

# SuperMap iServer Distributed Tiling (for MongoDB)

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**01**

**SuperMap iServer Cache**

**02**

**Cache Generation**

# Cache

- Cache technology is a very effective way to improve service access efficiency. It is a storage method that exchanges space for time. We generate cache:
  - When spatial data is complex
  - When a map or a specific area of a map is frequently accessed
  - When the map results returned to the client side are not frequently changed

# Cache Classification

## Map Tile Cache

- SuperMap UGC tile cache (UGCV5)
- Distributed storage cache (FastDFS / MongoDB)
- .....

Enhance map  
image access  
efficiency

## Vector Tile Cache

- SVTiles vector cache

Enhance vector  
data access  
efficiency

## Attribute Tile Cache

- UTFGrid attribute cache

Enhance  
attribute data  
access efficiency

# Cache Formats

| Type            | Tile format | Storage type                    | Storage location                                           | Whether versioning is supported | Platforms supported | Delivery method                          |
|-----------------|-------------|---------------------------------|------------------------------------------------------------|---------------------------------|---------------------|------------------------------------------|
| Map tiles       | FastDFS     | FastDFS distributed file system | FastDFS internal distributed storage                       | Yes                             | Linux               | Export into *.smtiles files for delivery |
|                 | MongoDB     | MongoDB distributed file system | Data stored at specified directory                         | Yes                             | Linux, Windows      | Copy for delivery among MongoDB systems  |
|                 | OTS         | OTS distributed file system     | Data stored in the OTS storage service system in Ali Cloud | No                              | Linux, Windows      | --                                       |
|                 | MBTiles     | SQLite database                 | <a href="#">output directory</a> \sqlite\*.mbtiles file    | No                              | Linux, Windows      | Copy files for delivery                  |
|                 | SMTiles     | SQLite database                 | <a href="#">output directory</a> \sqlite\*.smtiles file    | No                              | Linux, Windows      | Copy files for delivery                  |
|                 | UGCV5       | File directory on local disk    | <a href="#">output directory</a> \cache                    | No                              | Linux, Windows      | Copy files for delivery                  |
|                 | GeoPackage  | SQLite database                 | <a href="#">output directory</a> \sqlite\*.gpkg file       | No                              | Linux, Windows      | Copy files for delivery                  |
| Vector tiles    | SVTiles     | SQLite database                 | <a href="#">output directory</a> \sqlite\*.svtiles file    | No                              | Linux, Windows      | Copy files for delivery                  |
| Attribute tiles | UTFGrid     | SQLite database                 | <a href="#">output directory</a> \sqlite\*.utfgrid file    | No                              | Linux, Windows      | Copy files for delivery                  |

# Tiling Methods

- Single-machine tiling—time consuming with no obstacle recovery measures
- Distributed tiling—Multi-process tiling on a single machine, parallel tiling on multiple machines

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# 02 Cache Generation

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# Real Case

- Distributed tiling with SuperMap iServer
  - Multi-process tiling on a single machine
  - Store data with MongoDB

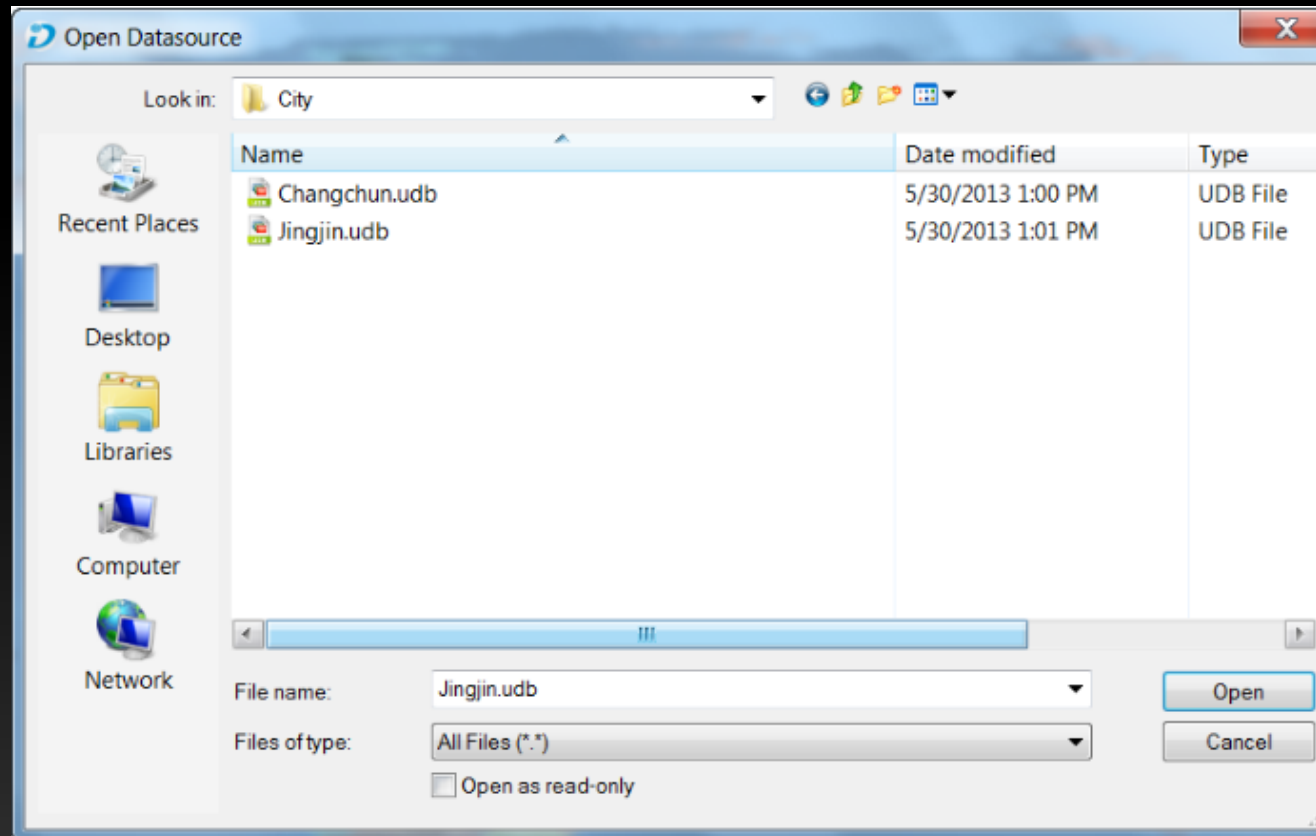


# Environment Preparation

- Windows10 64 bit
- MongoDB 64 bit
  - Located at D:\Software\mongodb
  - MongoDB data located at D:\Software\mongodb\mongodbddata
  - Port: 27010
- SuperMap iServer 9D\_win64

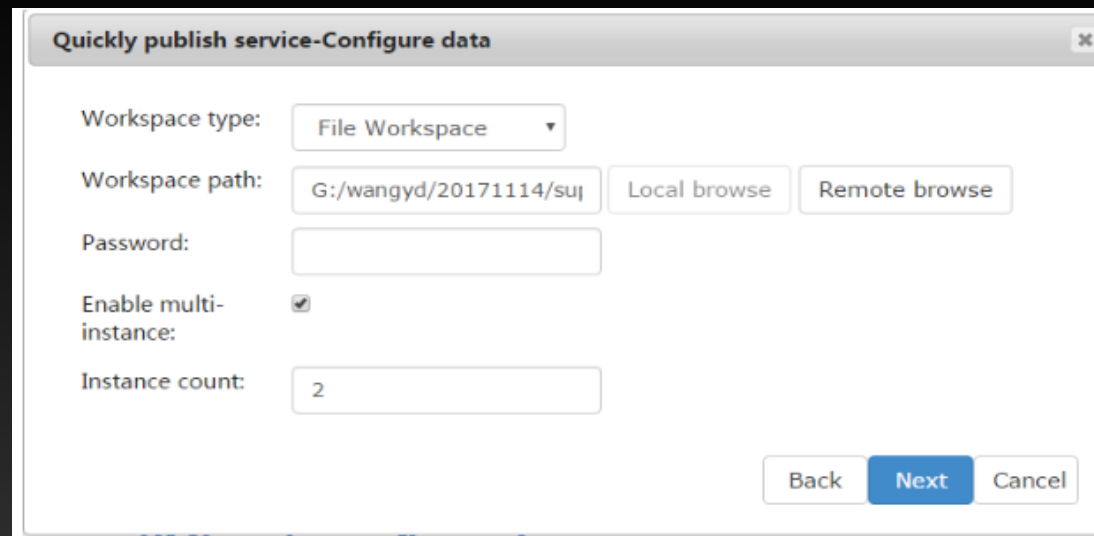
# Data Preparation

- Produce data with SuperMap iDesktop
  - Set the open mode of data in the workspace to read-only



# Operation Steps

- Enable the MongoDB service
- Enable the iServer service
  - Multi-process configuration—Web Manager → Services → Advanced → Multi-process Configuration
  - Publish service
  - Distributed tiling—Web Manager → Clusters → Distributed Tiles



The screenshot shows a dialog box titled "Quickly publish service-Configure data". It contains the following fields and controls:

- Workspace type:** A dropdown menu with "File Workspace" selected.
- Workspace path:** A text box containing "G:/wangyd/20171114/suj", with "Local browse" and "Remote browse" buttons to its right.
- Password:** An empty text box.
- Enable multi-instance:** A checkbox that is checked.
- Instance count:** A text box containing the number "2".
- Navigation buttons:** "Back", "Next" (highlighted in blue), and "Cancel" buttons at the bottom right.

# Thank You!

