

EDITING SDE DATA WITH DEFINED LAYERS

BY SHANNON SHIELDS
ESRI EDUCATION SERVICES

Welcome to the tutorial for Editing SDE Data. The instructions will provide an introduction to editing SDE data from ARCEDIT. This tutorial will teach you how to connect to an SDE server and register SDE layers with Defined Layers. You will learn how to select and export SDE data for editing in ARCEDIT, and how to insert new data into and SDE layer.

Keep in mind that Defined Layers is also used to access other data types including coverages, ArcView GIS shapefiles, ArcStorm libraries, and map libraries. This tutorial will only introduce commands used when working with SDE data and does not teach you all of the functionality available with Defined Layers. For additional information please refer to ArcDoc, the online help provided with ArcInfo and the free tutorial available from the Virtual Campus at ESRI's Web site.

Summary of Data

The data for the tutorial consists of a coverage of land cover polygons. It is based on a coverage containing integrated terrain unit polygons for the City of Redlands and surrounding area. Redlands is located in Southern California, in San Bernardino County. Download the data for the tutorial, from the same Web page that you downloaded this tutorial. The data is available for both Windows NT and UNIX data.

Important

Import the land_cov.e00 file. Get your SDE Administrator to load the coverage into SDE using land_cov# as the spatial column. Make sure you are assigned SELECT, UPDATE, INSERT and DELETE privileges for that layer.

Tutorial Steps

Before you begin make sure that the SDE server has been started, that you are a user in the SDE database with the appropriate permissions, and that you have write-access to your current workspace

- 1 **Connect to SDE from ARCEDIT.**
- 2 **Register and display an SDE layer.**
- 3 **Query an SDE layer and update attribute information.**
- 4 **Perform a spatial select on an SDE layer.**
- 5 **Lock selected data against editing by other users.**
- 6 **Export selected features to a coverage for editing.**
- 7 **Edit the new coverage.**
- 8 **Delete features from, and insert feature into, an SDE layer.**

Step 1: Connect to SDE from ARCEDIT

Start ArcInfo, move into your workspace, and start ARCEDIT. Defined Layers are only available from ARCPLOT but we can use the ARCPLOT (APC) command from ARCEDIT to access ARCPLOT commands.

```
Arcedit: apc
```

Connect to SDE using the dataset command. Check the syntax by typing usage dataset. Choose a name for your dataset, use your SDE username and password. As your SDE administrator for the name of the SDE instance and the name of the server that SDE is running on.

```
AP: dataset connect caldera lavadome esri_sde kona kahuna
```

In this example the user, **kona** (password **kahuna**) has connected to SDE on a server called **lavadome**. The SDE instance name is **esri_sde** and the name of the dataset being connected to is **caldera**. Caldera is a user-defined name and is used as a reference to this SDE connection. All the following examples will use these names for command arguments.

List the layers available in the caldera dataset.

```
AP: dataset listlayers caldera
```



All of the SDE layers that kona has access to are listed.

LAYER_NAME	SPATIAL_COLUMN	ACCESS	FTYPES	D
SDE.LAND_COV	LAND_COV#	SUID	---P---	2D
PINGO.SOIL	SOIL#	SU--	---P---	2D
HOODOO.HYDRO PNT	SHAPE	S---	P-----	2D
KONA.GEO_TYP E	GEO_TYPE#	SUID	---P---	2D

Each layer is referenced as owner.layer_name . Data set list layers also gives you the name of the layer’s spatial column, the type of access you have to that layer, and the feature types present.

Step 2: Register and Display an SDE Layer

To access SDE features you must register each layer with Defined Layer’s layer command. Check the syntax by typing usage layer. Choose a name for your defined layer, and use the dataset layerlist command to find the name for yours defined layer, and use the SDE layer’s spatial_column and feature type.

```
AP: layer define kland SDE caldera sde.land_cov land_cov#
polygon
```

In this example the layer is named **kland**, the format is **SDE**, and the name of the SDE dataset is **caldera**. The name of the SDE layer is **sde.land_cov**, the spatial column is **land_cov#**, and the feature type is **polygon**.

List the layer you have just created.

```
AP: layer list
```

```
Layer: kland, Source SDE Layer: sde.land_cov, Feature Polygon
```

Next, display the kland layer.

```
AP: mapextent layer kland
```

```
AP: symbolset contrast
```

```
AP: linecolor black
```

```
AP: layerdraw kland land_cov
```

```
AP: layerdraw kland outline
```

Step 3: Query an SDE Layer and Update Attribute Information

There is a typographic error in one of the attribute columns of the land_cov layer. You will select features using the `layerquery` command, and update their attributes using the `layercalculate` command.

```
AP: layerquery kland land_cov = 20
```

```
AP: layer describe kland
```

```
Layer: kland                                     Type: polygon
```

```
Datasource: SDE caldera 'sde.land_cov'
```

```
Query: land_cov = 20
```

```
Search: NONE
```

```
Filter: NONE
```

Notice that the query you have just entered is now stored with the kland layer definition.

Display the features that you have selected

```
AP: layerdraw kland 2
```

```
AP: layerdraw kland outline
```

```
AP: layerlist kland land_cov exp
```

Notice that some values for exp are incorrect.

Calculate new values for the exp column.

```
AP: layercalculate kland exp = 'Chamise Chapparal'
```

```
AP: layerlist kland land_cov exp
```

Notice that the values have been automatically updated.

Remove the query constraints from the kland layer.

```
AP: layerquery kland none
```



Step 4: Perform a spatial select on an SDE layer

An area of this layer has spatial data that needs to be edited. You will selected the features using the layersearch command.

```
AP: layersearch kland contained.by box *
```

Draw a box over the lower right-hand corner.

```
AP: layer describe kland
```

```
Layer: kland                                Type: polygon
```

```
Datasource: SDE caldera 'sde.land_cov'
```

```
Query: NONE
```

```
Search: CONTAINED.BY
```

```
Box minimums: 53052.907,24503.721
```

```
Maximums: 85795.606,57550.940
```

```
Filter: NONE
```

Step 5: Lock selected data against editing by other users

While you are editing data it is a good idea to lock it. Locking an area of your layer prevents other users from being able to edit those features at the same time as you are. Locks are applied to the entire layer, or to a rectangular-shaped subset. You will use the same bounding box as you used for your spatial select.

```
AP:layerlock kland area write 53052.907,24503.721,85795.606,57550.940
```

Step 6: Export selected features to a coverage for editing

SDE data must be exported to a coverage for editing. You will export the selected features to a new coverage, and you will create a log file for the layer. The log file contains information about the layer's current query condition. You will use the log file later on to delete these selected features from the layer.

Create the log file.

```
AP: layerlogfile kland kland.log
```

Export the selected data to a new coverage.

```
AP: layerexport kland COVERAGE kedit polygon.
```

You have exported the selected features from the **kland** layer into a polygon coverage called **kedit**.

Step 7: Edit the New Coverage

Now you will edit the new kedit coverage.

Exit from APC and set up the editing environment.

```
AP: quit
Arcedit: clear
Arcedit: mapextent kedit
Arcedit: edit kedit
Arcedit: editfeature polygon
Arcedit: apc polygonshades kedit land_cov
Arcedit: apc polygons kedit
```

Select and delete the two polygons in the upper right-hand corner.

```
Arcedit: select many
Arcedit: delete
```

Merge two polygons into a single polygon.

```
Arcedit: merge
```

Add a new polygon into the center of an existing polygon.

Calculate new values for the land_cov and exp items.

```
Arcedit: add
```



```
Arccedit: calculate land_cov = 28
Arccedit: calculate exp = 'Riparian & Sycamore - Cottonwood'
```

Save your edits and rebuild polygon topology.

```
Arccedit: save
Arccedit: clean
```

Step 8: Delete features from, and insert features into, an SDE layer

Now that your edits are complete you will import the new features into the kland layer, and delete the old features that they are replacing.

```
Arccedit: APC
AP: layerimport kland coverage kedit polygon
```

Delete the old features using the kland layer log file.

```
AP: layerdelete kland kland.log
```

Release the lock so that other users can access the new data and remove the search constraints from the kland layer. Log files can be quite large and take up disk space. Delete the log file when you have finished working with it.

```
AP: layerlock kland release
AP: layersearch kland none
AP: layerlogfile kland kland.log delete
```

Finally, display your finished work.

```
AP: clear
AP: mapextent layer kland
AP: layerdraw kland land_cov
AP: layerdraw kland outline
```

Summary

When you have finished working with your SDE dataset don't forget to disconnect from the SDE server.

```
AP: dataset disconnect caldera
```

SUMMARY

In this tutorial you connected to an SDE server and used Defined Layers to display, query, and update SDE data. You also learned how to export data from SDE into a coverage, and how to insert coverage data into SDE.

Defined Layers is able to display and query other ArcInfo data such as coverages, ArcStorm libraries and map libraries, as well as ArcView GIS shapefiles. Defined Layers also has other functionality for creating and deleting SDE layers that is not covered in this tutorial. Refer to ArcDoc, the on-line help provided with ArcInfo, for more information.