



Hyperlinking

Background:

A **hyperlink** is a tool that allows you to connect features from a map interface to another document (such as an image) or a website.

There are two types of links that can be created. **Dynamic Hyperlinks** and **Field Based Hyperlinks**. With **Dynamic Hyperlinks**, the target document or URL is assigned to a particular feature using the **Add Hyperlink** dialog box. Alternatively with **Field Based Hyperlinks**, the target document or URL is triggered by a particular field in a feature's attribute table.

In most instances you will find that dynamic hyperlinking will be the most sensible method. It is a far simpler function as it does not require any data editing and it will allow you to link your map to a variety of documents or websites by simply pointing and clicking. However, there are certain occasions when field based hyperlinks might be useful. For instance, the "hot link" tables that you created in ArcView 3.x can be readily used for field based hyperlinking in ArcView 9.x. Also, dynamic hyperlinks are only functional in ArcMap; whereas, you can use the table of a field based hyperlink in a variety of applications depending upon your intended use of the data.

In this tutorial you will learn how to create both **Dynamic** and **Field Based Hyperlinks**:

Download the data for the tutorial. If you use the **Self Extracting** format the data will automatically be extracted to a **C:\Hyper** folder on your hard drive, otherwise you must manually **unzip** the data to an appropriate folder.


Creating a Dynamic Hyperlink to a Document

Getting Started:

Start **ArcMap**. In the welcome window select "Start using ArcMap with:" **An Existing Map** and click **OK**. Browse to the **C:\Hyper** or the appropriate folder on your hard drive and select **Nunavut.mxd**. Click **Open**.

Suggestion: To zoom into Nunavut, right click on the Nunavut layer in the table of contents and select **Zoom to Layer** to adjust your view. Remember to use the zoom tools as needed.

Finding the Point:

In this exercise you are going to link to a picture of the town Resolute, Nunavut. There are two equally good methods for finding the point. Option A involves opening the attribute table and Option B uses the **Find**  tool.

Option A:

- 1 a) Right click on the **Nunavut_places** layer in the table of contents and select **Open Attribute Table**. In the attribute table, look for **Resolute** under the **NAME_ENG** column.





2 a) Click on the tab at the far left of the row, so that the entire row is highlighted in blue.

| FID | Shape * | UNIQUE_KEY | NTS50 | LAT | LONG | POP91 | SGC_CODE | CAPITAL | POP_RANG | NAME_ENG | NAME_FR |
|-----|---------|------------|--------|--------|---------|-------|----------|---------|----------|--------------|--------------|
| 21 | Point | LCAME | 086014 | 674936 | 1150536 | 1059 | 6108059 | 0 | 2 | Kugluktuk | Kugluktuk |
| 15 | Point | LASAL | 026100 | 660840 | 654255 | 1135 | 6104009 | 0 | 2 | Pangnirtung | Pangnirtung |
| 7 | Point | LASJF | 057A00 | 683205 | 894930 | 409 | 6108047 | 0 | 1 | Pelly Bay | Pelly Bay |
| 12 | Point | LASXA | 038800 | 724200 | 775900 | 974 | 6104020 | 0 | 2 | Pond Inlet | Pond Inlet |
| 18 | Point | LATUP | 055K00 | 624900 | 920500 | 1706 | 6105017 | 0 | 2 | Rankin Inlet | Rankin Inlet |
| 2 | Point | LAUCM | 046L00 | 663200 | 861500 | 488 | 6105027 | 0 | 1 | Repulse Bay | Repulse Bay |
| 14 | Point | LAUCS | 058F11 | 744145 | 944945 | 171 | 6104022 | 0 | 1 | Resolute | Resolute |
| 6 | Point | LCABD | 057C10 | 693210 | 933115 | 580 | 6108087 | 0 | 2 | Taloyoak | Taloyoak |
| 3 | Point | LAZWJ | 055K00 | 621015 | 923440 | 235 | 6105016 | 0 | 1 | Whale Cove | Whale Cove |

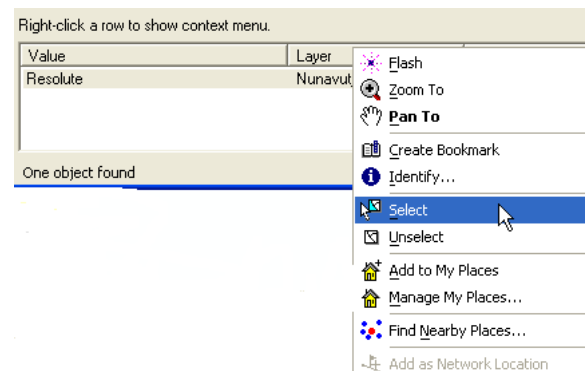
Left Tab

3 a) Close the attribute table and return to the map view; you will notice that the town of **Resolute** is highlighted.

Alternatively, you could use the **Find**  tool.

1 b) Click on the **Find**  tool located on the “Tools” toolbar. In the **Find** dialog box, click on the **Features** tab. Type in **Resolute** in the **Find:** input box and choose **Nunavut_places** for the layers. Click **Find** to execute the search.


2 b) Right click on the feature in the results window and **Select** to highlight it.

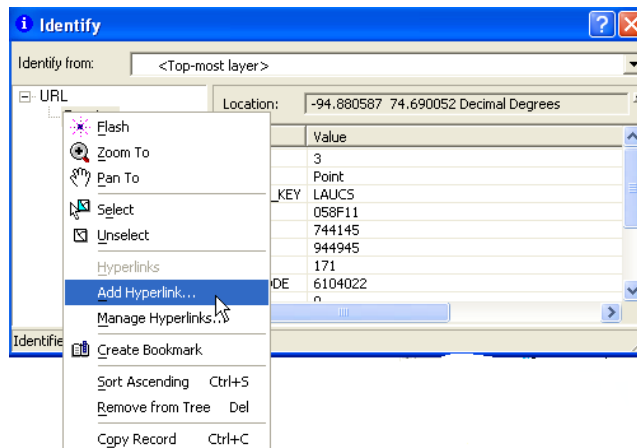


3 b) This will highlight **Resolute** in your map view. Close the *Find* window and return to your map view.




Creating the Hyperlink:

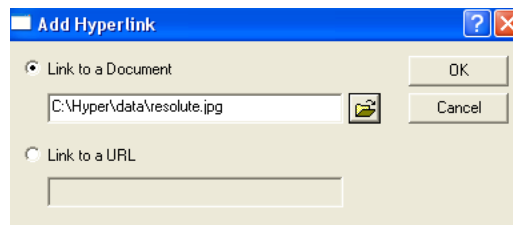
1. Select the **Identify** tool  and click on **Resolute**. This will bring up the **Identify** window. In this window right click on the place name in the left portion of the window and select **Add Hyperlink**.



2. In the **Add Hyperlink** window choose **Link to a Document**.


Note: This option will allow you to link to any document that your computer is configured to open. It could be a text document such as a Microsoft Word or Notepad or it could be something else such as a PowerPoint presentation. For image files, a good image file type is JPEG. These files tend to take up a relatively small amount of space and they can be accessed by a variety of different image processing software.

3. Click on the **browse** button  and navigate to the **Hyper** folder and locate **resolute.jpg** in the **data** folder. Once the image is selected click **Open** and then **OK**.



4. Close the **Identify** window and you have successfully created a **Hyperlink** to an image.

Testing Your Link:

1. From the **Selection** menu choose **Clear Selected Features**.
2. In your map view, click on the **Hyperlink** tool  (the lightning bolt) located on the *toolbar*. To use this tool, simply hover over the point (place) for which you added the link and when the lightning bolt turns black, click the point to activate the link.




If you have problems activating the hyperlink, you may need to change the *selection tolerance*. Go to the **Selection** menu and click **Options**. Change the *Selection tolerance* to 10.

Selection tolerance: pixels

Hint: The point for which you have created a link will have a dark blue dot on top of the point symbol when you activate the Hyperlink tool.

3. This will open the image in your computer's image processing software. When you are finished viewing the image, close your computer's image processing software to return to ArcMap.

Note: Should you wish to attach more than one hyperlink to a single feature right click on the feature in the **Identify** window and choose **Manage Hyperlinks**. Click **Add New** and follow the same steps as before to complete the hyperlink. This time when you select the feature using the **Hyperlink** tool  it will ask you to choose the document that you wish to view. In the **data** folder, another image is available (**Resolute_Bay.jpg**).

4. When you are finished, save your project and close ArcMap. **Congratulations!** You have now successfully completed a **Dynamic Hyperlink** in **ArcMap**.

Creating a Field Based Hyperlink to a Website

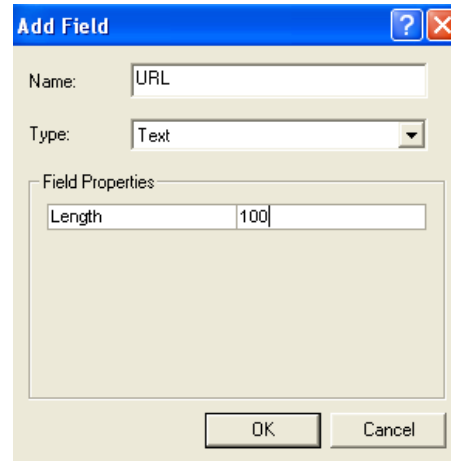
In this segment of the tutorial you will be creating a **Field Based Hyperlink**. You will be using the **URL** layer as the basis for the hyperlinks, which can be found in the **Nunavut.mxd**. This layer is a subset of **Nunavut_places** layer, so some of the points overlap. However, the URL layer is much smaller, so there aren't as many records to populate in the attribute table. It is important to note that in order to create field based hyperlinks you will usually have to edit your data. As a result, your data cannot be read only, since you would not be able to edit it. For this exercise you will be linking various towns in Nunavut to websites that contain pictures and information about the town.

Getting Started:

Start **ArcMap** if it is not already open. In the welcome window select "Start using ArcMap with:" **An Existing Map** and click **OK**. Browse to the **Nunavut** or appropriate folder in your hard drive and select the **Nunavut.mxd**. Click **Open**.

Preparing the Attribute Table:

1. In order to establish a field based hyperlink, you must create a field in your attribute table to support it. Right click on the **URL** layer in your table of contents and select **Open Attribute Table**.
2. In the attribute table, click the **Options** drop down menu and select **Add Field**.
3. In the **Add Field** box, name the field **URL**, change the type to **Text**, and make the length **100**.



Populating the Attribute Table:

1. In order to populate your new field you must start a new edit session. From the **Editor** drop down menu select **Start Editing**. Click **Start Editing** if you receive a message about *Editing in a different coordinate system*.

Note: If the **Editor** toolbar is not visible on your ArcMap interface you may need to activate it. Click on the **Tools** drop down menu and choose **Customize**. In the resulting **Customize** dialog box that appears, click on the **Toolbars** tab and click in the box next to the **Editor** toolbar so that a check mark appears. This will activate the toolbar. **Close** the **Customize** dialog box and continue the exercise.



Note: If you are using other data and the **Start Editing** function is grayed out, your data is read only and you will not be able to edit the table.

2. Click in the first empty record in the URL column and begin typing in the website address that is listed on the next page. Continue this process until all 8 records are populated.



First record in the URL Column:

| NAME_ENG | NAME_FR | URL |
|---------------|---------------|--|
| Coral Harbour | Coral Harbour | http://atlas.nrcan.gc.ca/site/english/learningresources/facts/nunavut_communities/corhar.html/ |
| Arctic Bay | Arctic Bay | |
| Pond Inlet | Pond Inlet | |
| Resolute | Resolute | |
| Iqaluit | Iqaluit | |
| Baker Lake | Baker Lake | |
| Rankin Inlet | Rankin Inlet | |
| Alert | Alert | |

Note: The fully populated table should look similar to the table below. This table contains suggested websites that you may use to populate your table; however, feel free to search for other appropriate websites on your own. As well, please test the websites before entering them into your table to ensure that there aren't any broken links. If any of the links aren't functional replace them with an appropriate website.

| POP_RANG | NAME_ENG | NAME_FR | URL |
|----------|---------------|---------------|--|
| 2 | Coral Harbour | Coral Harbour | http://atlas.nrcan.gc.ca/site/english/learningresources/facts/nunavut_communities/corhar.html/ |
| 2 | Arctic Bay | Arctic Bay | http://atlas.gc.ca/sitefrancais/english/learningresources/facts/nunavut_communities/arcbay.htm |
| 2 | Pond Inlet | Pond Inlet | http://atlas.nrcan.gc.ca/site/english/learningresources/facts/nunavut_communities/pondin.html |
| 1 | Resolute | Resolute | http://atlas.nrcan.gc.ca/site/english/learningresources/facts/nunavut_communities/resbay.html |
| 2 | Iqaluit | Iqaluit | http://www.city.iqaluit.nu.ca/apps/fusebox/index.php?fa=c.splash |
| 2 | Baker Lake | Baker Lake | http://www.bakerlake.org/ |
| 2 | Rankin Inlet | Rankin Inlet | http://atlas.gc.ca/sites/english/learningresources/facts/nunavut_communities/rankin.html |
| 1 | Alert | Alert | http://www.qrc.k12.nf.ca/climatecanada/alert.htm |

Suggested Websites:

Coral Harbour

http://atlas.nrcan.gc.ca/site/english/learningresources/facts/nunavut_communities/corhar.html/

Arctic Bay

http://atlas.gc.ca/sitefrancais/english/learningresources/facts/nunavut_communities/arcbay.html

Pond Inlet

http://atlas.nrcan.gc.ca/site/english/learningresources/facts/nunavut_communities/pondin.html



Resolute

http://atlas.nrcan.gc.ca/site/english/learningresources/facts/nunavut_communities/resbay.html

Iqaluit

<http://www.city.iqaluit.nu.ca/apps/fusebox/index.php?fa=c.splash>

Baker Lake

<http://www.bakerlake.org/>

Rankin Inlet

http://atlas.gc.ca/sites/english/learningresources/facts/nunavut_communities/rankin.html

Alert

<http://www.grc.k12.nf.ca/climatecanada/alert.htm>

- Once you have finished populating the table, click on the **Editor** drop down menu and select **Stop Editing**. When asked if you want to save your edits, click **Yes**.



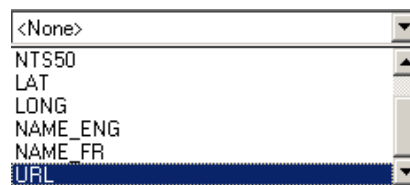
- Close the URL attribute table.

Establishing the Hyperlink:

- Double click on the **URL** layer in the *table of contents* to open the **Layer Properties**. Click on the **Display** tab and click on the **Support Hyperlinks using field:** box in the Hyperlinks section of the dialog box.



- Choose the **URL** field from the drop down menu.



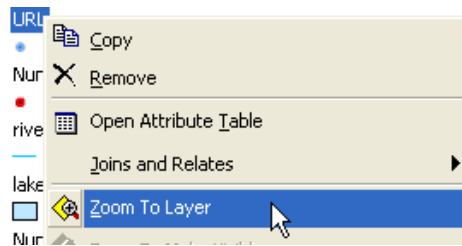


- Finally, make sure that **URL** is selected for the type of hyperlink. Click **OK** once this is complete.

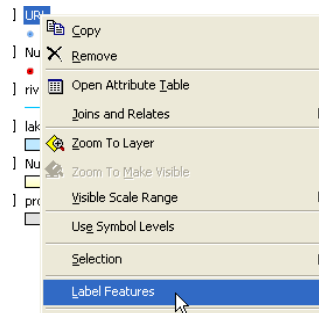


Locating places in Nunavut:

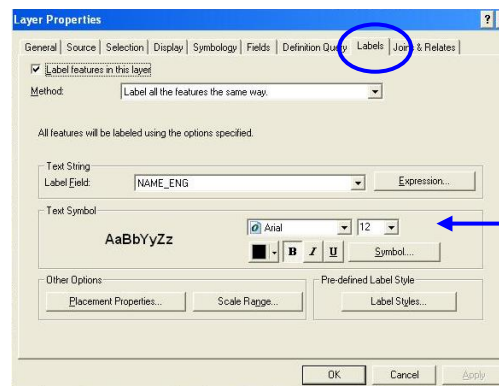
- Right-click on the **URL** layer and select **Zoom To Layer**. Now you should see only Nunavut in the map view.



- To label the places in Nunavut, right-click on the **URL** layer and select **Label Features**.




- To change the labels, double-click on the **URL** layer to open the *Layer Properties* window.
- Click on the **Labels** tab. You can make your label changes in the *Text Symbol* section as shown below.





5. Click **OK** when you have made the changes.

Testing your Links:

1. Click on the **Hyperlink tool** . The URL points for which you have created links will have a blue dot over their symbols. To use the *hyperlink tool*, simply hover over one of the points for which you added a link and click the point to activate the link.
2. The associated webpage will open in your default web browser. When you have finished viewing the website, close your web browser to return to ArcMap.
3. **Save** your project and **close ArcMap** when you have finished testing your links.

Congratulations! You have successfully completed a **Field Based Hyperlink**.