

Fundamental Concepts & Data Structure

SuperMap Software Co., Ltd.



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Point

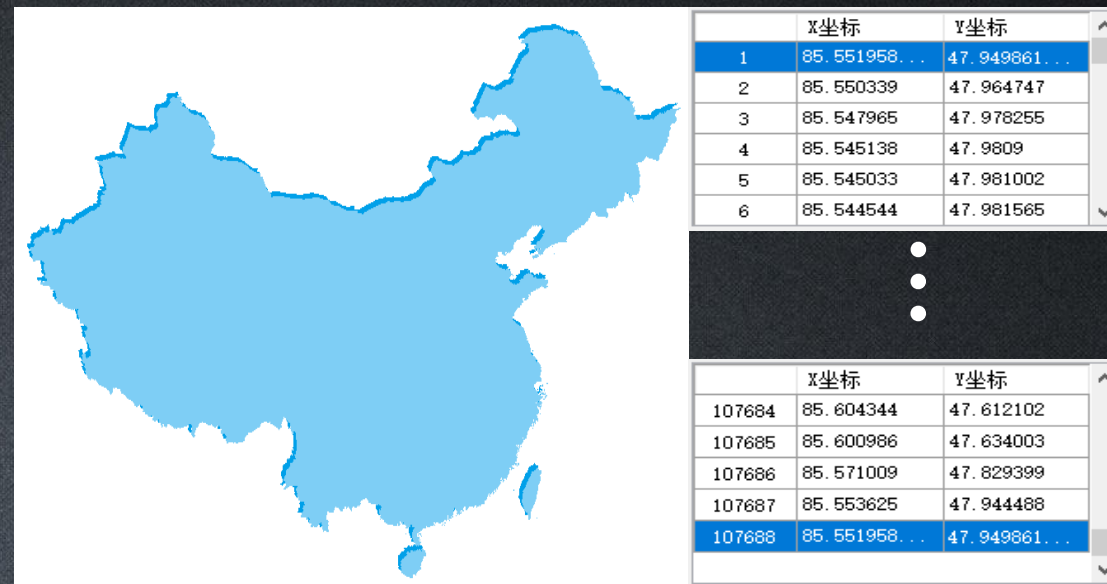
- Pinpointing a location on a map is possible using a latitudinal and longitudinal coordinate stored in the database.



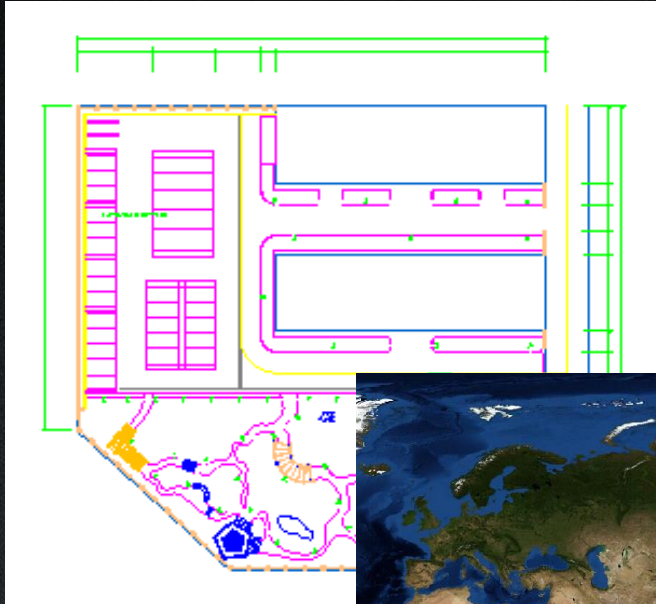
SmID	SmX	SmY	CAPITAL_EN	COUNTRY_EN
170	116.388036	39.906189	Beijing	China

Line & polygon

- A series of latitudinal and longitudinal data can be used to either draw separate lines on the map, or draw an entire country's boundaries



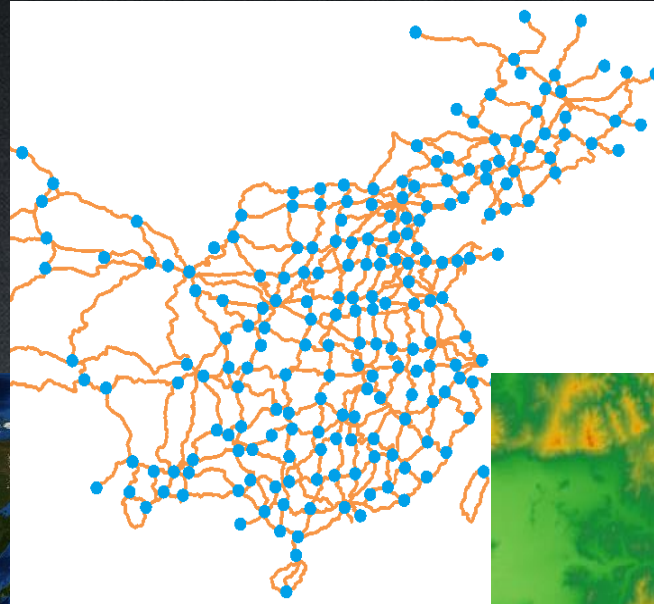
More types of data



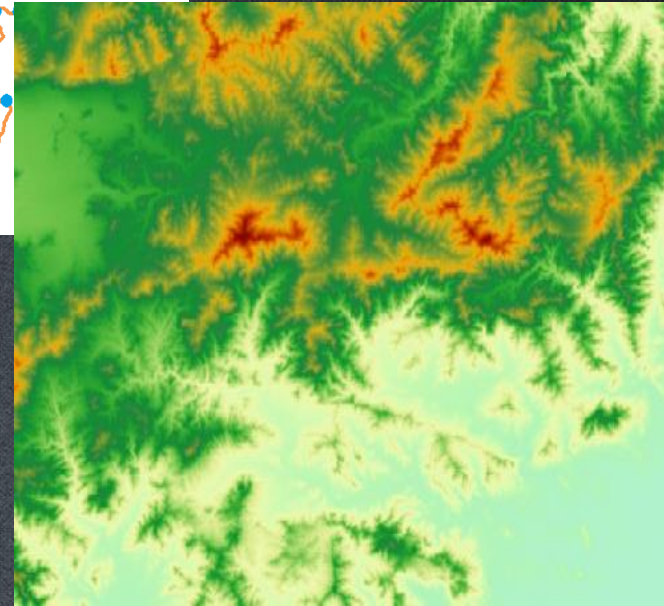
CAD Data



Image Data



Network Data

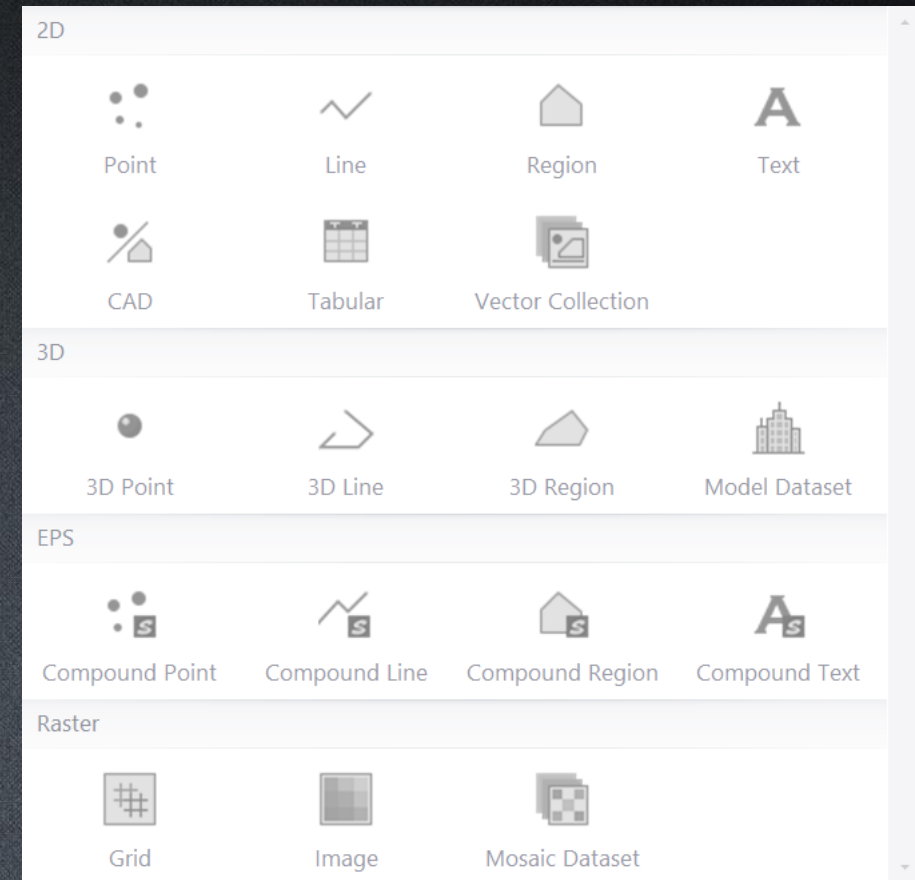


Raster Data

...

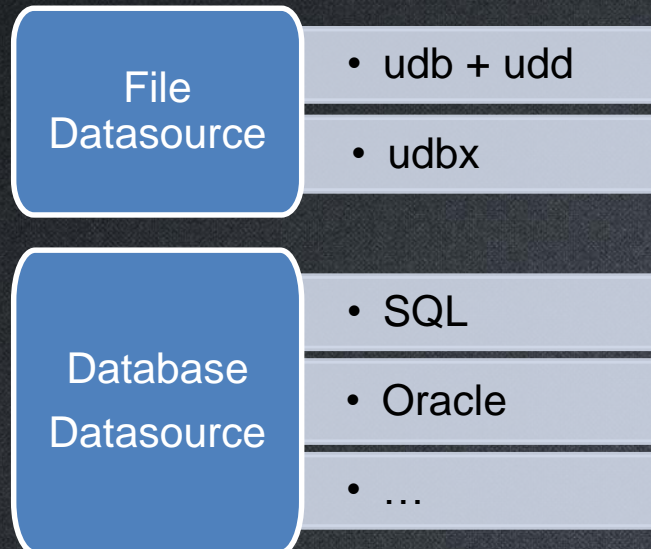
Dataset

- Definition:
 - A dataset is a collection of similar types of data.
- Storage:
 - Datasets can be stored in a file or database datasource.

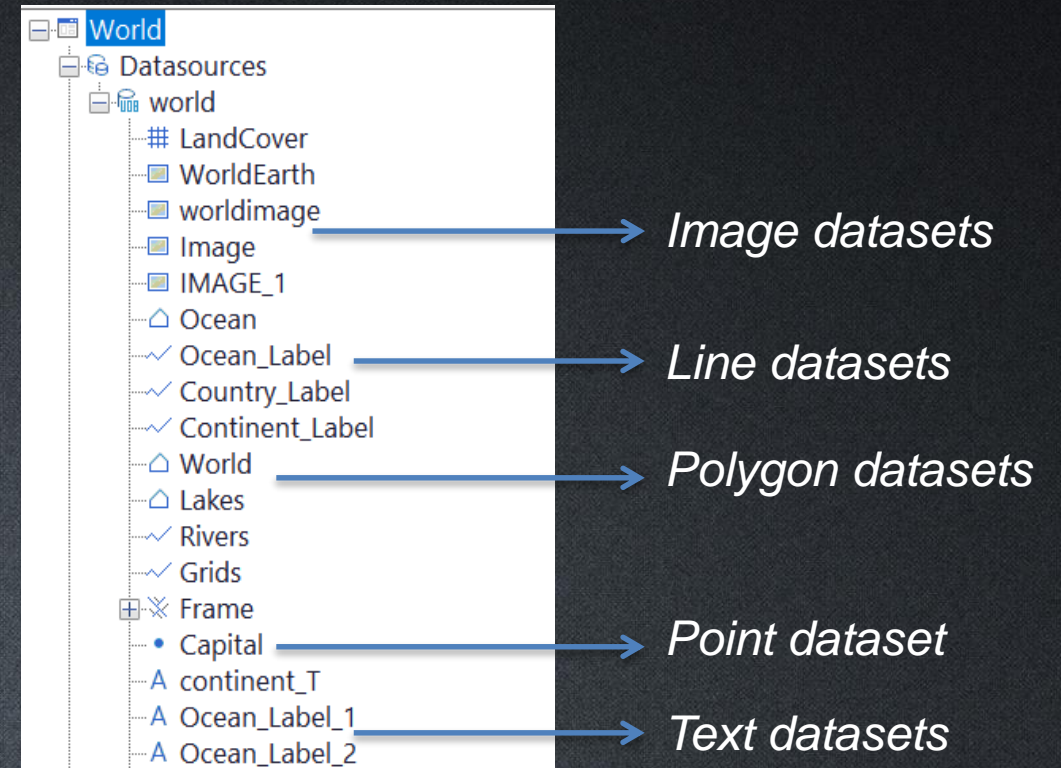


Datasource

- Definition
 - A datasource consists of various types of datasets and is the physical storage of spatial data.
- Storage



- Datasource & Dataset



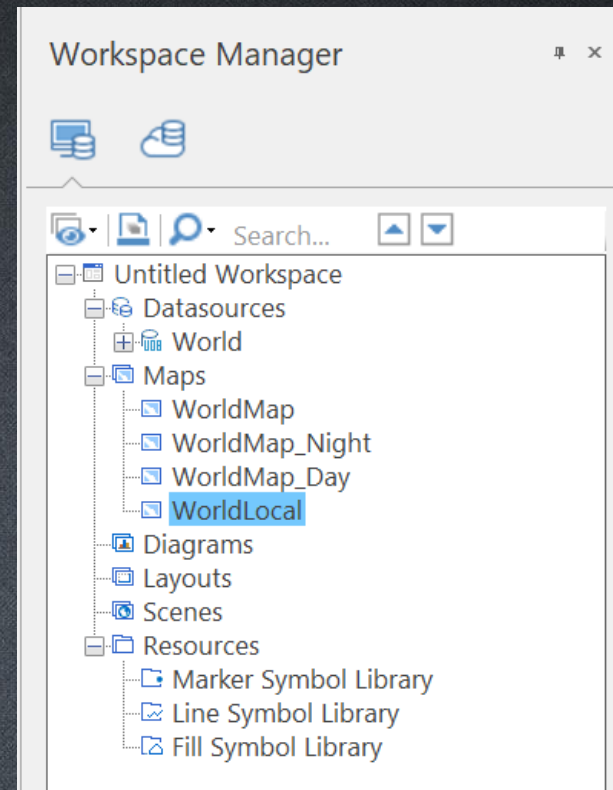
Workspace

- The workspace file stores the **connection information** of one or more datasources.
- The workspace file stores maps, layouts, scenes, resources and diagrams.

Workspace Types

*.smwu	SQL
*.sxwu	Oracle
	...

Attention: a file datasource cannot be opened in two workspaces at the same time.



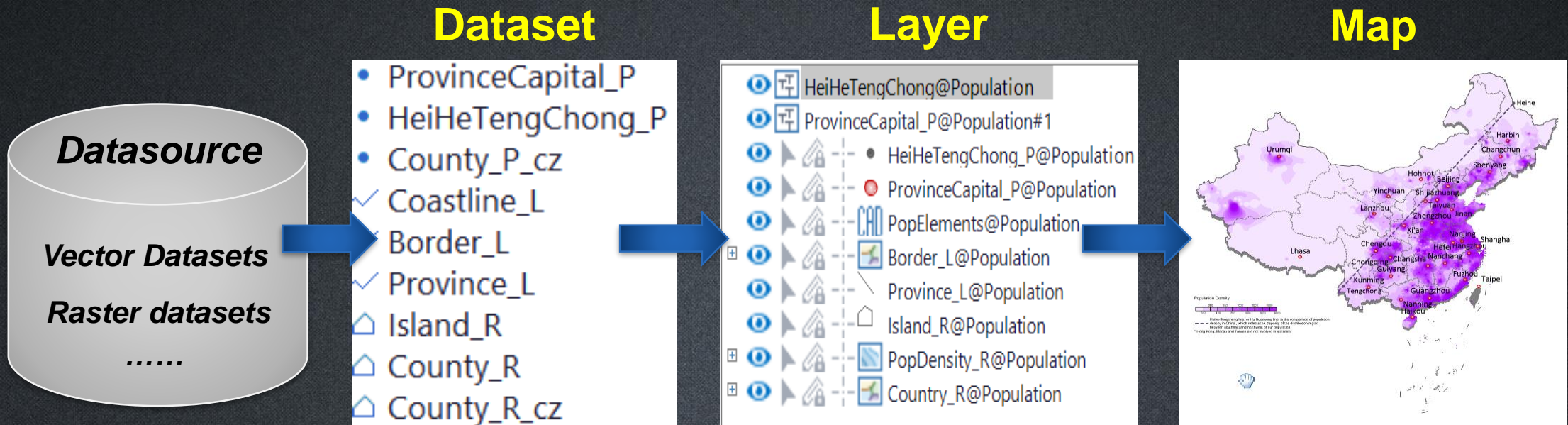
Map

- Definition

- When one or more datasets are given a certain display style and are displayed in the same map window, they constitute a map.

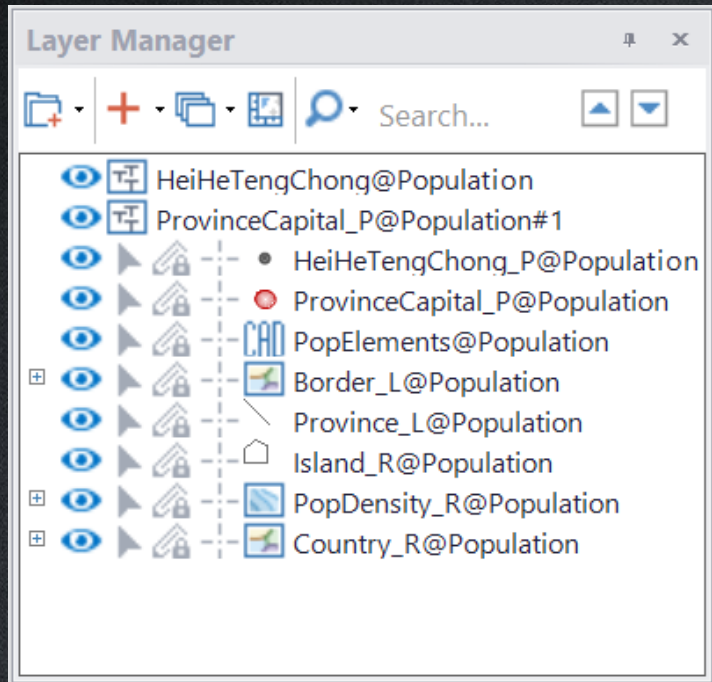
- Storage

- The map is stored in the workspace so the workspace must be saved after the map.



Layer

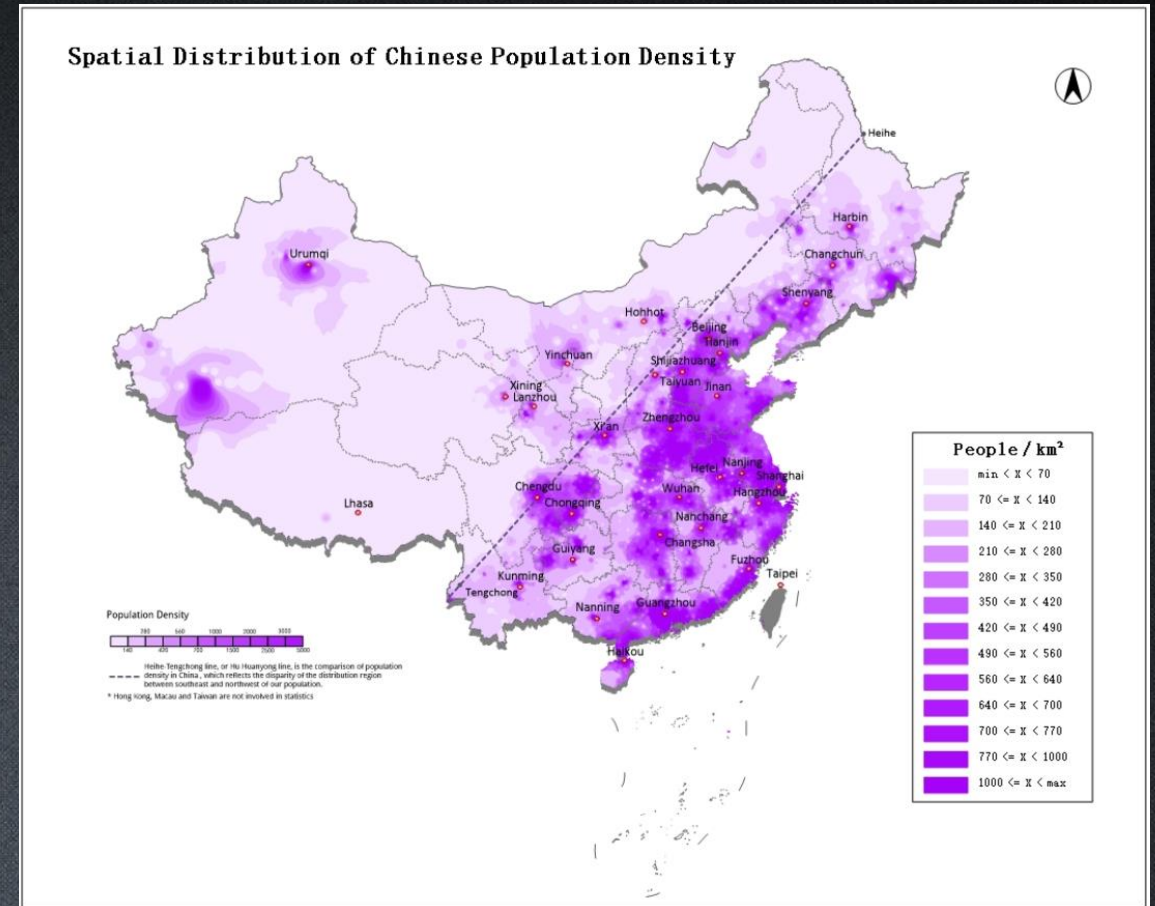
- Definition
 - Layers are a way of displaying datasets in a map window.



- Layers can be understood as **transparent canvases** which are put into stacks in the map window.
- A **dataset** can be added multiple times to the map window to render **multiple layers** of different styles.
- if the **data changes**, the layers and maps connected with it will change too.

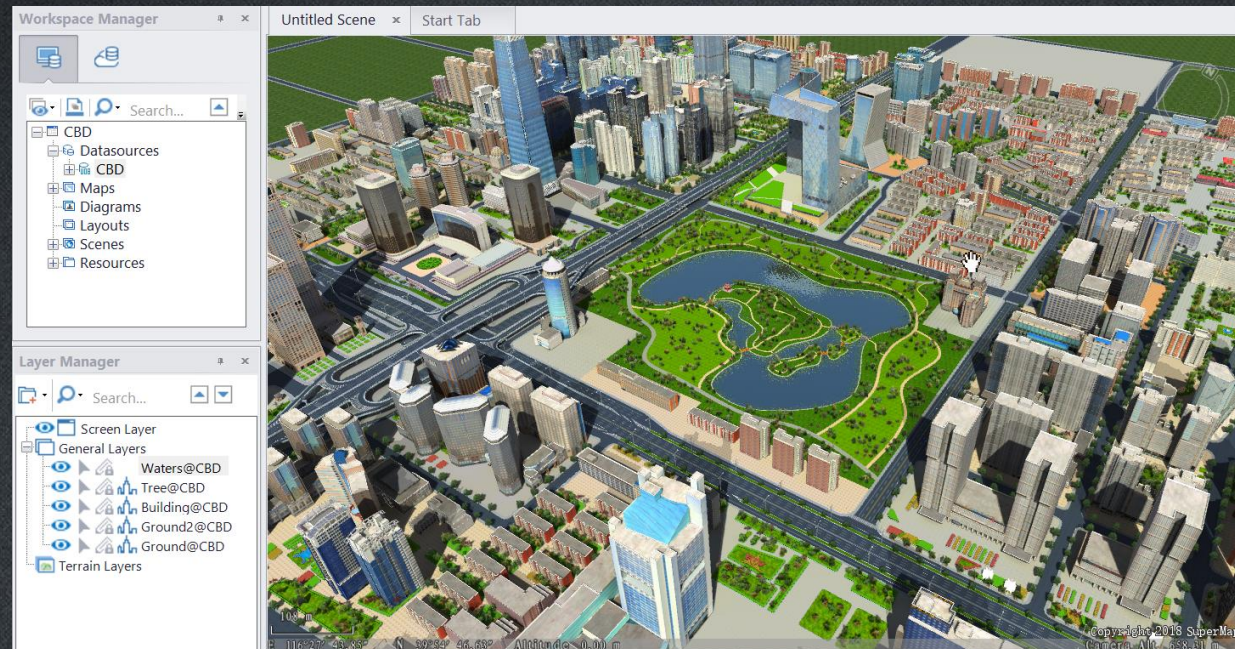
Layout

- Definition
 - To print your map, it is required to create a layout which is composed of map(s) and elements such as the map name, legend, scale, north arrow, etc.
- Storage
 - The layout is also stored in the workspace



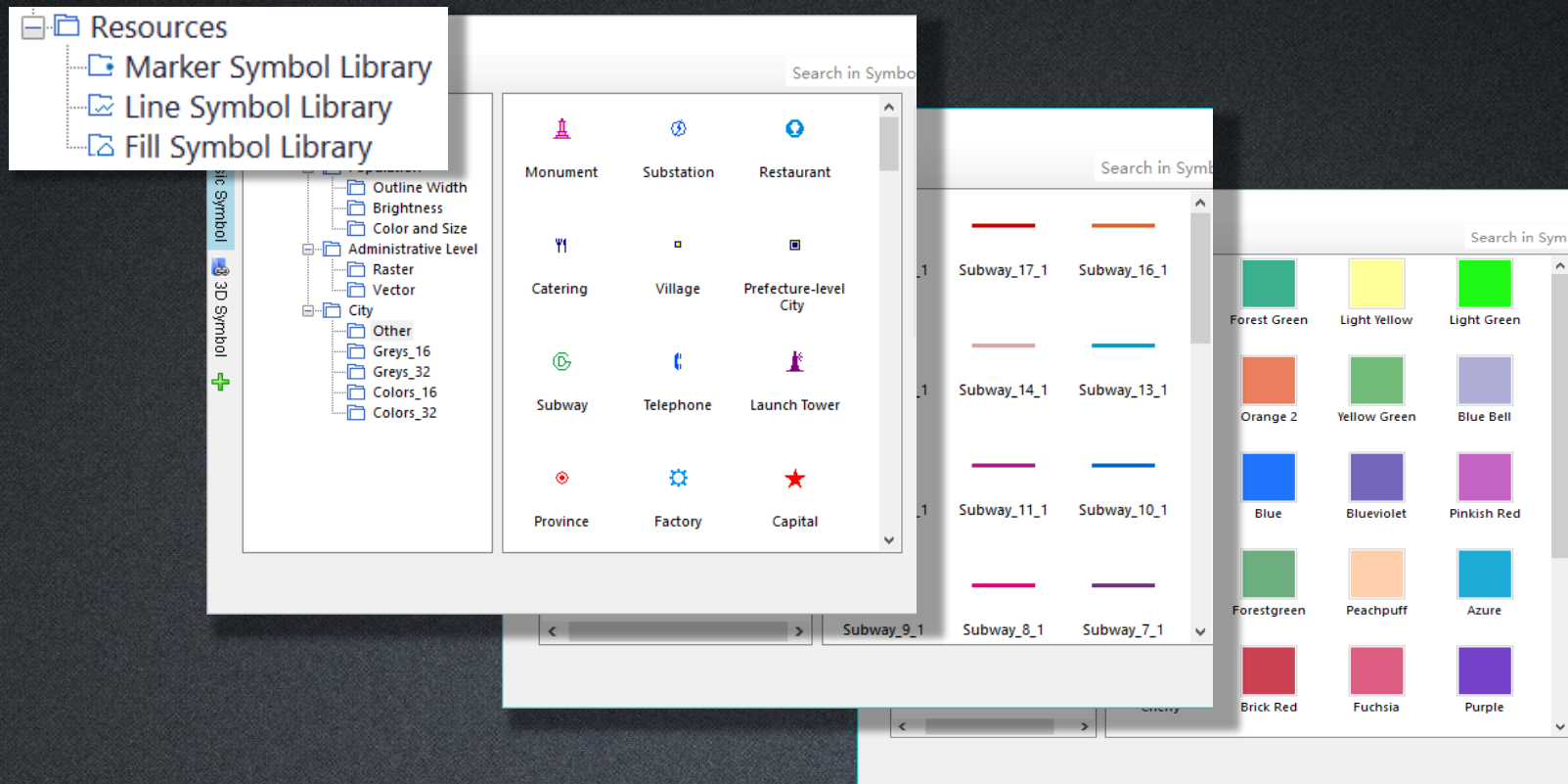
3D Scene

- Definition
 - We can add a combination of 2D and 3D data into 3D layers to organize a 3D scene.
- Storage
 - 3D scene is also stored in a file or database through the workspace.

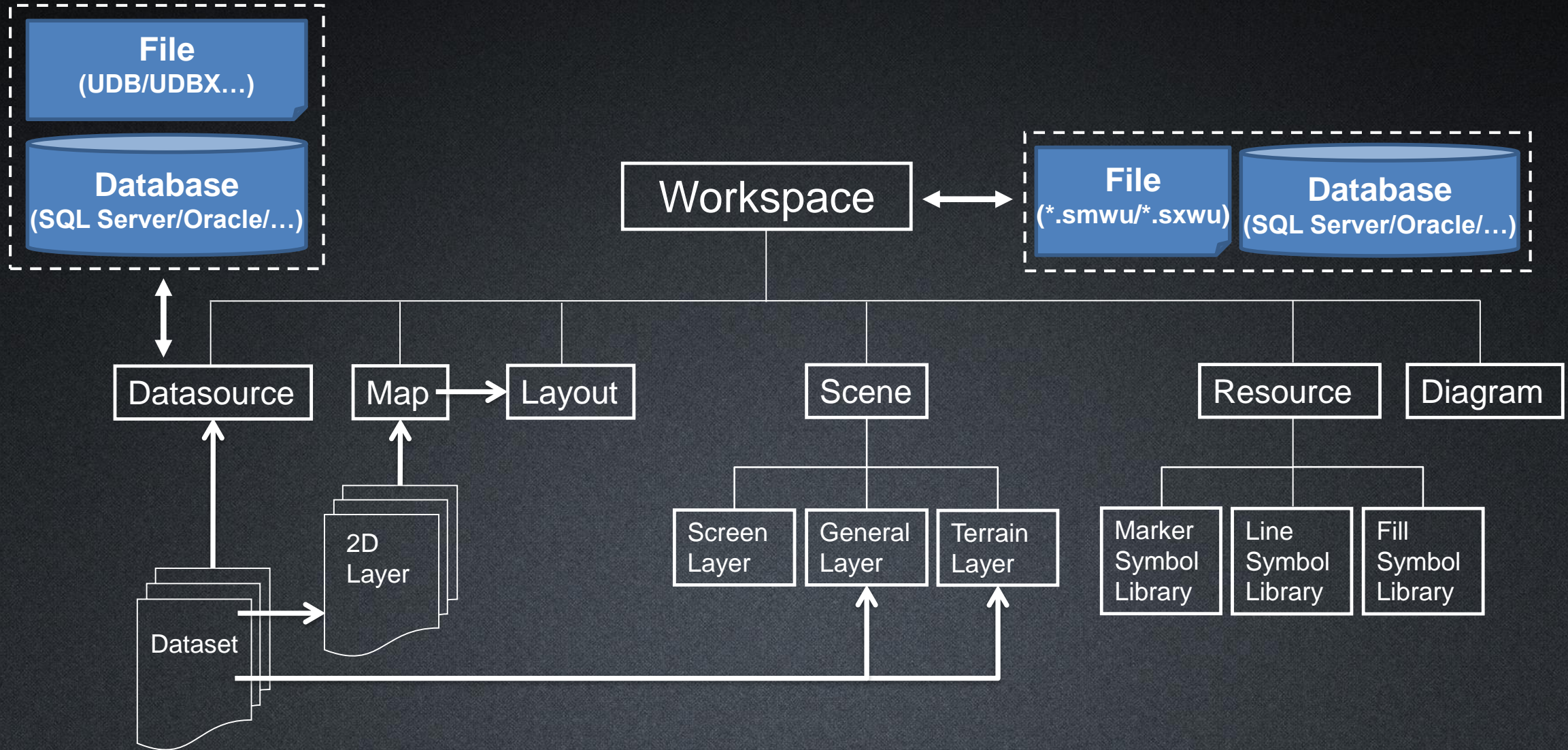


Resource

- Resources primarily manage the symbol libraries used by maps and scenes in the workspace, including point symbol libraries, linetype libraries, and fill symbol libraries.



Data Structure



Thank You!

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