collection Inclassity Inclassity Category) -1 (Category) -1 (Category) The name secolated with the vali	aterais
				Catalog	9 X
				A 1 21 I	
¢			>	Feature Class Feature Dataset Geometric Network Water_Net	< 1 >
B Error List Ready				100	× • •

In the diagram, click the Distmains with the left mouse button and drag to Service Laterals subtype.

	X 10 . 0 ! & C		Dverview		
Montgomery A Water Jiet	Water_Net (EE Rules) X	4.1	Dverview	<u></u>	, ,
Transmains	o Distribuiains		Properties	100	a >
лоwn Serviş ⊈ µterals	Fittings::Top (Defoult) Fittings::Tee Fittings::Sadde Water_Net_Junctions Hydrant laterals	Univa	Dataset (Name) CanVersion ChildrenExpanded	Distribmains False True	
X//			Dataset Type DSID FullPropsDefault Metadata	12 True (Metadata)	
Laterals			(Name) Dataset Name		
			Catalog	¢	a :
0			Festure C Festure D Geometric Geometric Geometric Geometric	ataset Network	

When you release the left mouse button over Service Lateral a new connectivity rule will be added. Before continuing restore the interactive mode back to normal by clicking **Tools > Normal Mode** from the main menu.

<u>File E</u> dit <u>V</u> iew	Too	ls <u>W</u> indow <u>H</u> elp
A 🛼 💷 😜	4	Normal Mode
Montgom	~	Link Mode
	s	Schema Report
Palette	D	Data Report
	ABC	<u>V</u> alidate Ctrl+Q
	:	Options

Select the new connectivity in the diagram. Change the ShowLabels properties to True.

	Ē	Properties		
		JunctionSubtypes	(Collection)	^
		ToClassID	Laterals	
		ToEdgeSubtypeCode	Service laterals	
	Ξ	Rule		
nkna		(Category)	-1	
		(RuleId)	-1	-
		HelpString		
		ShowLabels	False 💙	Ē
			True N	~
	5	howLabels	False 🔨	
		now/Hide Text Labels		1

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At present the new rule does not have any junctions defined. Click the ellipse button next to the JunctionSubtypes property as shown below.

	Edge Connectivity		1.4
		Sec. 10	
	DefaultJunctionID	(None)	
	DefaultJunctionSubt	(None)	
	FromClassID	Distribmains	
	FromEdgeSubtypeC	(Class)	
	JunctionSubtypes	(Collection)]
	ToClassID	Laterals	5
	ToEdgeSubtypeCod	Service laterals	
Ξ	Rule		~
1.5	이 같은 것은 것은 것은 것은 것을 것 같은 것이 없다.	ubtypes	
	3.	FromClassID FromEdgeSubtypeCo JunctionSubtypes ToClassID ToEdgeSubtypeCod Rule JunctionSubtypes	FromEdgeSubtypeC (Class) JunctionSubtypes (Collection) ToClassID Laterals ToEdgeSubtypeCod Service laterals Rule

The ellipse button will launch a generic collection editor dialog.

InctionSubtype Collection Ed	+	Properties:
Add Remove		

Click the **Add** button to add a new junction to the collection. For the **Dataset Id** property, click the dropdown menu and select **Fittings**.

ESRI ArcGIS.Diagrammer.JunctionSubtype
Detaset Id (None) Subtype Co (None) Fittings Hydrants Sysvalves Tanks Water_Net_Junctions

Set the Subtype Code to Tap.

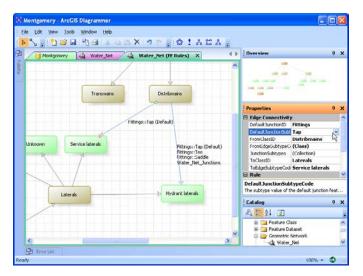
ESRI.ArcGIS.Diagrammer.Junction			hung		
	+	Junction Sub Dataset Id	Fittings		
		Subtype Code	(None)	•	
Add Remove			(None) Bend Cap Coupling Cross Expansion joint Offset Plug Reducer Riser Saddle Sleeve Tap		

Click **OK** to update the junction collection.

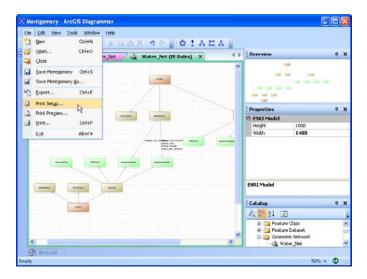
Junction Subty Dataset Id Subtype Code	ype Fittings Tap
040390 0000	TOP

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There are two more properties that need to be updated. Set the **DefaultJunctionId** to **Fittings** and the **DefaultJunctionSubtype** to **Tap**.



To print the contents of the currently selected tab click File > Print. By default, AD uses the default printer and page size. To change either of these click **File > Print Setup**.



In the screenshot below, shows the printer setup dialog for changing printer properties.

	- 16 -	of the same of the same of
Printer Settings		
Landscape	False	
∃ Margins	100, 100, 100, 100	
Printer Name	(Default)	
Printer Paper Size	(Default)	Y
	(Default)	~
	10 x 11 in	
	11 x 15 in	
	A1 (594 x 841 mm)	
	A2 (420 x 594 mm)	20
	A3 (297 x 420 mm)	
	A4 (210 x 297 mm)	
	A5 (148 x 210 mm)	
	B4 (257 x 364 mm)	
	B5 (182 x 257 mm)	
	C5 (162 x 229 mm)	
Printer Paper Size	Custom 1 (210x297mm)	
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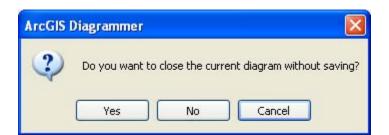
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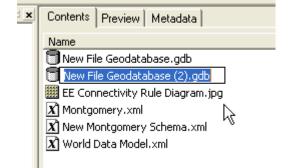
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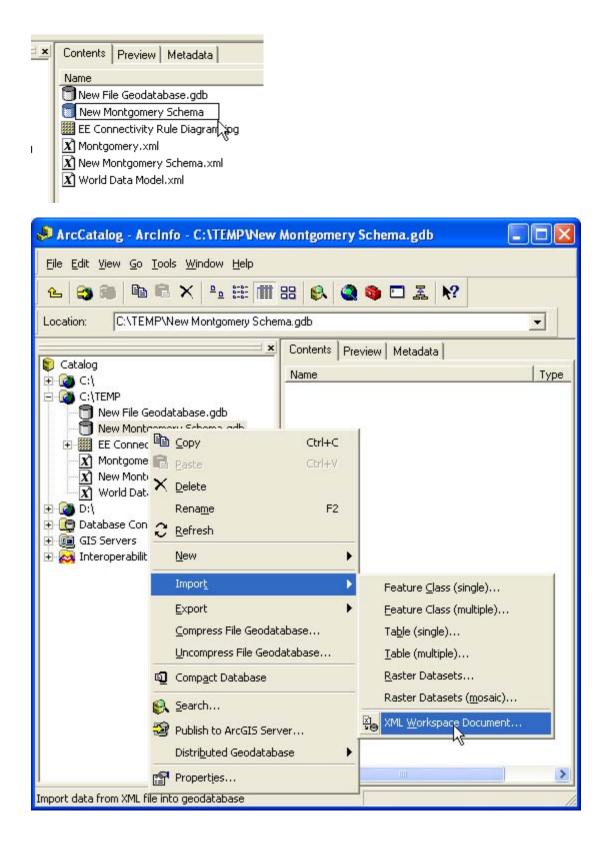


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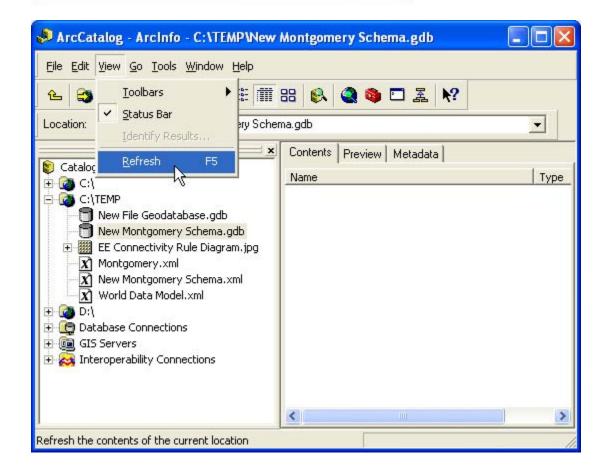




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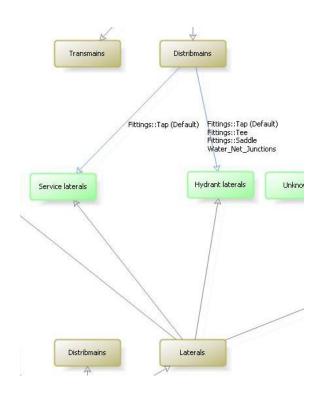
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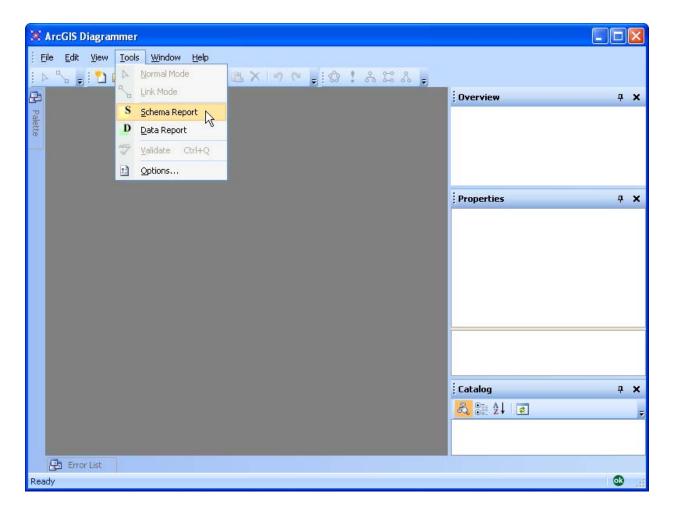


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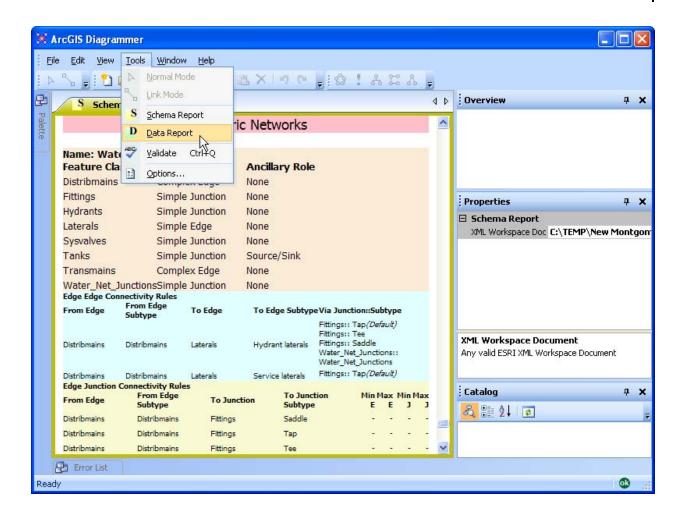
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ARCGIS DIAGRAMMER OPTIONS

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FAQ

WHAT ARE THE LIMITATION?

WHAT IS NOT SUPPORTED BY ARCGIS DIAGRAMMER?

WHY CAN'T I EXPORT OR IMPORT XML WORKSPACE DOCUMENTS IN ARCCATALOG?

You need either a ArcEditor or ArcInfo license.

REFERENCES

Geodatabase XML <u>http://webhelp.esri.com/arcgisdesktop/9.2/index.cfm?id=2016&pid=2009&topicname=Geodatabase_XML</u> ESRI November 9, 2006

XML Schema of the Geodatabase <u>http://downloads.esri.com/support/whitepapers/ao_/XML Schema.pdf</u> ESRI February, 2004

FEEDBACK

ENHANCEMENTS OR BUGS?

Please send your comments and/or bugs to us using the following link. <u>http://groups.google.com/group/arcgis-diagrammer</u>

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