



EUROPEAN MIDDLEWARE INITIATIVE

AMGA Tutorial Session 2

Hands-on : AMGA Manager

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Supercomputing Center

KISTI (Korea Institute of Science and Technology Information)



IN2P3

INSTITUT NATIONAL DE PHYSIQUE NUCLÉAIRE
ET DE PHYSIQUE DES PARTICULES

AMGA Tutorial

Overview of Tutorial

- Hands-on account
- Download Programs
- Hands-on (I) ; use AMGA using mdclient utility
- Hands-on (II) ; use AMGA using AMGA Manager
- Quiz
- Questionnaire

Hands-on account

- Linux account
 - ID/PW : amgaXX / XXpwdamga, where XX=01, 02, ... 50
- AMGA account
 - ID/PW : managerXX / manager0901XX, where XX=01, 02, ... 50

Check user account on your slip !!



Access to AMGA Service

- Server Machine Address
 - host : ccheb03.in2p3.fr
- Command Line Access
 - ssh amgaXX@ccheb03.in2p3.fr (port : 22)
 - Using Linux account(amgaXX/XXpwdamga)
 - mdclient
- AMGA Manager
 - client program : AMGA Manager
 - host : ccheb03.in2p3.fr port : 8822
 - Using AMGA account(managerXX/manager0901XX)

Download Programs I

- **AMGA Manager (AMGA GUI toolkit)**

; AMGA GUI toolkit

- **AMGA Manager 1.1 Version Download** : <http://goo.gl/1pE3I>

- (http://amga.web.cern.ch/amga/downloads/AMGA_Manager/1.1/)

- **Windows 32bit Direct Link**: <http://goo.gl/nAIR3>

- (http://amga.web.cern.ch/amga/downloads/AMGA_Manager/1.1/AMGA-Manager-1.1.0-win32.x86.zip)

- **Windows 64bit Direct Link** : <http://goo.gl/lspwt>

- (http://amga.web.cern.ch/amga/downloads/AMGA_Manager/1.1/AMGA-Manager-1.1.0-win32.x86.64.zip)

- **Linux 32bit Direct Link** : <http://goo.gl/pAHtB>

- (http://amga.web.cern.ch/amga/downloads/AMGA_Manager/1.1/AMGA-Manager-1.1.0-linux-x86.tar.gz)

- **Linux 64bit Direct Link** : <http://goo.gl/D4Nph>

- (http://amga.web.cern.ch/amga/downloads/AMGA_Manager/1.1/AMGA-Manager-1.1.0-linux-x86.64.tar.gz)

- **Mac Direct Link** : <http://goo.gl/hHBG8>

- (http://amga.web.cern.ch/amga/downloads/AMGA_Manager/1.1/AMGA-Manager-1.1.0-mac.zip)

Download Program II

- **JRE(Java Runtime Environment) 1.6 or higher**

; Java SE Platform products

- <http://www.oracle.com/technetwork/java/javase/downloads/jre-6u26-download-400751.html>
- <http://www.java.com/en/download/manual.jsp>

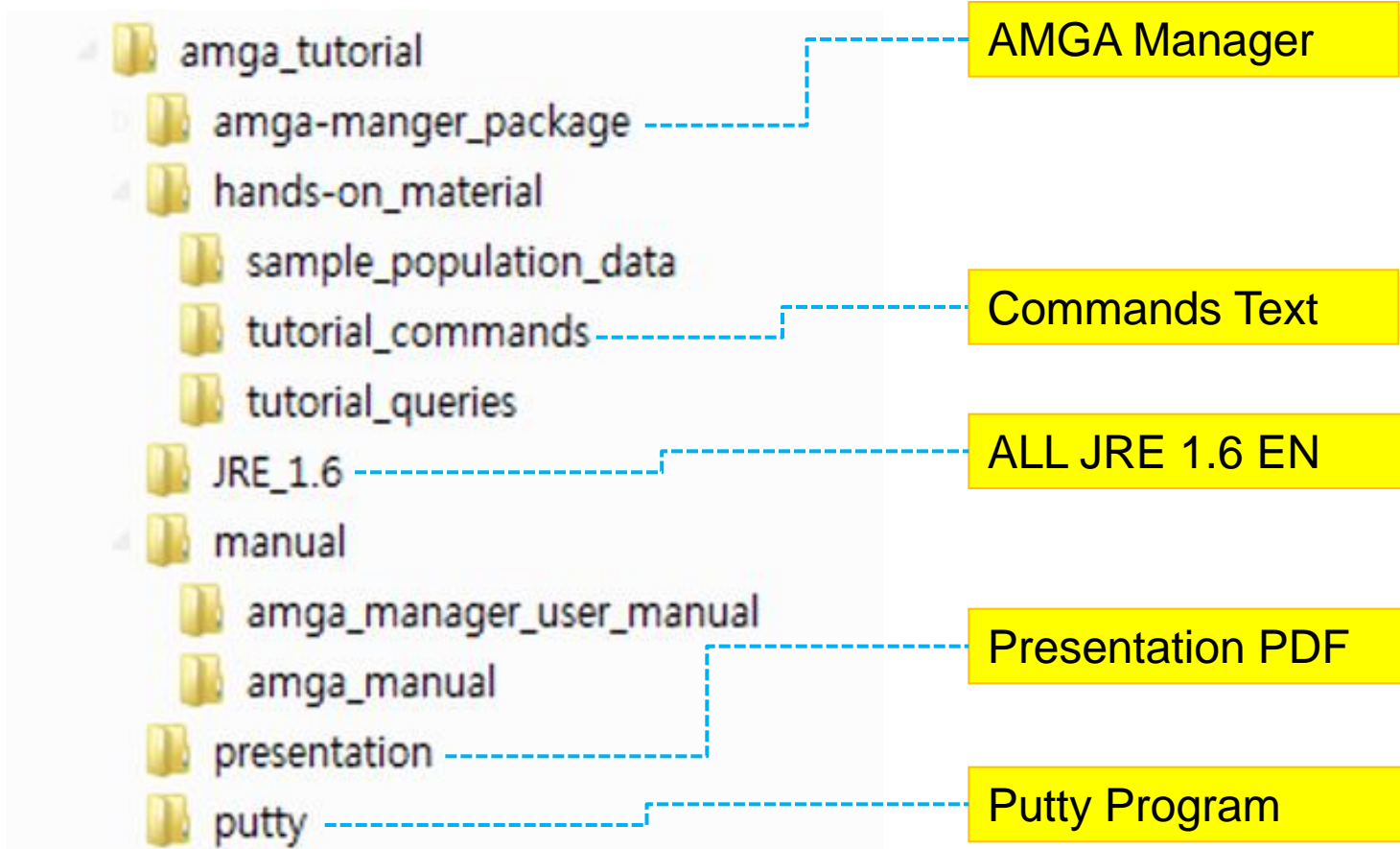
- **Putty**

; A Free Telnet/SSH Client

- <http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>
- <http://goo.gl/dch65>

✘ If your platform has any terminal using SSH, you don't need this

USB Drive



※ You can get all files from '/home/amga01/amga_tutorial'

Hands-on (I)

Use of AMGA service using the mdclient utility

September 19, 2011

Lyon Convention Center

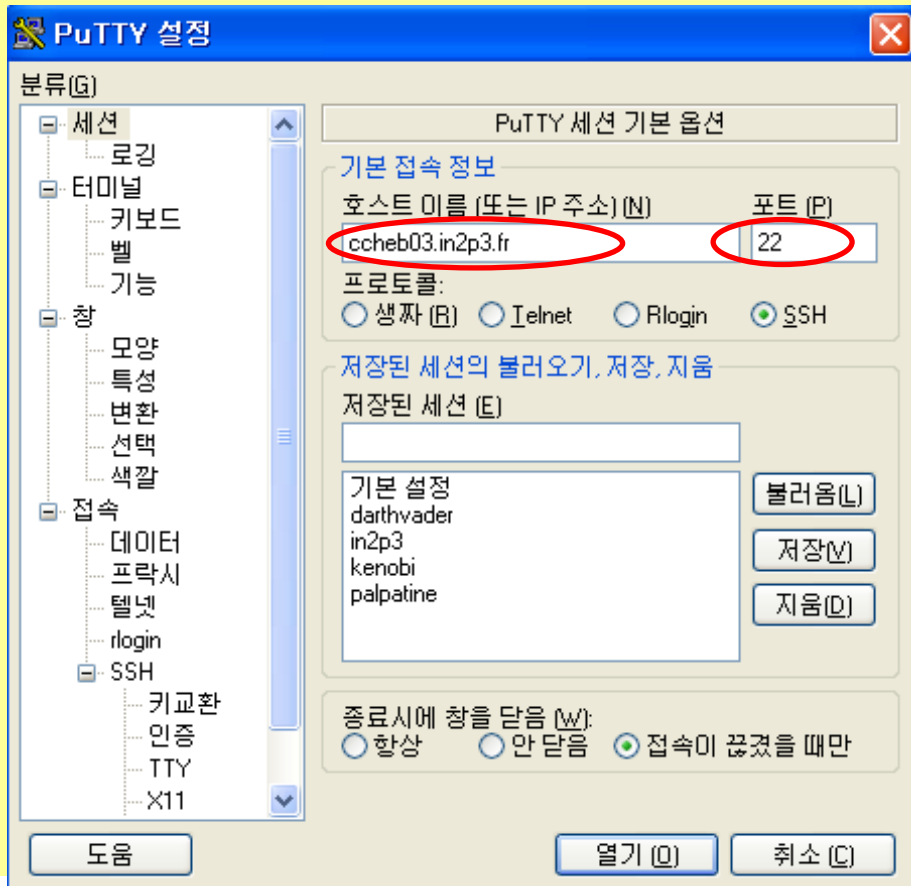
Before getting your hands dirty (1)

- AMGA server set up in CC-IN2P3
 - `ccheb03.in2p3.fr`
- Linux Account to access the AMGA server
 - Id: `amgaXX` (e.g., `amga01`)
 - Password: `XXpwdamga` (e.g., `01pwdamga`)

Before getting your hands dirty (2)

- AMGA account
 - Id: managerXX (e.g., manager01)
 - Password: manager0901XX (e.g., **manager090101**)
- Putty
 - A Free Telnet/SSH Client
 - <http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>
 - <http://goo.gl/dch65>

Login onto AMGA server using Putty



Host name	ccheb03.in2p3.fr
port	22
Protocol	SSH

Login onto AMGA server using Putty



```
ccheb03.in2p3.fr - PuTTY
login as: amga01
amga01@ccheb03.in2p3.fr's password: █
```

Login name

amgaXX

password

XXpwdamga



Login onto AMGA server through SSH

```
$ ssh amga01@ccheb03.in2p3.fr
```

```
....
```

```
Are you sure you want to continue connecting (yes/no)? yes
```

```
amga01@ccheb03.in2p3.fr's password : 01pwdamga
```

```
Last login
```

```
amga01@ccheb03:~  
login as: amga01  
amga01@ccheb03.in2p3.fr's password:  
Last login: Fri Sep 9 08:48:09 2011 from 150.183.225.175  
*****  
##### # ##### ##### # #####  
# # # # # # # #  
# # # # # # # #  
##### # ##### ## ##### #####  
# # # # # # # #  
# # # # # # # #  
##### ##### # #####  
*****  
[amga01@ccheb03 ~]$ █
```

AMGA Client Configuration

- **Copy** the /etc/mdclient.config file into your HOME directory
- **Modify** the .mdclient.config file



```
$ cp /etc/mdclient.config ~/.mdclient.config
$ vi .mdclient.config
```

Login = managerXX	Fill it according to your UI login id
Password = manager0901XX	AMGA server listening port
Host=ccheb03.in2p3.fr	we are not using ssl-based authentication
Port=8822	AMGA server listening port
UseSSL= no	AMGA server hostname
AuthenticateWithCertificate=0	not using certificate for AMGA authentication
UseGridProxy = 0	not using grid proxy for AMGA authentication

.mdclient.config file

```
amga01@ccheb03:~  
# BDII Usage  
#BDIIServer = egee-bdii.cnaf.infn.it  
#BDIIServerPort = 2170  
#BDIIBaseDN = mds-vo-name^=INFN-ROMA1,mds-vo-name^=local,o^=grid  
#BDIIFilter = (GlueSEAccessProtocolType^=rfio)  
  
# Connection options  
#Host = localhost  
Host = ccheb03.in2p3.fr  
Port = 8822  
  
# User settings  
Login = manager01  
Password = manager090101  
Home = /  
  
PermissionMask = rwx  
GroupMask = r-x  
#Name=  
  
# Security options  
UseSSL = no # Values: require, try, no. If off, all options below are ignored  
  
AuthenticateWithCertificate = 0 # Use certificate to authenticate  
# Certificates used for authentication: ... either normal certs  
#CertFile=/home/koblitz/.globus/usercert.pem  
#KeyFile=/home/koblitz/.globus/userkey.pem  
# ... or a grid proxy certificate  
UseGridProxy = 0  
# Use password instead of certificate to authenticate  
# Password = secret  
#VerifyServerCert = 1  
#IgnoreCertificateNameMismatch = 0  
# If server certificates are verified, CA certificates need to be loaded:  
".mdclient.config" 35L, 998C  
14,1  
Top
```


Start the AMGA CLI

Mdclient is the AMGA command line client

```
$ mdclient
```

Once successfully logged in, you should get the AMGA command prompt:

```
Connecting to localhost:8822...  
ARDA Metadata Server  
Query> whoami  
>> amga01  
Query>
```



AMGA help

Getting help on mdclient usage

You can have a look at the available commands and get help on one of them with the 'help' command.



```
Query> help
>> >help [topic]<
>> >Displays help on a command or a topic.<
>> >Valid topics are: help metadata metadata-optional directory entry
group acl index schema sequence user view ticket commands<
Query>
```

AMGA help topics

Commands are grouped by topic. You can get the list of valid commands for each topic, typing: help [topic] The list of valid topics is:

- help
- metadata
- metadata-optional
- directory
- replication
- entry
- group
- acl
- index
- schema
- sequence
- user
- view
- ticket
- commands

Try the use of help command with any topic

```
Query> help metadata
```

```
Query> help entry
```



Directory-like structure in AGMA

- basic directory operations in AMGA

```
Query> pwd
>> /
Query> ls
>> /manager01
...
>> /manager40
>> /testuser
Query> cd manager01           # change your home directory
Query> pwd
>> /manager01/
Query> ls
>> /manager01/position
```



Directory Manipulation


- Let's create and delete a directory in AMGA

```
Query> pwd
>> /manager01/
Query> mkdir testdir
Query> ls
>> /manager01/testdir
>> /manager01/position
Query> cd testdir
Query> pwd
>> /manager01/testdir
Query> cd ..
Query> rmdir testdir
```




Creation of collection and schema

Create a participant_info directory



```
Query> pwd
>> /manager01/
Query> createdir participant_info
Query> cd participant_info
```

Add metadata attributes for the entries in the participant_info directory



```
Query> addattr . First_name varchar(50) Family_name varchar(50)
Salutation varchar(50) E_mail varchar(40) Country varchar(70)
Organization varchar(50) Position varchar(50)
Query> listattr .
```

Valid Datatypes for AMGA

Valid datatypes are summarized by the following table where the corresponding AMGA DB backend datatype is also shown.

AMGA	PostgreSQL	MySQL	Oracle	SQLite	Python
int	integer	int	number(38)	int	int
float	double precision	double precision	float	float	float
varchar(n)	character varying(n)	character varying(n)	varchar2(n)	varchar(n)	string
timestamp	timestamp w/o TZ	datetime	timestamp(6)	unsupported	time(unsupported)
text	text	text	long	text	string
numeric(p,s)	numeric(p,s)	numeric(p,s)	numeric(p,s)	numeric(p,s)	float

Population of entries in the collection


Add new entries and set corresponding metadata attributes

```
Query> pwd
>> /manager/participant_info/

Query> addentry Soonwook.Hwang First_name 'Soonwook' Family_name
'Hwang' Salutation 'Mr' E_mail 'hwang@kisti.re.kr' Country 'South
Korea' Organization 'KISTI' Position 'Principal Researcher'

Query> selectattr .:FILE .:First_name .:Family_name .:Salutation .:E_mail
.:Country .:Organization .:Position ' '

>> Soonwook.Hwang
>> Soonwook
>> Hwang
>> Mr
>> hwang@kisti.re.kr
>> South Korea
>> KISTI
>> Principal Researcher
```



Create cities directory and its attributes

- Change directory to /managerXX/position/
- Create cities directory with longitude and latitude as its attributes

```
Query> cd ..  
Query> cd position  
Query> pwd  
>> /manager01/position/  
  
Query> createdir cities  
Query> addattr cities longitude int  
Query> addattr cities latitude int  
Query> listattr cities  
>> longitude  
>> int  
>> latitude  
>> int
```



Populate the cities directory with entries



```
Query> pwd
```

```
>> /manager01/position/
```

```
Query> addentry cities/Lyon latitude 45 longitude 4
```

```
Query> addentry cities/London latitude 51 longitude 0
```

```
Query> addentry cities/Seoul latitude 37 longitude 126
```

```
Query> addentry cities/Beijing latitude 39 longitude 116
```

```
Query> ls -l cities
```

```
>> -rwxr-x manager01
```

Lyon

```
>> -rwxr-x manager01
```

London

```
>> -rwxr-x manager01
```

Seoul

```
>> -rwxr-x manager01
```

Beijing

Create weather directory with city, temp_hi, temp_lo, humidity, timestamp as attributes

```
Query> pwd
```

```
>> /manager01/position/
```

```
Query> createdir weather
```

```
Query> addattr weather city varchar(30) temp_hi float temp_lo float humidity  
float time timestamp
```

```
Query> listattr weather
```

```
>> city
```

```
>> varchar(30)
```

```
>> temp_hi
```

```
>> float
```

```
>> temp_lo
```

```
>> float
```

```
>> humidity
```

```
>> float
```

```
>> time
```

```
>> timestamp
```



Populate the weather directory with entries



```
Query>pwd
```

```
>> /manager01/position/
```

```
Query> addentry weather/lyon01 city 'Lyon' temp_hi 30 temp_lo 23 humidity 65 time '2011-07-28 11:00:06'
```

```
Query> addentry weather/lyon02 city 'Lyon' temp_hi 32 temp_lo 24 humidity 70 time '2011-07-29 11:03:17'
```

```
Query> addentry weather/london01 city 'London' temp_hi 24 temp_lo 20 humidity 61 time '2011-07-27 11:03:17'
```

```
Query> addentry weather/london02 city 'London' temp_hi 17 temp_lo 11 humidity 52 time '2011-07-29 09:03:17'
```

```
Query> addentry weather/seoul01 city 'Seoul' temp_hi 25 temp_lo 21 humidity 68 time '2011-07-28 11:03:17'
```

```
Query> addentry weather/seoul02 city 'Seoul' temp_hi 28 temp_lo 22 humidity 65 time '2011-07-29 12:03:17'
```

```
Query> addentry weather/beijing01 city 'Beijing' temp_hi 32 temp_lo 28 humidity 66 time '2011-07-27 12:03:17'
```

```
Query> addentry weather/beijing02 city 'Beijing' temp_hi 30 temp_lo 24 humidity 65 time '2011-07-27 12:03:17'
```

```
Query> addentry weather/beijing03 city 'Beijing' temp_hi 33 temp_lo 26 humidity 67 time '2011-07-27 12:03:17'
```

Make queries

Which are the cities further north than 40 degrees north, and how high are they?



```
Query> pwd
```

```
>> /manager01/position/
```

```
Query> selectattr cities:FILE longitude 'latitude > 40'
```

```
>> Lyon
```

```
>> 4
```

```
>> London
```

```
>> 0
```

```
Query> SELECT FILE, longitude FROM ./cities WHERE latitude > 40;
```

```
>> FILE
```

```
>> longitude
```

```
>> Lyon
```

```
>> 4
```

```
>> London
```

```
>> 0
```

Make queries

Which city has low temperatures smaller than 15 degrees?



```
Query> pwd
```

```
>> /manager01/position/
```

```
Query> selectattr weather:city weather:temp_lo 'weather:temp_lo < 15'
```

```
>> London
```

```
>> 11
```

```
Query> SELECT city, temp_lo FROM weather WHERE temp_lo < 15;
```

```
>> city
```

```
>> temp_lo
```

```
>> London
```

```
>> 11
```

Join Operations

Which city has the humidity smaller than 60% and shows its latitude, longitude, temp_lo, temp_hi?



```
Query> pwd
```

```
>> /manager01/position/
```

```
Query> selectattr weather:city cities:longitude cities:latitude weather:temp_hi weather:temp_lo '
cities:FILE=weather:city and weather:humidity < 60 '
```

```
>> London
```

```
>> 0
```

```
>> 51
```

```
>> 17
```

```
>> 11
```

```
Query> SELECT weather.city, cities.longitude, cities.latitude, weather.temp_hi, weather.temp_lo
FROM weather, cities WHERE cities.FILE = weather.city AND weather.humidity < 60;
```

```
>> cities.longitude
```

```
>> cities.latitude
```

```
>> weather.temp_hi
```

```
>> weather.temp_lo
```

```
>> London
```

```
>> 0
```

```
>> 51
```

```
>> 17
```

```
>> 11
```

Preparation for AMGA GUI client Hands-on Exercise

Prerequisite

- **What is it required on your machine to install the AMGA Manager?**
 - Java version : **JRE 1.6 or above**
<http://www.java.com/>
- **Your PC OS ?**
 - Linux(32, 64bits), Windows(32,64bits), Mac OS - **OK**
- **How to Install?**
 - Download the AMGA Manager package :
http://cern.ch/amga/downloads/AMGA_Manager
<http://goo.gl/3tTZj>
 - Unzip the downloaded file to a proper dir
 - Execute the AMGA Manager executable file

Connection to AMGA service using AMGA Manager



New Connection

Create New Connection

root [yoda.kisti.re.kr : 8844]
 manager02 [yoda.kisti.re.kr : 8824]
 manager01 [ccheb03.in2p3.fr : 8822]
 manager01 [150,183,225,212 : 8822]

Host : ccheb03.in2p3.fr
 User : manager01
 Pass :
 Port : 8822
 Access: ID/PASSWORD
 UseSSL
 Save the Login information?

OK Cancel

- Host : ccheb03.in2p3.fr
- User : managerXX
- Pass : manager0901XX
- port : 8822
- Access : ID/PASSWORD
- UseSSL - uncheck
- Save the login info - check

AMGA_Mangaer

Connect Success manager01@ccheb03.in2p3.fr

OK

Appendix

AMGA mdcli tool

mdcli is the AMGA command tool that just run a single AMGA command and exit to the shell.

```
$ mdcli -p 8822 listattr /manager01/position/weather  
city  
varchar(30)  
temp_hi  
float  
temp_lo  
float  
humidity  
float  
time  
timestamp
```



Example of use of mdcli in shell script

Example of mdcli tool usage shows a simple shell script that recursively prints the directories, their attributes and their contents starting from a given directory.

```
$ cp /home/amga01/mdtree.sh ~/mdtree.sh
```

```
$ chmod 766 ~/mdtree.sh
```

```
$ cat mdtree.sh
```

```
$ ./mdtree.sh /manager01/position | less
```

```
Afghanistan
```

```
Albania
```

```
Algeria
```

```
American
```

```
Andorra
```

```
Angola
```

```
...
```





AMGA Tutorial Session 2

Hands-on (II) : AMGA Manager

Presenter : Taesang Huh

Supporters : Geunchul Park, Soonwook Hwang

Supercomputing Center

KISTI (Korea Institute of Science and Technology Information)



AMGA Tutorial

Hands-on (II)

Use AMGA service using AMGA Manager

Hands-on (II)

- Overview of AMGA Manager
- access AMGA service with AMGA Manager
- blindly follow
- Extra Hands-on (p63~)

What is AMGA Manager?

- easy-to-use, general-purpose GUI toolkit(client) for AMGA
- interactive exploration and searching environment for metadata in an user-friendly manner and hiding complexities
- Manipulation : metadata schema, entries, AC, G/U info, site info, collection properties etc.

Development

- Develop Eclipse toolkit based on JAVA
- Software development methodologies
 - UML(Unified Modeling Language)
 - Prototyping and Spiral method

Product Features

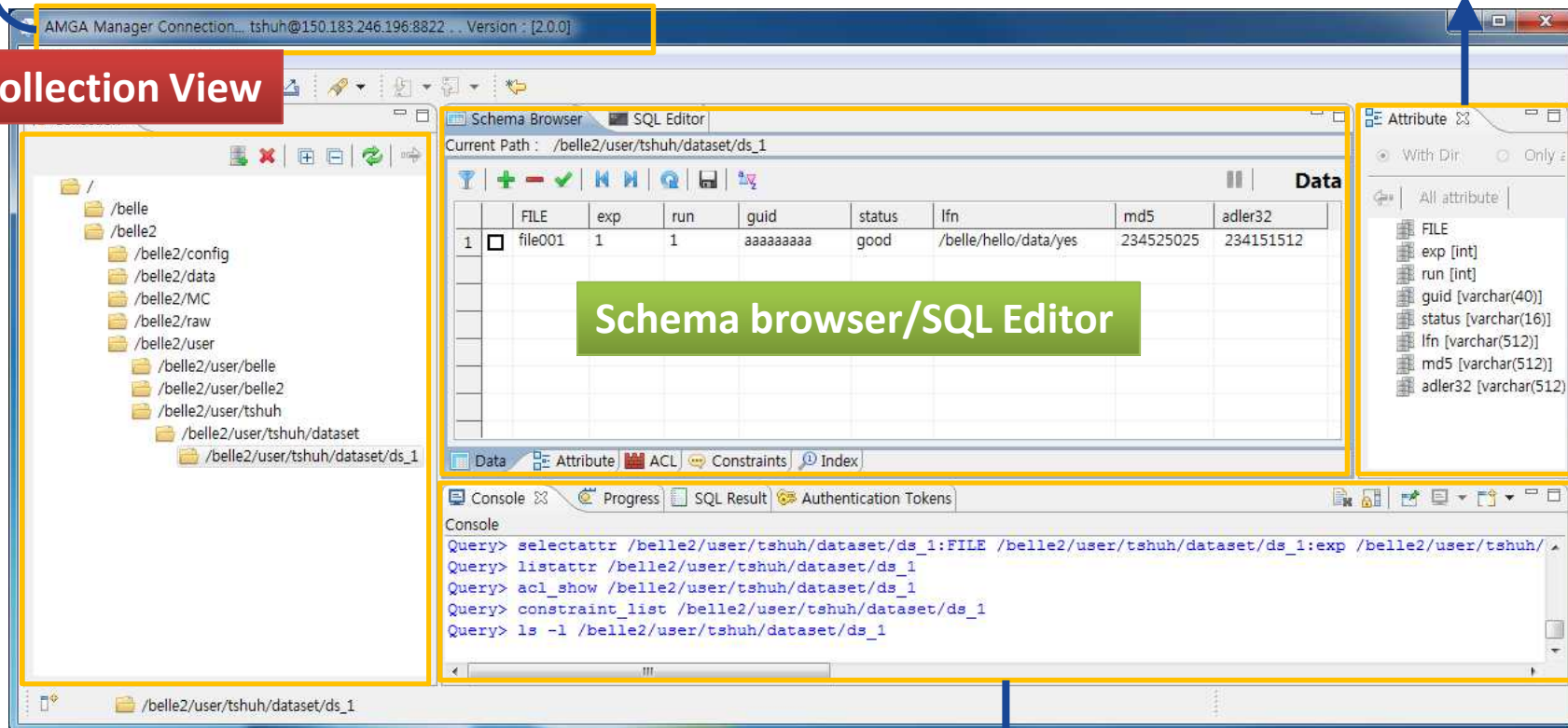
1. User Friendly Interface
2. Fast AMGA Connections
3. Powerful Schema Browser
4. Easy Monitoring Functions
5. Easy and Fast Query Execution
6. Prompt action about AMGA upgrade

AMGA Manager

connection information : user name, host, port No., AMGA version

Attributes with data type

Collection View



The screenshot shows the AMGA Manager interface with several components:

- Collection View:** A tree view on the left showing the directory structure under /belle2, including /belle2/config, /belle2/data, /belle2/MC, /belle2/raw, /belle2/user, and sub-directories for /belle2/user/belle, /belle2/user/belle2, /belle2/user/tshuh, and /belle2/user/tshuh/dataset.
- Schema browser/SQL Editor:** A central window showing a table with columns: FILE, exp, run, guid, status, lfn, md5, and Adler32. The current path is /belle2/user/tshuh/dataset/ds_1. A green box highlights this section.
- Attribute View:** A panel on the right showing a list of attributes and their data types: FILE, exp [int], run [int], guid [varchar(40)], status [varchar(16)], lfn [varchar(512)], md5 [varchar(512)], and Adler32 [varchar(512)].
- Console/Progress/SQL Result/Authen. Token view:** A bottom panel showing a console window with the following commands and output:

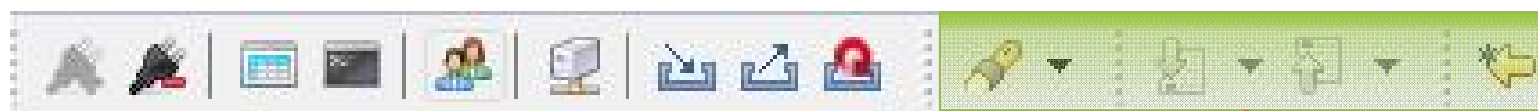

```










      Query> selectattr /belle2/user/tshuh/dataset/ds_1:FILE /belle2/user/tshuh/dataset/ds_1:exp /belle2/user/tshuh/
      Query> listattr /belle2/user/tshuh/dataset/ds_1
      Query> acl_show /belle2/user/tshuh/dataset/ds_1
      Query> constraint_list /belle2/user/tshuh/dataset/ds_1
      Query> ls -l /belle2/user/tshuh/dataset/ds_1
      
```

Console/Progress/SQL Result/Authen. Token view

EMI IN2P3-BS-SEJETT

Main Toolbar in AMGA Manager



	New connection	new connection
	Disconnection	disconnection
	Schema browser	manipulate and monitor metadata schema
	SQL Editor	make easily queries with some help Fn.
	Group/User Manager	group/user Manager
	Site Manager	site Manager
	Data Import Wizard	import metadata in file(xls, txt) into AMGA
	Data Export Wizard	export metadata into file(xls, txt)
	Data Rollback Wizard	Import Rollback, temporary Fn. (It will be gone)

AMGA Manager doesn't use these which are g-Eclipse components

Shortcut keys - MENU

<i>MENU</i>	<i>Shortcut key</i>
File -> new Connection	Ctrl + Shift + O
File -> end Connection	Ctrl + Shift + X
File -> change password	
File -> exit	Alt + F4
Help -> Program Help	F9
Help -> About AMGA Manager	F10
Key Assist	Ctrl+Shift+L

<i>MENU</i>	<i>Shortcut key</i>
Tool -> Collection	
-> Make Collection	Ctrl + Insert
-> Drop Collection	Ctrl + Delete
Tool -> Schema Browser	
-> Data	Alt + 1
-> Attribute	Alt + 2
-> ACL	Alt + 3
-> Constraints	Alt + 4
-> Index	Alt + 5
Tool -> SQL Editor	Alt + 6
Tool -> Data Import	Ctrl + I
Tool -> Data Export	Ctrl + K
Tool -> Data Rollback	Ctrl + U
Tool -> Group/User Manager	Ctrl + G
Tool -> Site Manager	Ctrl + T

Shortcut keys - Others

Collection view shortcut key	
<u>Popup Menu</u> [right-button/mouse]	
-> Data	Alt + 1
-> Attribute	Alt + 2
-> ACL	Alt + 3
-> Constraints	Alt + 4
-> Index	Alt + 5
-> SQL Editor	Alt + 6
-> Make Collection	Ctrl + Insert
-> Permission Collection	Ctrl + End
-> Drop Collection	Ctrl + Delete
-> Federation Manager	Ctrl + Home
-> Data Import	Ctrl + I
-> Data Export	Ctrl + K
-> Data Export	Ctrl + K
-> Refresh	F5

SQL Result Shortcut key	
<u>Popup Menu</u> [right-button/mouse]	
-> Copy	Ctrl + C
-> Select All	Ctrl + A

Schema Browser Shortcut key	
<u>Popup Menu</u> [right-button/mouse]	
-> All Select	Ctrl + F
-> All UnSelect	Ctrl + D
-> Select	Ctrl + S
-> unSelect	Ctrl + Shift + S
-> Copy	Ctrl + C
-> Pause	Ctrl + P
-> Refresh	Space Bar

SQL Editor Shortcut key	
<u>Popup Menu</u> [right-button/mouse]	
-> Completed CLI	F1
-> Run	F5
-> Undo	Ctrl + Z
-> Redo	Ctrl + Y
-> Cut	Ctrl + X
-> Copy	Ctrl + C
-> Paste	Ctrl + V
-> Select All	Ctrl + A

Hands-on by yourself

From “Browser around Collection view” to “Pop-up menu”
(p.11 ~ p.14)

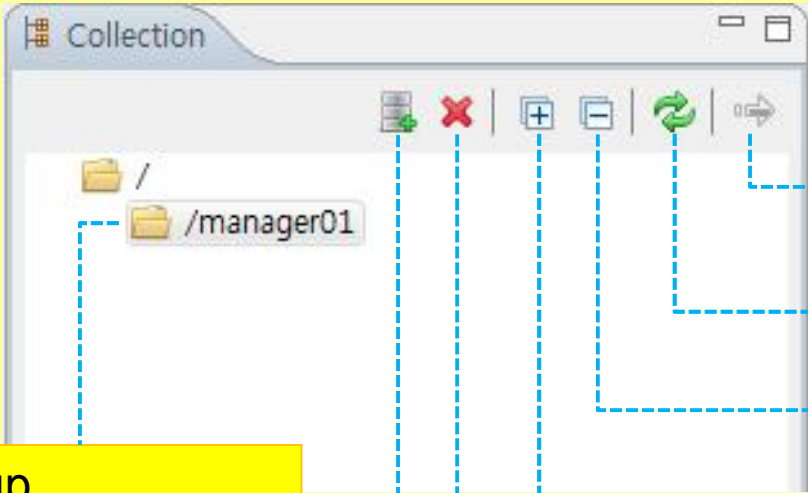
Please, try to **take look at the collection view** and **to operate directly its functions** with click by yourself.



Browse around Collection View

The menu of collection view shows following below.

Don't delete your directory !!!!



The screenshot shows a 'Collection' window with a toolbar and a directory tree. The toolbar contains icons for: Create collection (green plus), Delete collection or view (red X), Collapse all (minus), Expand all (plus), Refresh (green circular arrows), and Print current working path (right arrow). The directory tree shows a root folder '/' and a subfolder '/manager01'. Annotations with dashed blue lines connect the icons to text boxes:

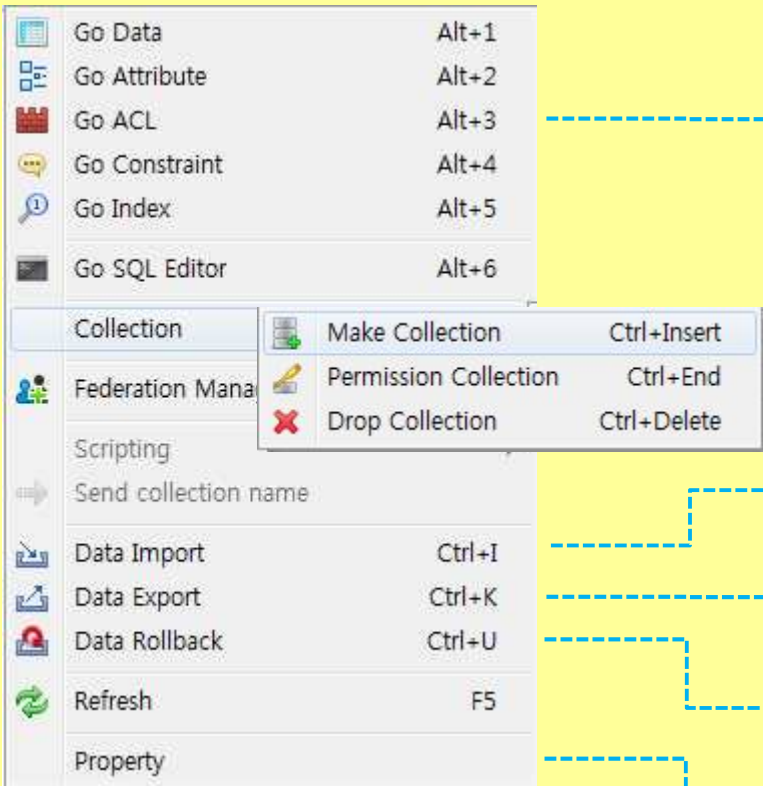
- Print current working path in the only SQL Editor** (points to the right arrow icon)
- Refresh** (points to the circular arrows icon)
- Collapse all** (points to the minus icon)
- Expand all** (points to the plus icon)
- Delete collection or view** (points to the red X icon)
- Create collection** (points to the green plus icon)

Additional annotations:

- Pop-up (click right button of mouse)** (points to the '/manager01' folder)

Pop-up Menu - Browse around Collection View

The menu of pop-up (clicking right button of mouse) at your directory (managerXX) in collection view shows following below.



The screenshot shows a context menu with the following items and their keyboard shortcuts:

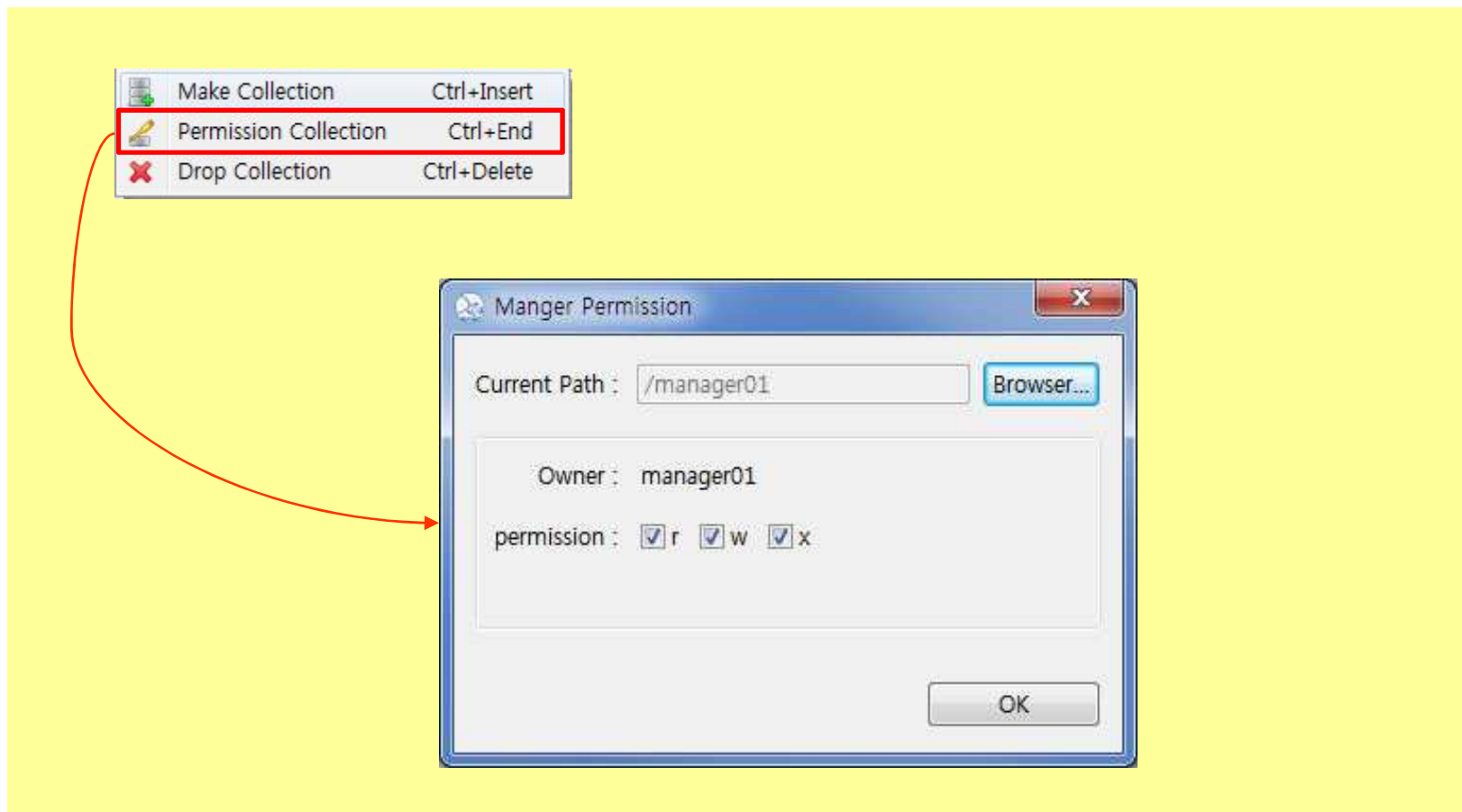
- Go Data (Alt+1)
- Go Attribute (Alt+2)
- Go ACL (Alt+3)
- Go Constraint (Alt+4)
- Go Index (Alt+5)
- Go SQL Editor (Alt+6)
- Collection
 - Make Collection (Ctrl+Insert)
 - Permission Collection (Ctrl+End)
 - Drop Collection (Ctrl+Delete)
- Federation Mana
- Scripting
- Send collection name
- Data Import (Ctrl+I)
- Data Export (Ctrl+K)
- Data Rollback (Ctrl+U)
- Refresh (F5)
- Property

Callouts on the right side of the image explain the actions for several menu items:

- Move on schema browser/(data, Attr, ACL, const, idex)**: Points to the 'Go Data', 'Go Attribute', 'Go ACL', 'Go Constraint', and 'Go Index' items.
- Move on SQL Editor**: Points to the 'Go SQL Editor' item.
- Import data file**: Points to the 'Data Import' item.
- Export data file**: Points to the 'Data Export' item.
- Data Rollback**: Points to the 'Data Rollback' item.
- Property of collection**: Points to the 'Property' item.

Pop-up Menu - Browse around Collection View

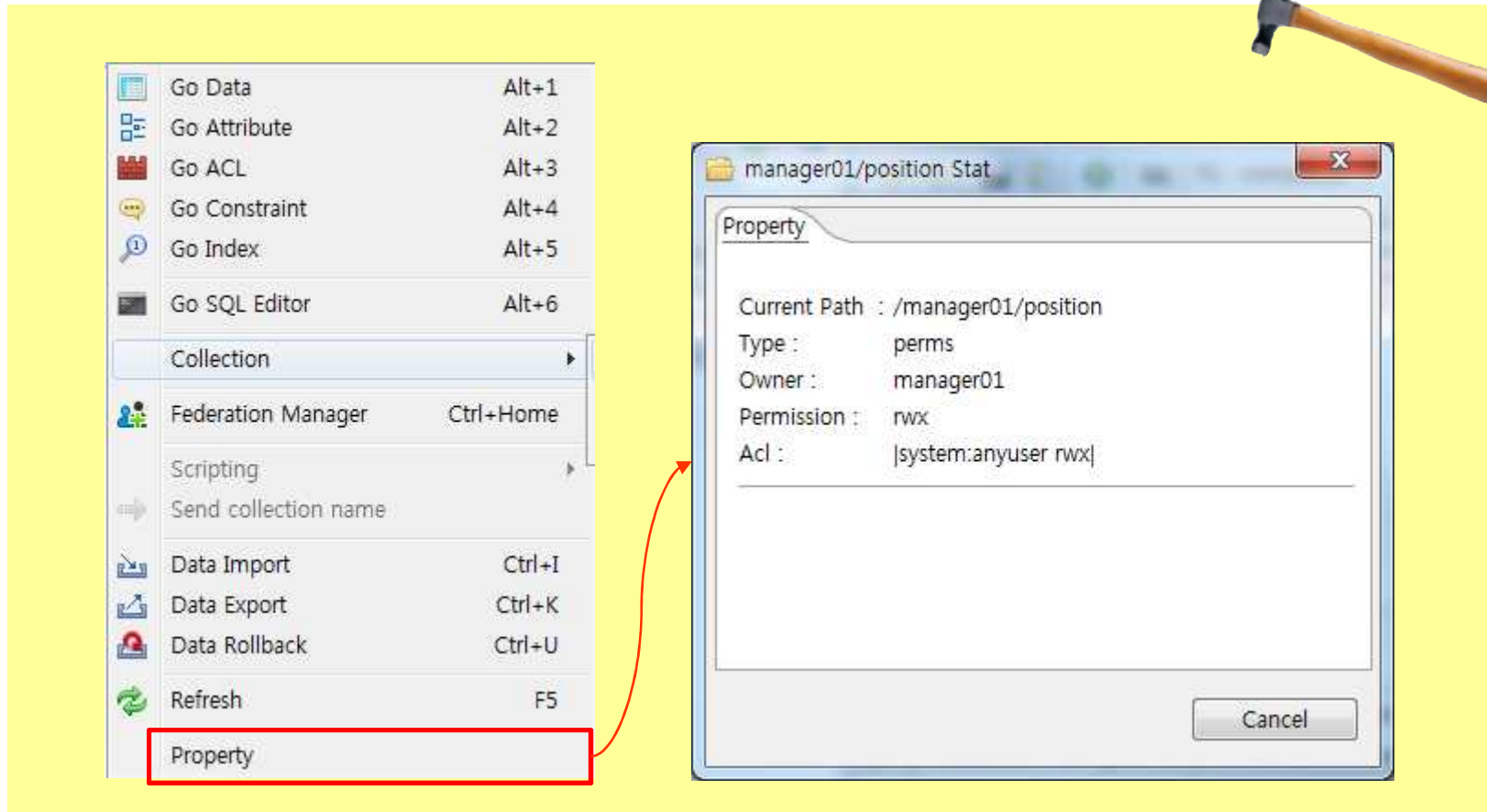
The permission collection of pop-up in collection view shows following below.
You can manage the owner and permission in the target collection.



Pop-up Menu - Browse around Collection View

The property of pop-up in collection view shows following below.

You'll see the property such as type, owner, permission and ACL in the target collection



The screenshot illustrates the process of viewing the properties of a collection. On the left, a context menu is open, with the 'Property' option at the bottom highlighted by a red rectangle. A red arrow points from this option to a dialog box on the right. The dialog box, titled 'manager01/position Stat', shows the following details:

- Current Path : /manager01/position
- Type : perms
- Owner : manager01
- Permission : rwx
- Acl : |system:anyuser rwx|

A hammer icon is positioned in the upper right area of the yellow background.

Hands-on by yourself

From “Make Collection” to “Data Import Wizard”
(p.16 ~ p.23)

Please, try to **make your collection** and **import data-set in the file(population.xls)** into the collection using AMGA Manager by yourself

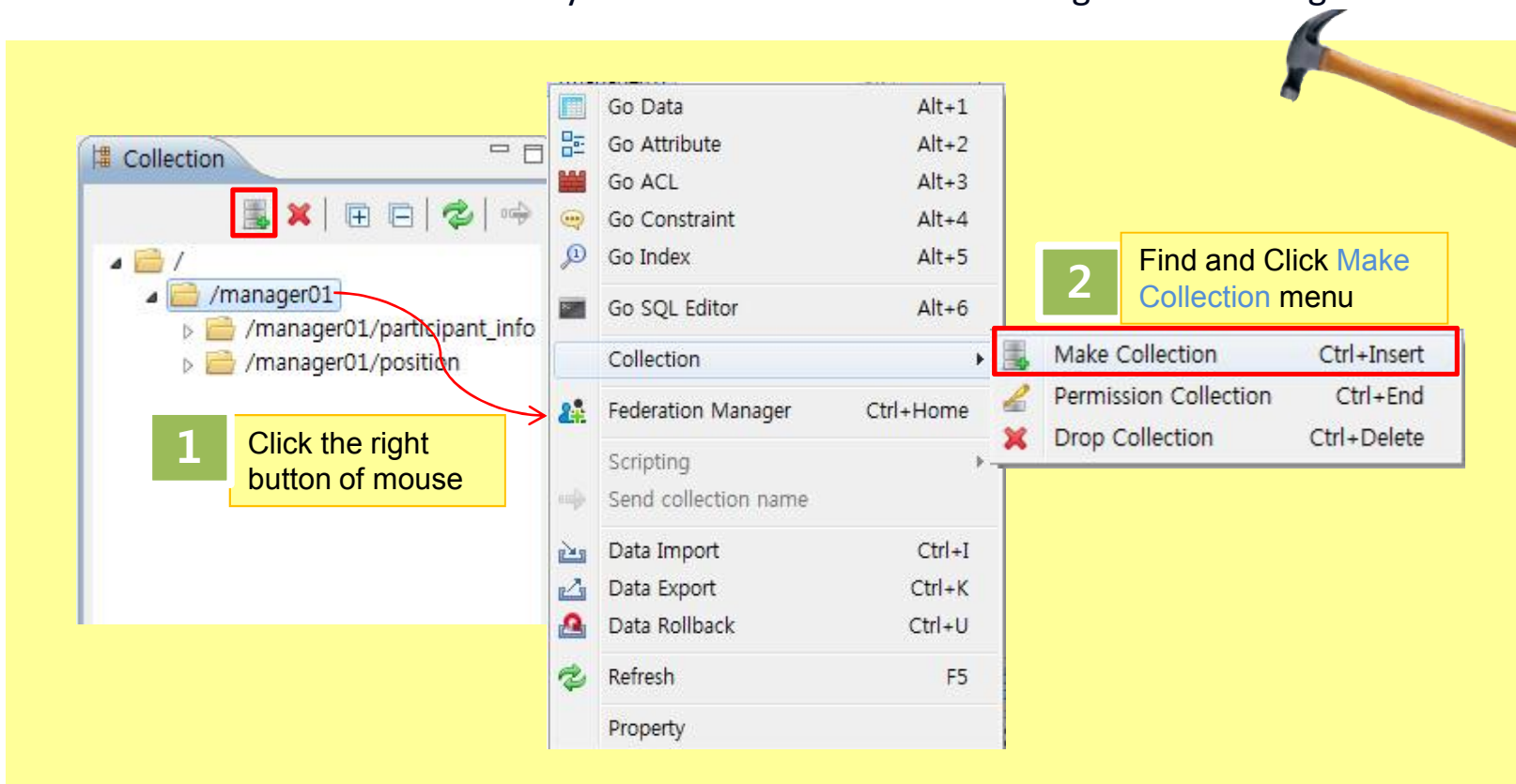
Let's go with me



Make collection

Following below, you will create a new collection (population) with attributes to fill the schema with entries in this directory using **Data Import Wizard**. You will learn:

- how to create a directory with metadata attributes using AMGA Manager



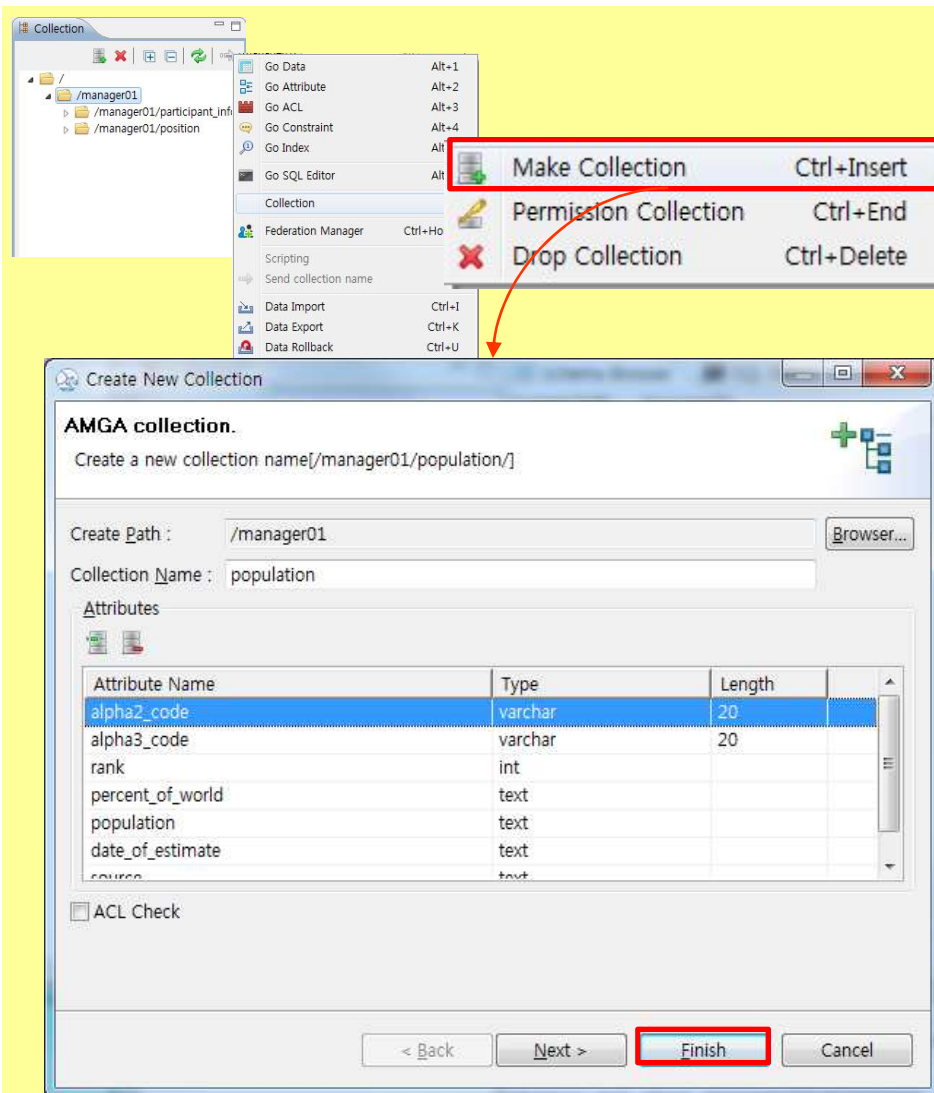
1 Click the right button of mouse

2 Find and Click **Make Collection** menu

Go Data	Alt+1
Go Attribute	Alt+2
Go ACL	Alt+3
Go Constraint	Alt+4
Go Index	Alt+5
Go SQL Editor	Alt+6
Collection	
Make Collection	Ctrl+Insert
Permission Collection	Ctrl+End
Drop Collection	Ctrl+Delete
Federation Manager	Ctrl+Home
Scripting	
Send collection name	
Data Import	Ctrl+I
Data Export	Ctrl+K
Data Rollback	Ctrl+U
Refresh	F5
Property	



Make collection



The screenshot shows the 'Collection' tool interface. A context menu is open over a tree view, with the 'Make Collection' option highlighted in red. Below it, the 'Create New Collection' dialog box is shown. The dialog has the following fields and options:

- AMGA collection.** Create a new collection name[/manager01/population,]
- Create Path :** /manager01 (with a 'Browser...' button)
- Collection Name :** population
- Attributes** table:

Attribute Name	Type	Length
alpha2_code	varchar	20
alpha3_code	varchar	20
rank	int	
percent_of_world	text	
population	text	
date_of_estimate	text	
source	text	

At the bottom of the dialog, there are buttons for '< Back', 'Next >', 'Finish' (highlighted in red), and 'Cancel'. An 'ACL Check' checkbox is also present.

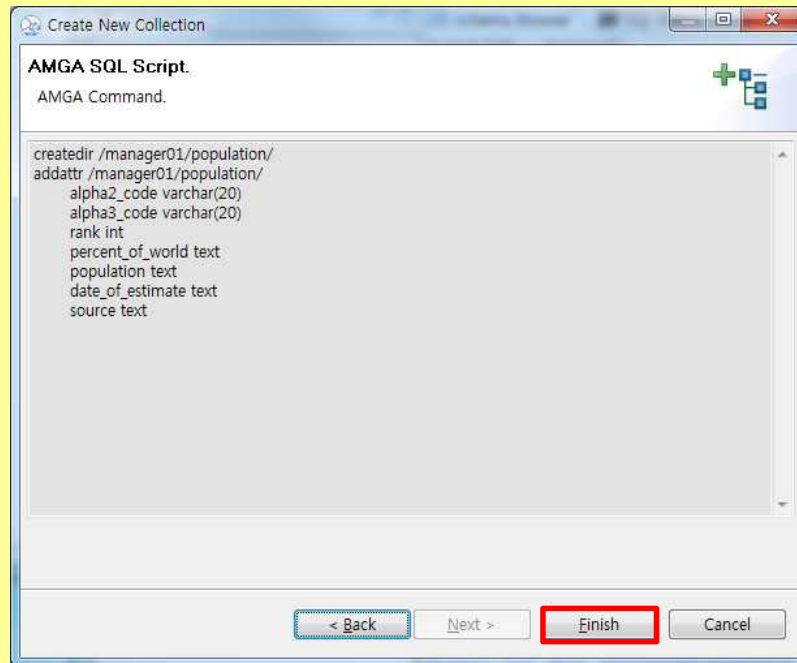
Create Path /managerXX

Collection name : population

Attributes

- alpha2_code varchar(20)
- alpha3_code varchar(20)
- Rank int
- percent_of_world text
- population text
- date_of_estimate text
- source text

Make collection



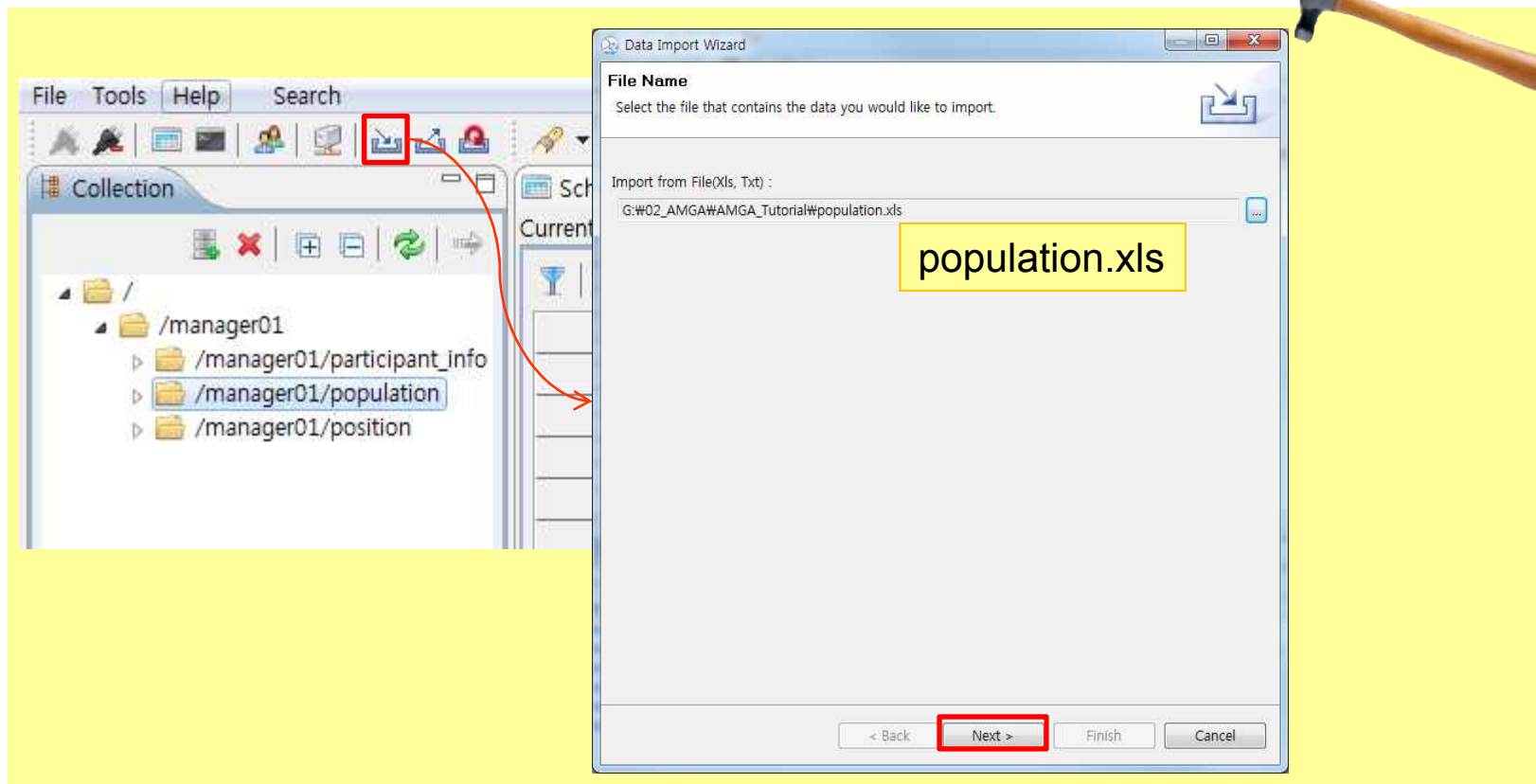
Ready to prepare rice bowl, in the next step, fill the bowl with rice



Data Import Wizard

Following below, you will import population data into population directory(/managerXX/population) using **Data Import Wizard**. You will learn:

- how to insert many entries, which you have in the file(xls, txt format), into a directory using AMGA Manager



Data Import Wizard

Data Formats
Specify the file format and conversion options for the data.

Input File Format
File data format : Excel File

String quote character : Tab

First data row : 1

in case of txt file, this is activating

If first row is not data, you may change first data row.

File Preview
Select location from file to start import.

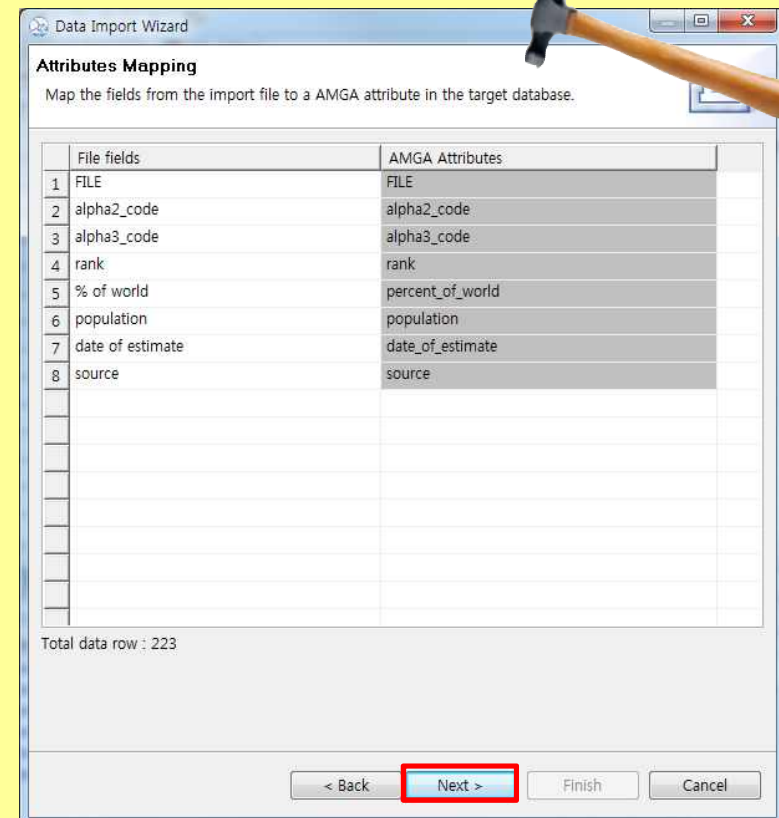
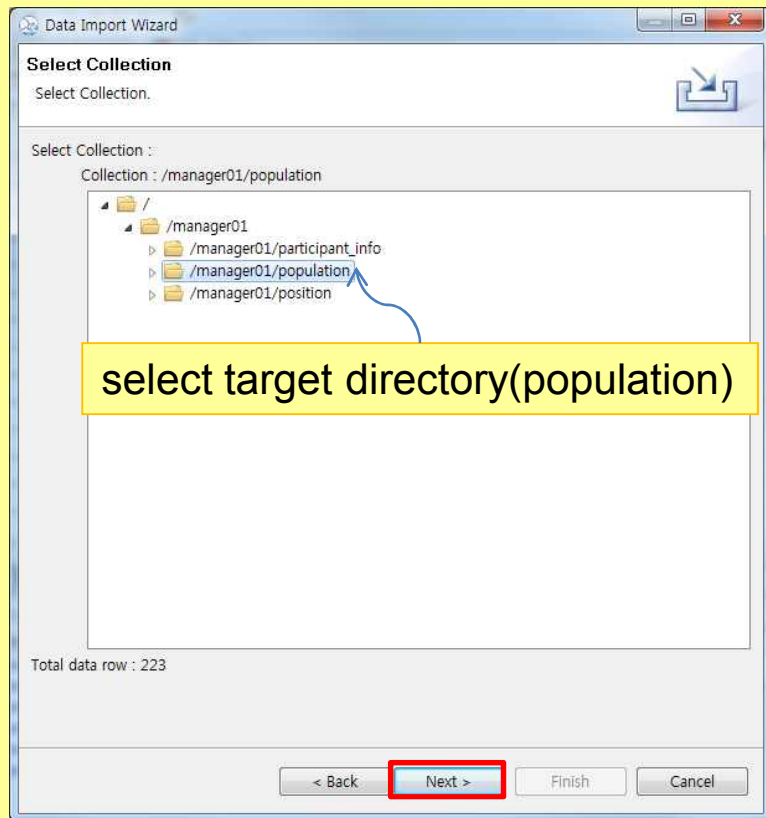
Select Star Position For Each Source
Column : FILE Row : 1

	FILE	alpha2_code	
1	Afghanistan	AF	alp
2	Albania	AL	AF
3	Algeria	DZ	DZ
4	American Samoa	AS	AS
5	Andorra	AD	AN
6	Anguilla	AO	AG
7	Anguilla	AI	AIA
8	Antigua and Barbuda	AG	AT
9	Argentina	AR	AR
10	Armenia	AM	AR
11	Aruba	AW	AB
12	Australia	AU	AU
13	Austria	AT	AU
14	Azerbaijan	AZ	AZ

Total data row : 223

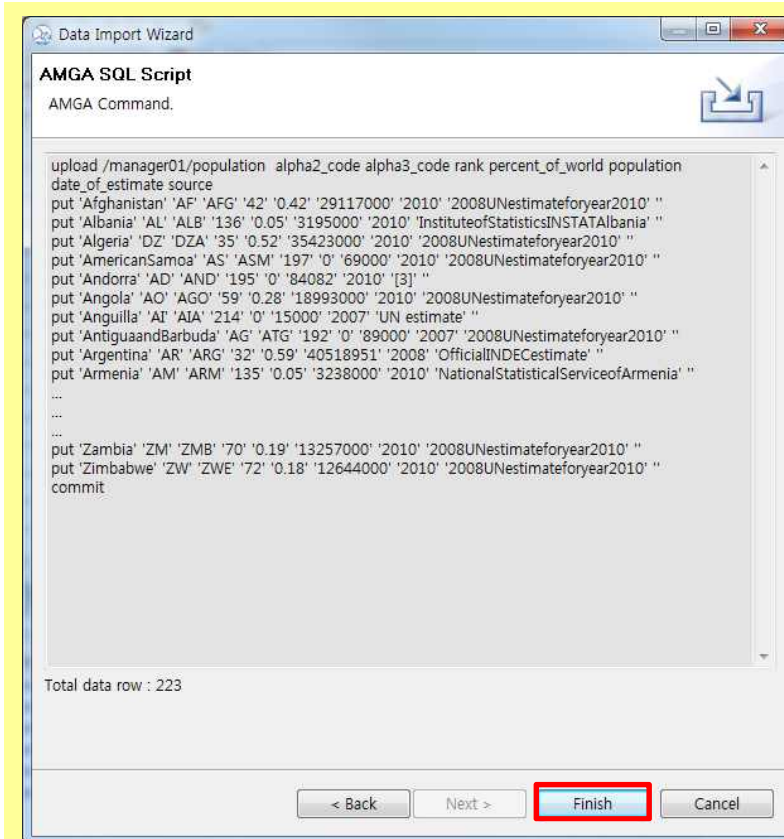
Preview your data in the file

Data Import Wizard



**Check matching between file fields and attributes
No match, you can't import data !!**

Data Import Wizard



Check SQL script made by AMGA Manager and total data row :223

Data Import Wizard



Schema Browser SQL Editor
Current Path : /manager01/population

	FILE	alp...ode	alp...ode	rank	percent_of_world
1	<input type="checkbox"/> Afghanistan	AF	AFG	42	0.42
2	<input type="checkbox"/> Albania	AL	ALB	136	0.05
3	<input type="checkbox"/> Algeria	DZ	DZA	35	0.52
4	<input type="checkbox"/> AmericanSamoa	AS	ASM	197	0
5	<input type="checkbox"/> Andorra	AD	AND	195	0
6	<input type="checkbox"/> Angola	AO	AGO	59	0.28
7	<input type="checkbox"/> Anguilla	AI	AIA	214	0
8	<input type="checkbox"/> Antigu...arbuda	AG	ATG	192	0
9	<input type="checkbox"/> Argentina	AR	ARG	32	0.59
10	<input type="checkbox"/> Armenia	AM	ARM	135	0.05
11	<input type="checkbox"/> Aruba	AW	ABW	187	0
12	<input type="checkbox"/> Australia	AU	AUS	53	0.33
13	<input type="checkbox"/> Austria	AT	AUT	93	0.12
14	<input type="checkbox"/> Azerbaijan	AZ	AZE	91	0.13

Data Attribute ACL Constraints Index

Check metadata in the populaton schema

Hands-on by yourself

From “Filter” to “Clear Filter”
(p.25 ~ p.33)

Please, try to **make filter** and **sort data-set** and **manage metadata** in target collection.

Let's go with me



Filter - Manage Schema browser(Data)

- Try to make Filter

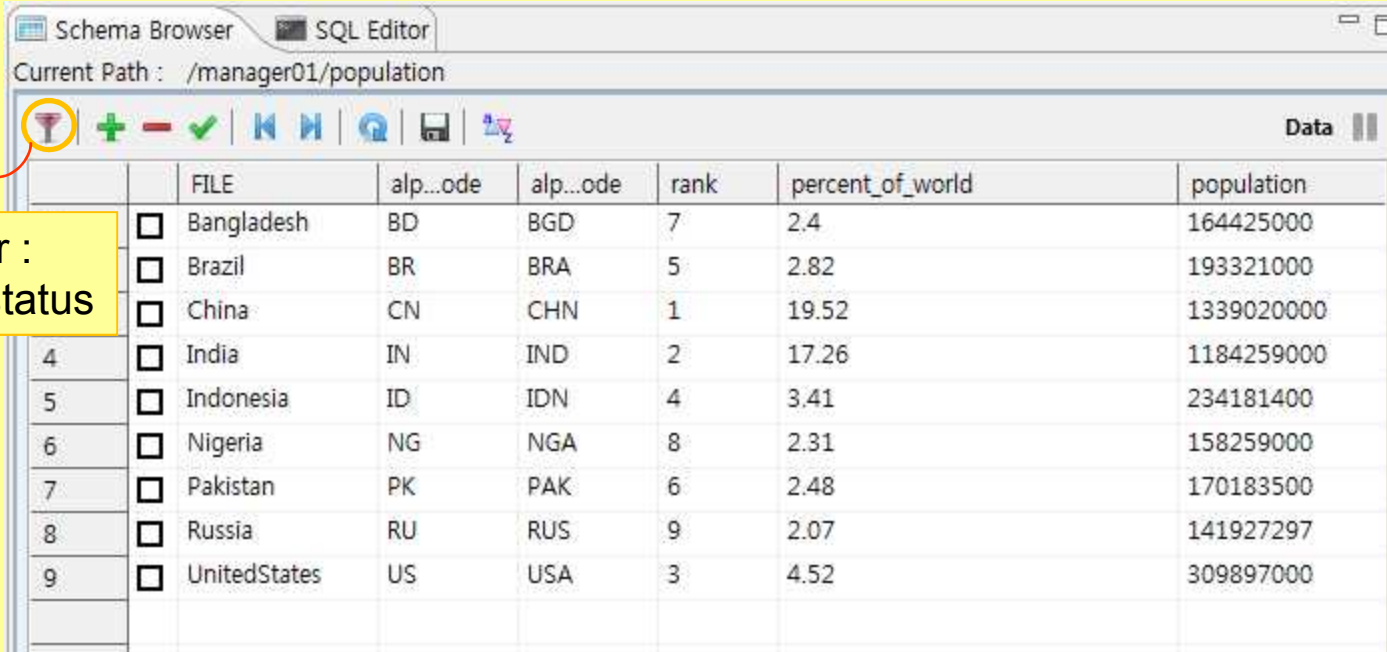


The screenshot shows a 'Schema Browser' window with a list of countries and a 'Filter Data' dialog box. The dialog box has tabs for 'Included Columns', 'Where Clause', and 'Order By (ASC)'. The 'Where Clause' tab is active, showing a query: `10 > /manager01/population:rank`. The 'Included Columns' list includes `/manager01/population:rank`, which is highlighted. The 'Filter Query' field contains a complex query with `>` and `/manager01/population:rank`. The 'Ok' button is highlighted.

- 1 Click filter
- 2 Click tab
- 3 write 10
- 4 Click ">"
- 5 Click "/manager01/population:rank"
- 6

Filter - Manage Schema browser(Data)

- Filtered data

Schema Browser SQL Editor
Current Path : /manager01/population

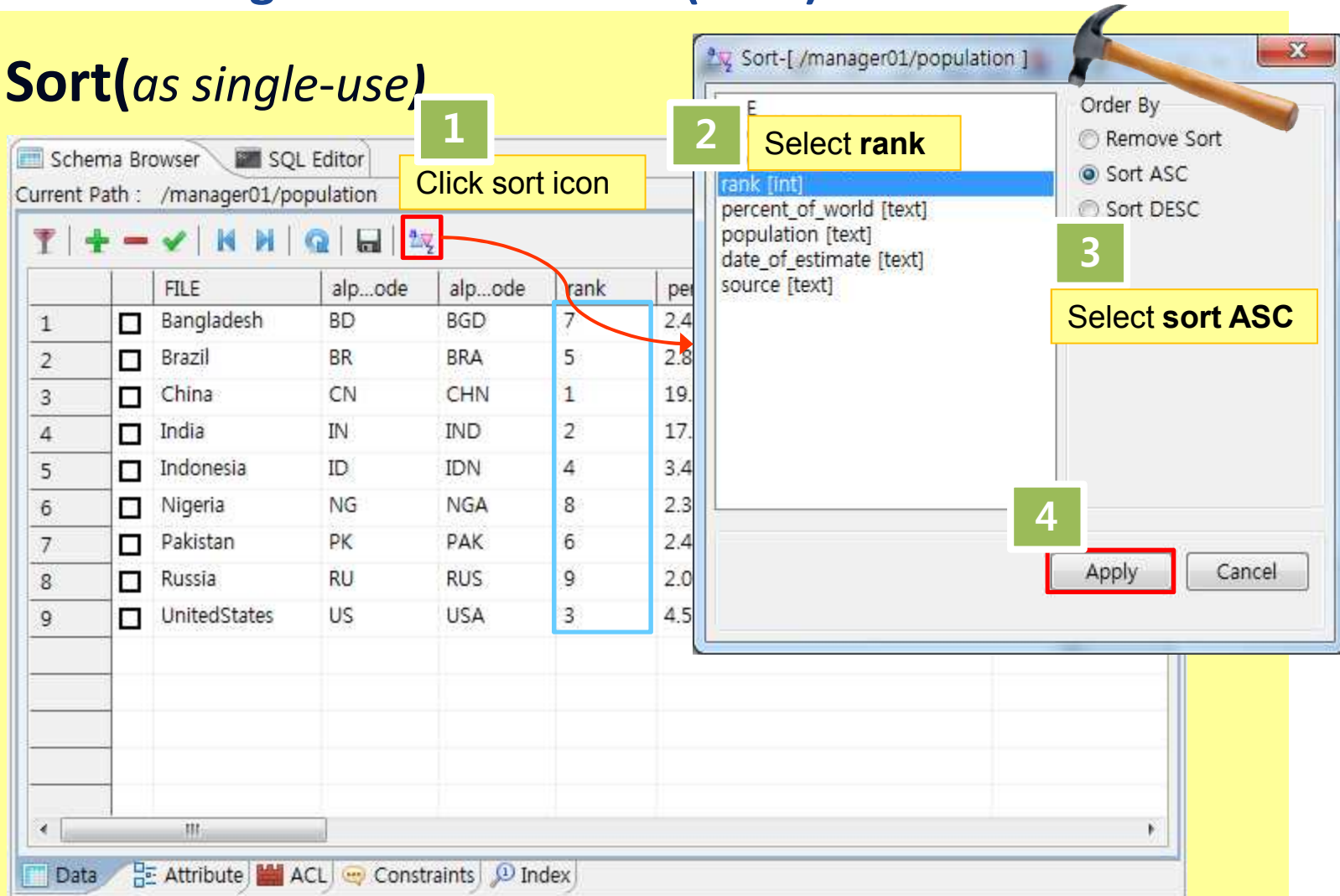
	FILE	alp...ode	alp...ode	rank	percent_of_world	population
<input type="checkbox"/>	Bangladesh	BD	BGD	7	2.4	164425000
<input type="checkbox"/>	Brazil	BR	BRA	5	2.82	193321000
<input type="checkbox"/>	China	CN	CHN	1	19.52	1339020000
4	<input type="checkbox"/>	India	IN	IND	2	1184259000
5	<input type="checkbox"/>	Indonesia	ID	IDN	4	234181400
6	<input type="checkbox"/>	Nigeria	NG	NGA	8	158259000
7	<input type="checkbox"/>	Pakistan	PK	PAK	6	170183500
8	<input type="checkbox"/>	Russia	RU	RUS	9	141927297
9	<input type="checkbox"/>	UnitedStates	US	USA	3	309897000

Red color :
Filtered status

Once set up the filter, you can use it again, each time you connect to AMGA.

Sort - Manage Schema browser(Data)

- Sort (*as single-use*)



1 Click sort icon

2 Select rank

3 Select sort ASC

4 Apply

	FILE	alp...ode	alp...ode	rank	per
1	<input type="checkbox"/> Bangladesh	BD	BGD	7	2.4
2	<input type="checkbox"/> Brazil	BR	BRA	5	2.8
3	<input type="checkbox"/> China	CN	CHN	1	19.
4	<input type="checkbox"/> India	IN	IND	2	17.
5	<input type="checkbox"/> Indonesia	ID	IDN	4	3.4
6	<input type="checkbox"/> Nigeria	NG	NGA	8	2.3
7	<input type="checkbox"/> Pakistan	PK	PAK	6	2.4
8	<input type="checkbox"/> Russia	RU	RUS	9	2.0
9	<input type="checkbox"/> UnitedStates	US	USA	3	4.5

Sort-[/manager01/population]

Order By

Remove Sort

Sort ASC

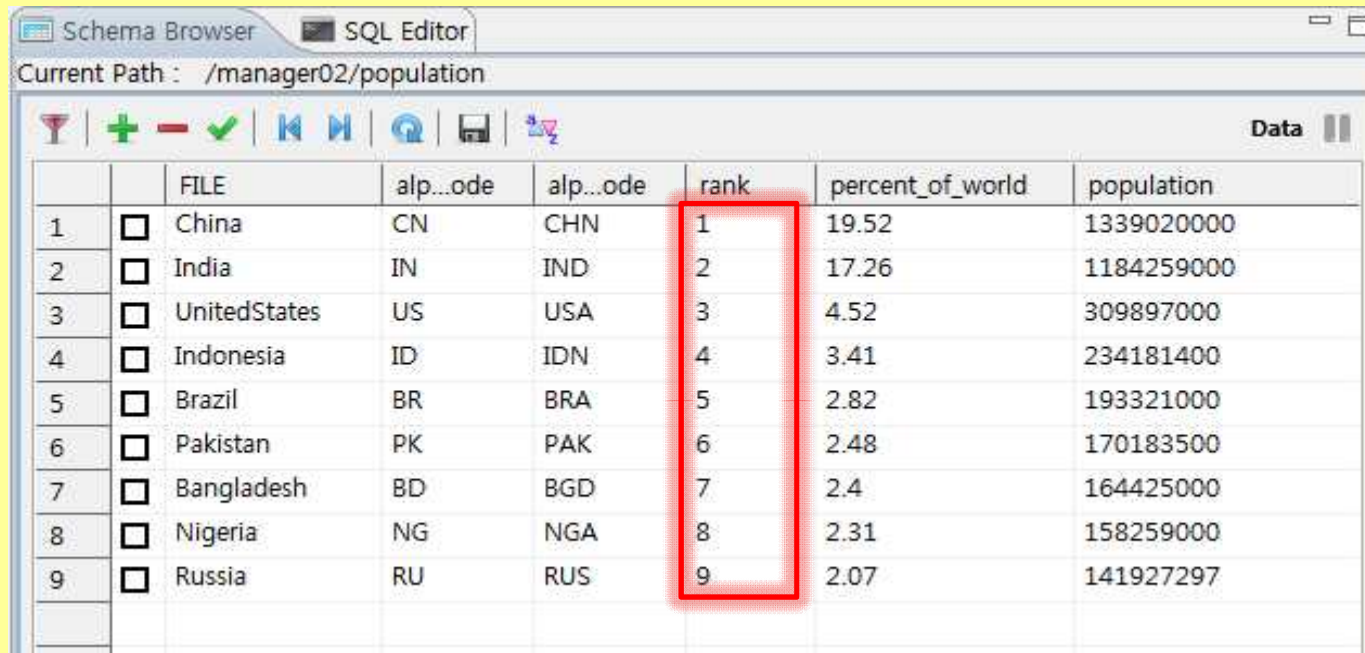
Sort DESC

rank [int]
percent_of_world [text]
population [text]
date_of_estimate [text]
source [text]

Apply Cancel

Sort - Manage Schema browser(Data)

- Sorted data

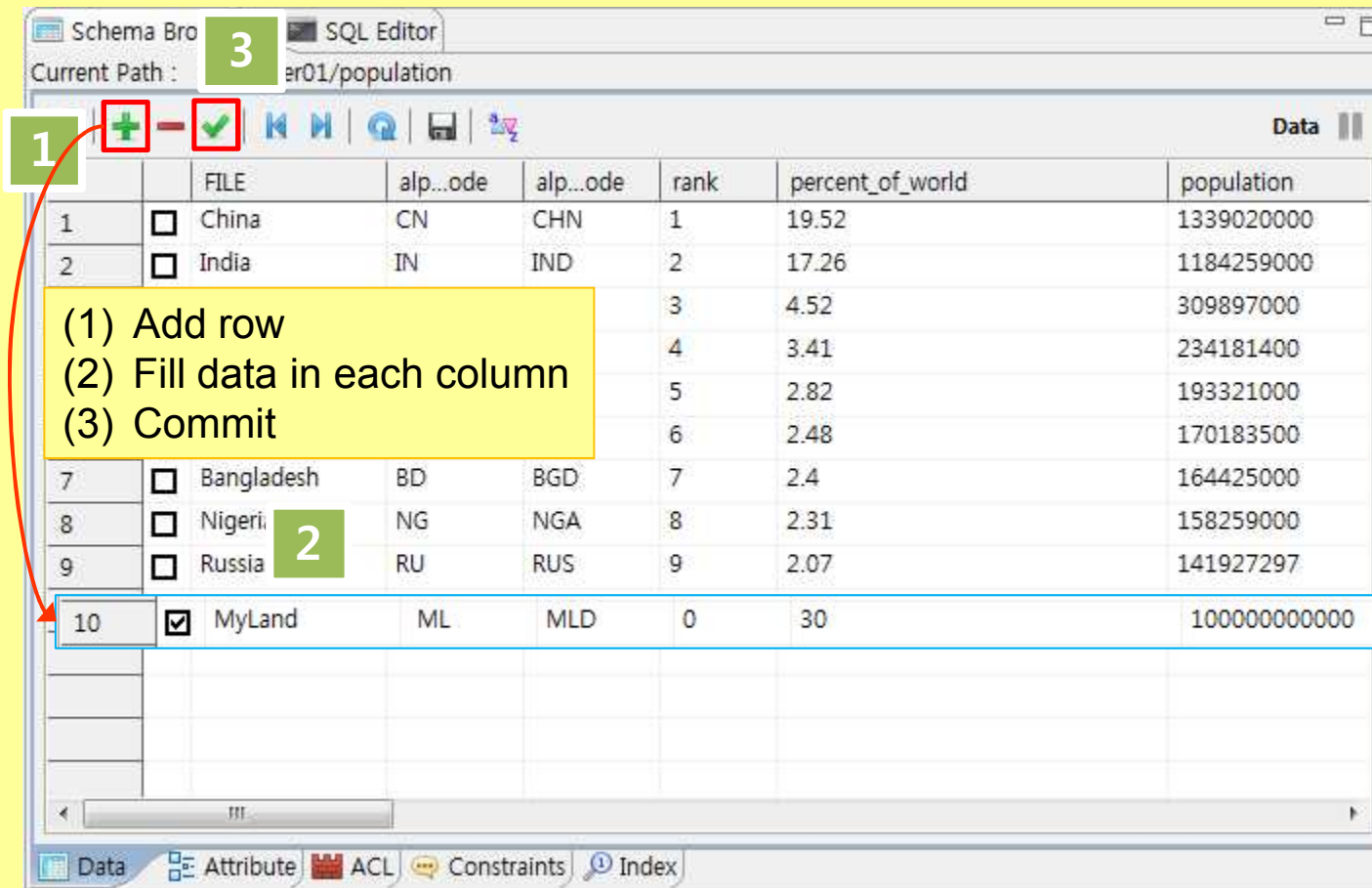
Schema Browser SQL Editor
Current Path : /manager02/population

	FILE	alp...ode	alp...ode	rank	percent_of_world	population
1	<input type="checkbox"/> China	CN	CHN	1	19.52	1339020000
2	<input type="checkbox"/> India	IN	IND	2	17.26	1184259000
3	<input type="checkbox"/> UnitedStates	US	USA	3	4.52	309897000
4	<input type="checkbox"/> Indonesia	ID	IDN	4	3.41	234181400
5	<input type="checkbox"/> Brazil	BR	BRA	5	2.82	193321000
6	<input type="checkbox"/> Pakistan	PK	PAK	6	2.48	170183500
7	<input type="checkbox"/> Bangladesh	BD	BGD	7	2.4	164425000
8	<input type="checkbox"/> Nigeria	NG	NGA	8	2.31	158259000
9	<input type="checkbox"/> Russia	RU	RUS	9	2.07	141927297

Although ordering sequence, this condition will be gone after changing collection.

Add entry - Manage Schema browser(Data)

- Try to add entry

Current Path : er01/population

	FILE	alp...ode	alp...ode	rank	percent_of_world	population
1	<input type="checkbox"/> China	CN	CHN	1	19.52	1339020000
2	<input type="checkbox"/> India	IN	IND	2	17.26	1184259000
				3	4.52	309897000
				4	3.41	234181400
				5	2.82	193321000
				6	2.48	170183500
7	<input type="checkbox"/> Bangladesh	BD	BGD	7	2.4	164425000
8	<input type="checkbox"/> Nigeri	NG	NGA	8	2.31	158259000
9	<input type="checkbox"/> Russia	RU	RUS	9	2.07	141927297
10	<input checked="" type="checkbox"/> MyLand	ML	MLD	0	30	10000000000

(1) Add row
(2) Fill data in each column
(3) Commit

Add entry - Manage Schema browser(Data)

- Added data



Schema Browser SQL Editor

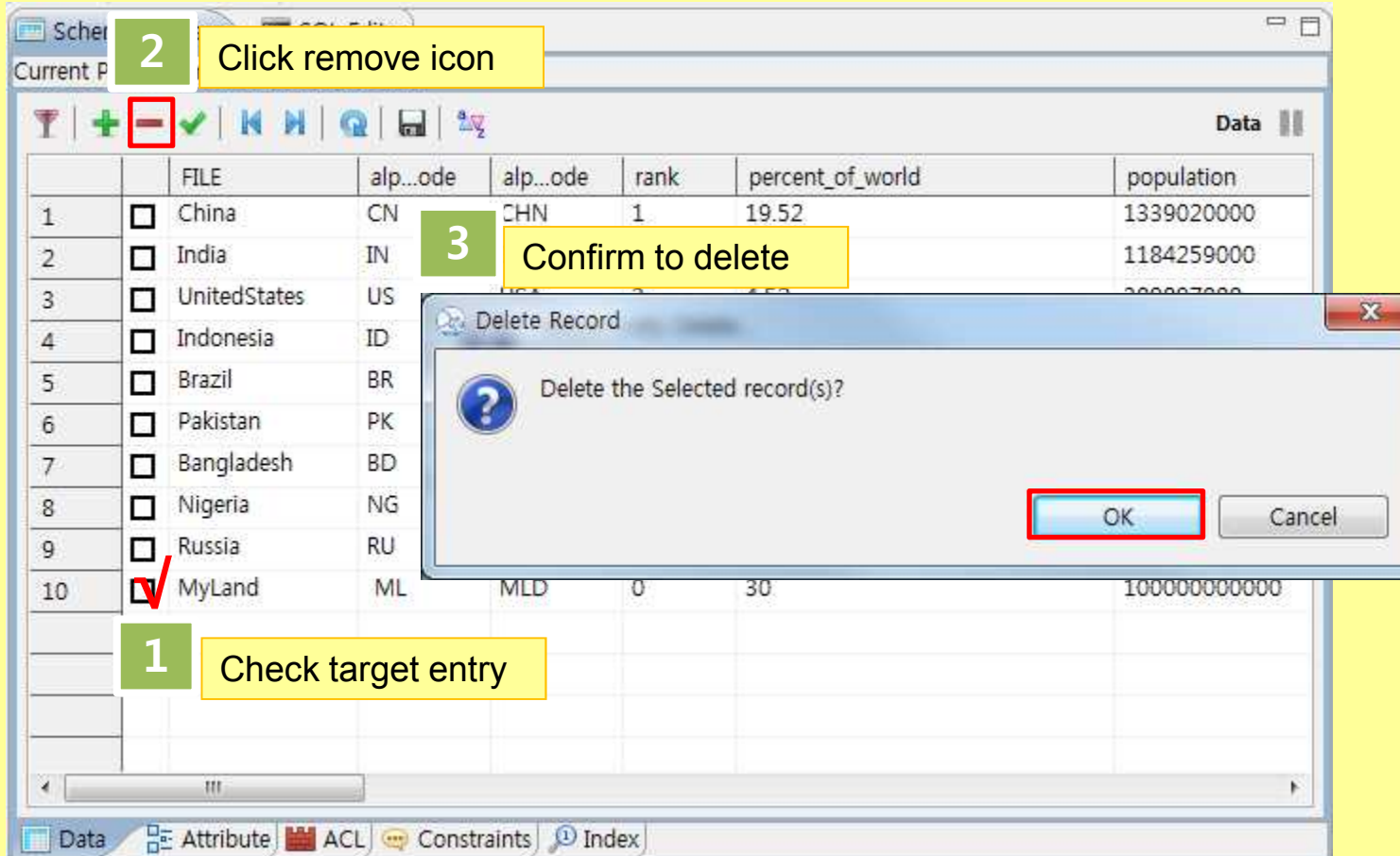
Current Path : /manager01/population

		FILE	alp...ode	alp...ode	rank	percent_of_world	population
1	<input type="checkbox"/>	China	CN	CHN	1	19.52	1339020000
2	<input type="checkbox"/>	India	IN	IND	2	17.26	1184259000
3	<input type="checkbox"/>	UnitedStates	US	USA	3	4.52	309897000
4	<input type="checkbox"/>	Indonesia	ID	IDN	4	3.41	234181400
5	<input type="checkbox"/>	Brazil	BR	BRA	5	2.82	193321000
6	<input type="checkbox"/>	Pakistan	PK	PAK	6	2.48	170183500
7	<input type="checkbox"/>	Bangladesh	BD	BGD	7	2.4	164425000
8	<input type="checkbox"/>	Nigeria	NG	NGA	8	2.31	158259000
9	<input type="checkbox"/>	Russia	RU	RUS	9	2.07	141927297
10	<input type="checkbox"/>	MyLand	ML	MLD	0	30	100000000000

Data Attribute ACL Constraints Index

Delete entry - Manage Schema browser(Data)

- Try to Delete

2 Click remove icon

3 Confirm to delete

1 Check target entry

	FILE	alp...ode	alp...ode	rank	percent_of_world	population
1	<input type="checkbox"/> China	CN	CHN	1	19.52	1339020000
2	<input type="checkbox"/> India	IN				1184259000
3	<input type="checkbox"/> UnitedStates	US				300000000
4	<input type="checkbox"/> Indonesia	ID				
5	<input type="checkbox"/> Brazil	BR				
6	<input type="checkbox"/> Pakistan	PK				
7	<input type="checkbox"/> Bangladesh	BD				
8	<input type="checkbox"/> Nigeria	NG				
9	<input type="checkbox"/> Russia	RU				
10	<input checked="" type="checkbox"/> MyLand	ML	MLD	0	30	10000000000

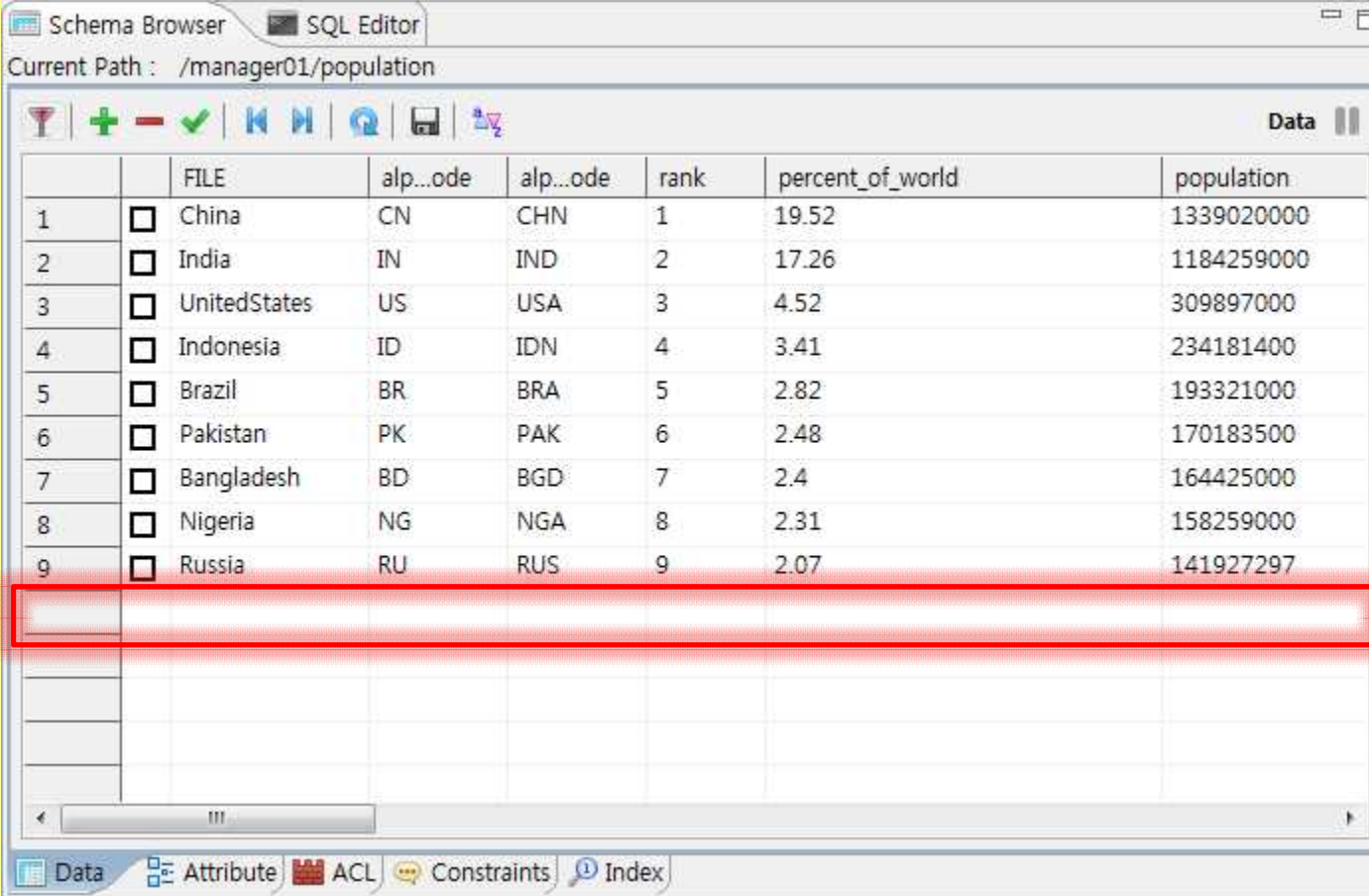
Delete Record

Delete the Selected record(s)?

OK Cancel

Delete entry - Manage Schema browser(Data)

- Deleted data

Schema Browser SQL Editor
Current Path : /manager01/population

	FILE	alp...ode	alp...ode	rank	percent_of_world	population
1	<input type="checkbox"/> China	CN	CHN	1	19.52	1339020000
2	<input type="checkbox"/> India	IN	IND	2	17.26	1184259000
3	<input type="checkbox"/> UnitedStates	US	USA	3	4.52	309897000
4	<input type="checkbox"/> Indonesia	ID	IDN	4	3.41	234181400
5	<input type="checkbox"/> Brazil	BR	BRA	5	2.82	193321000
6	<input type="checkbox"/> Pakistan	PK	PAK	6	2.48	170183500
7	<input type="checkbox"/> Bangladesh	BD	BGD	7	2.4	164425000
8	<input type="checkbox"/> Nigeria	NG	NGA	8	2.31	158259000
9	<input type="checkbox"/> Russia	RU	RUS	9	2.07	141927297
	<input type="checkbox"/>					

Data Attribute ACL Constraints Index

Clear Filter - Manage Schema browser(Data)

- Try to Clear filter



1 Click Filter icon

	FILE	alp...ode	alp...ode	rank	percent_of_world	population
1	<input type="checkbox"/> China	CN	CHN	1	19.52	1339020000
2	<input type="checkbox"/> India	IN				
3	<input type="checkbox"/> UnitedStates	US				
4	<input type="checkbox"/> Indonesia	ID				
5	<input type="checkbox"/> Brazil	BR				
6	<input type="checkbox"/> Pakistan	PK				
7	<input type="checkbox"/> Bangladesh	BD				
8	<input type="checkbox"/> Nigeria	NG				
9	<input type="checkbox"/> Russia	RU				

Filter Data- [/manager01/population]

Included Columns | Where Clause | Order By (ASC)

10 > /manager01/population:rank

Filter Query

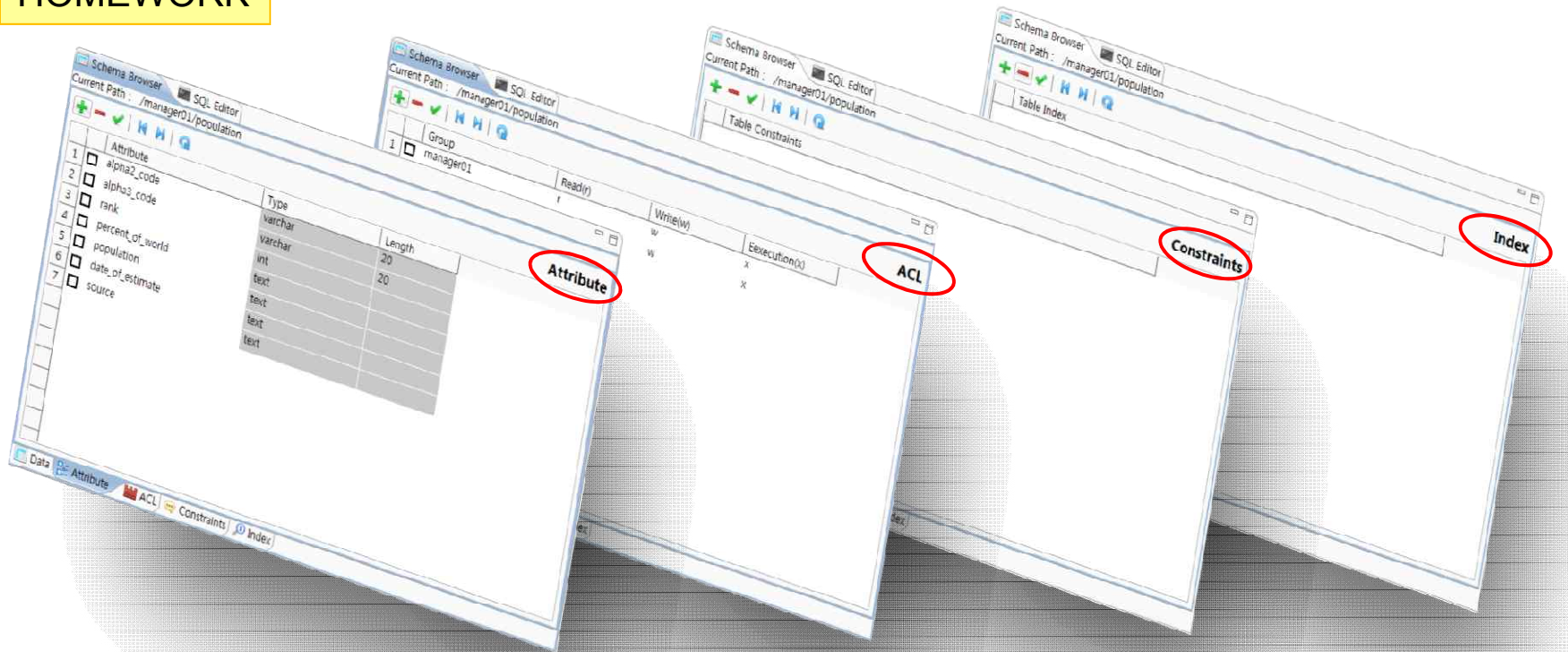
```
selectattr /manager01/population:FILE /manager01/population:alpha2_code /manager01/population:alpha3_code
/mmanager01/population:rank /manager01/population:percent_of_world /manager01/population:population
/mmanager01/population:date_of_estimate /manager01/population:source ' 10 > /manager01/population:rank '
```

1 Click Clear button

Clear Ok Cancel

Manage Schema browser(others)

HOMEWORK



Attributes

Create
Read
Delete

ACL

Create
Read
Update
Delete

Constraints

Create
Read
Delete

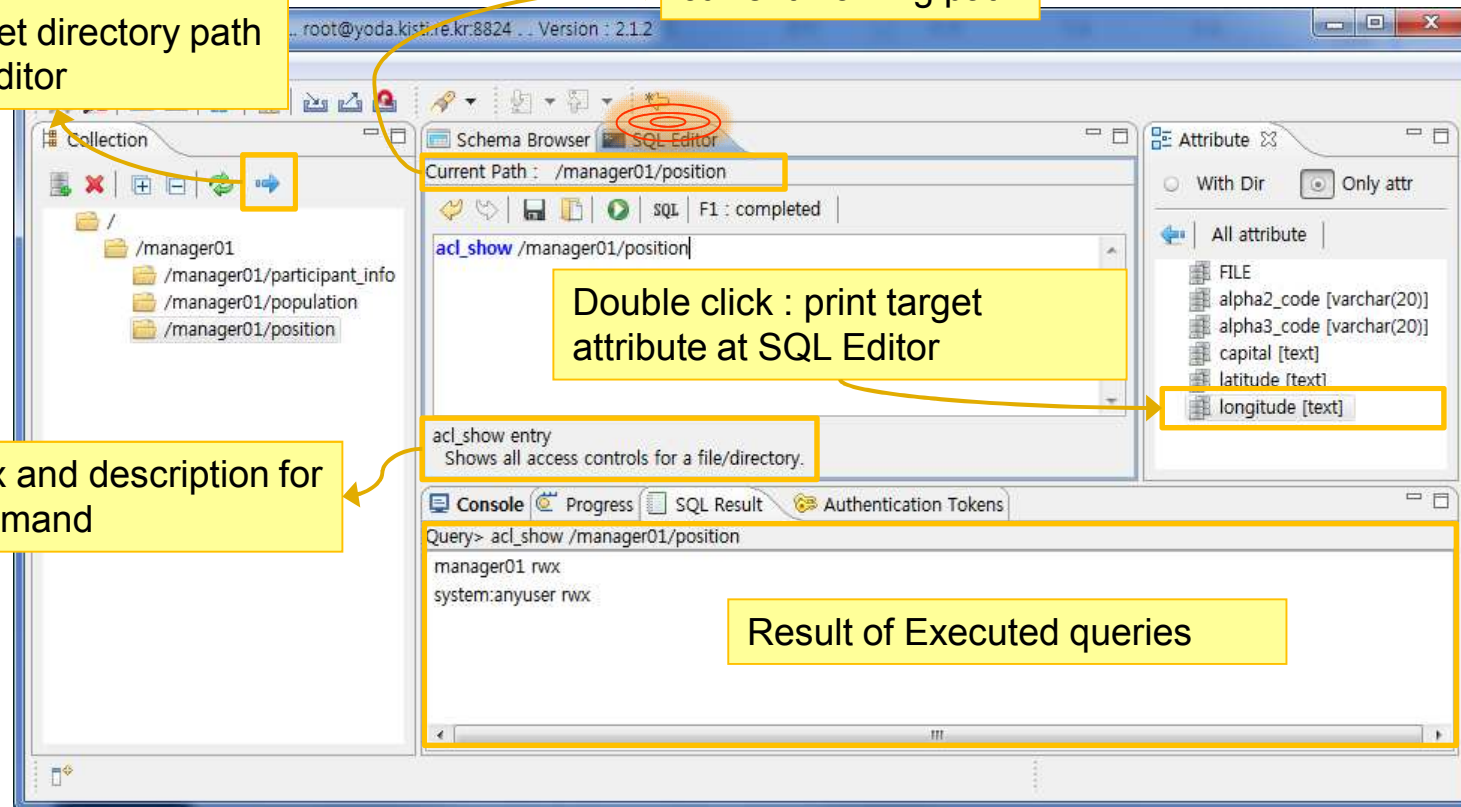
Index

Create
Read
Delete

Overview of SQL Editor Use

Print target directory path at SQL Editor

current working path

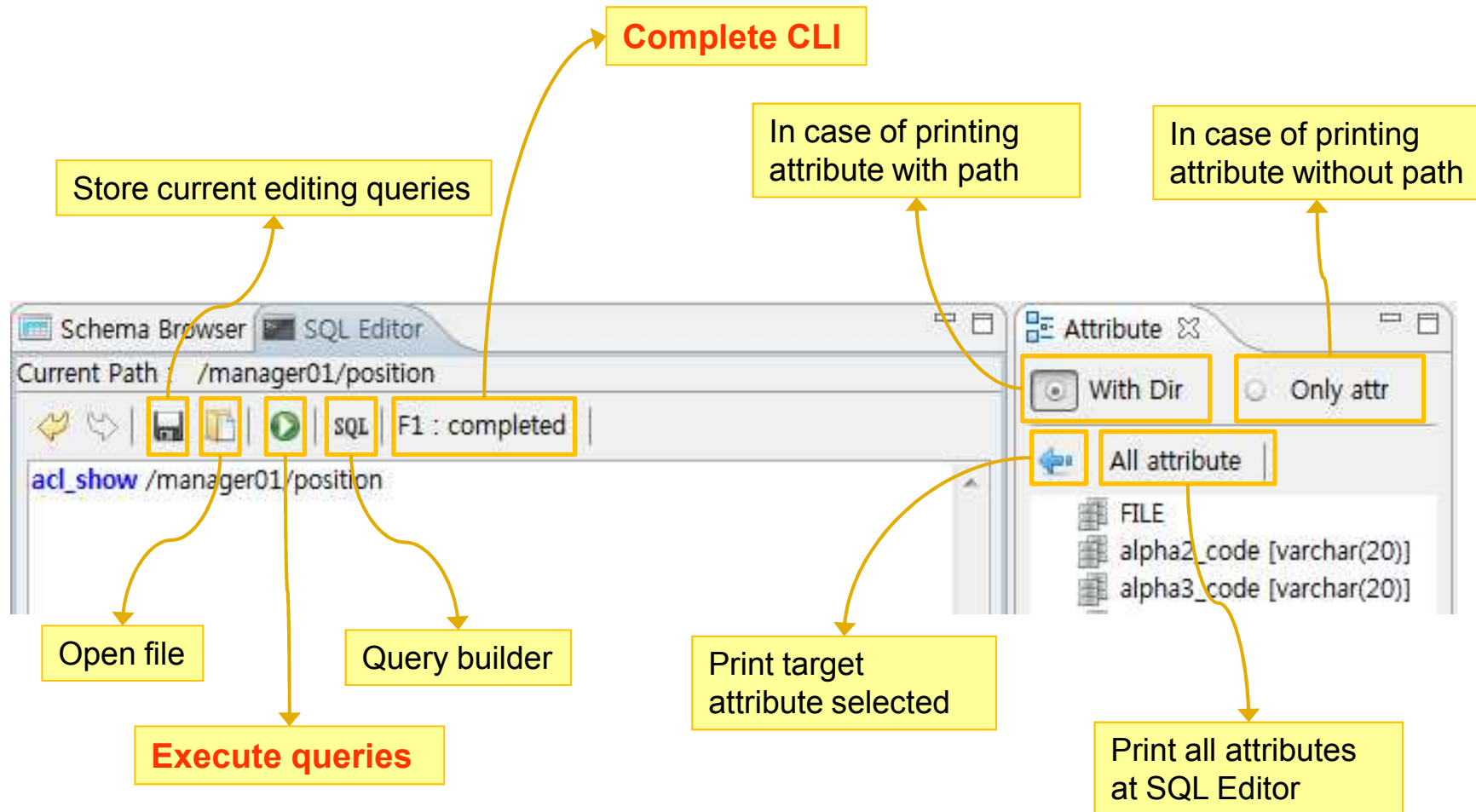


Double click : print target attribute at SQL Editor

syntax and description for a command

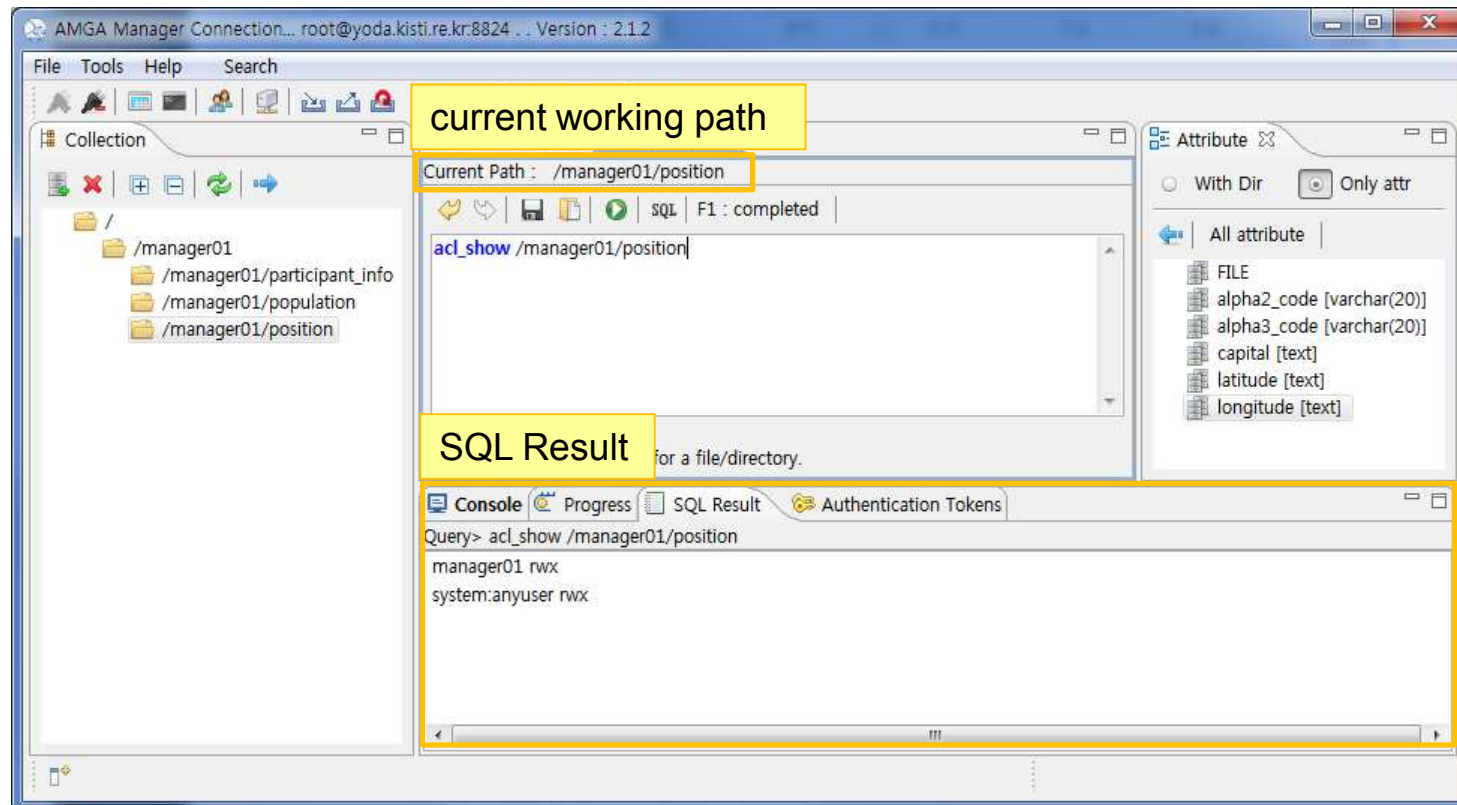
Result of Executed queries

Use SQL Editor



Use SQL Editor

SQL Editor provides you to make your queries easier relating to collection view and attributes view and SQL result view automatically shows the executed result. You will make various queries easier using SQL Editor with powerful help functions.



Hands-on by yourself

From “Overview of Use SQL Editor” to “Insert”
(p.39 ~ p.54)

Please, **make use of SQL Editor** in accordance with the following steps by yourself

Let's go with me



What are the merits of SQL Editor?

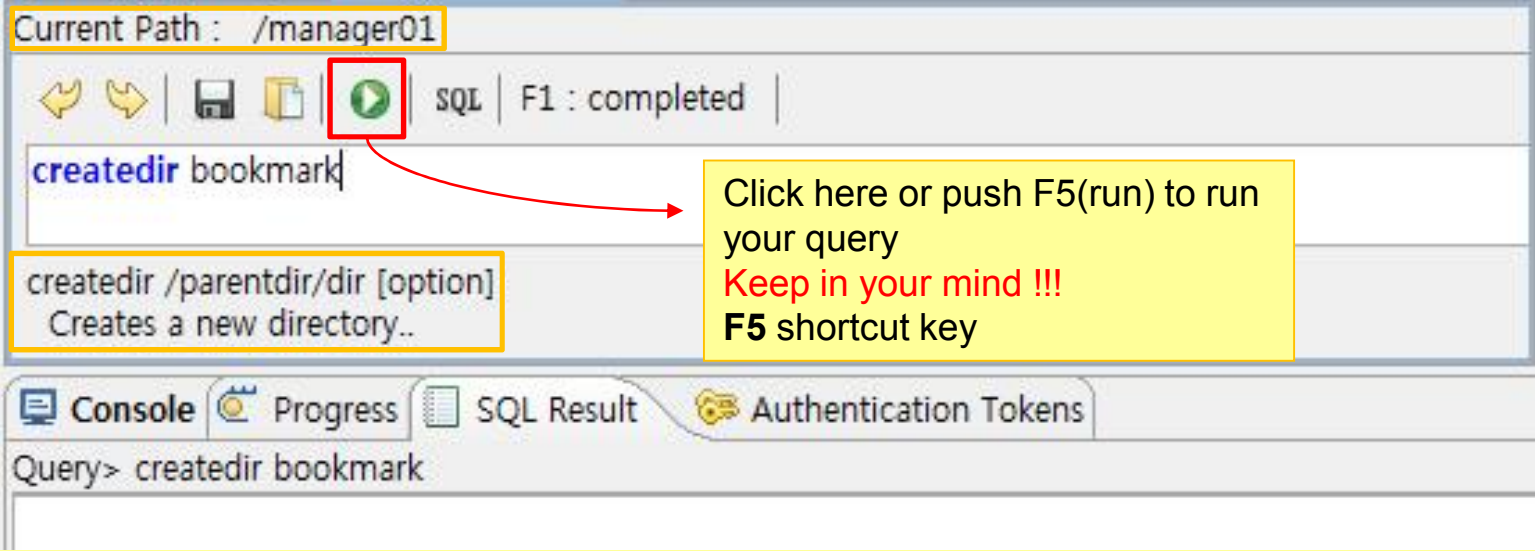
Following steps, you will learn:

- what helpful functions in SQL Editor
- how to use Multi-queries
- how to use completed CLI during make AMGA command
- how to use scripting to make automatically query
- how to write directory path and attributes with easy ways
- how to reuse queries (commented query presenting // symbols and queries stored in the file)

Create – Use SQL Editor

Create a directory (name : bookmark)

SQL Editor > createdir bookmark + F5(run)



Current Path : /manager01

SQL | F1 : completed

createdir bookmark

createdir /parentdir/dir [option]
Creates a new directory..

Click here or push F5(run) to run your query
Keep in your mind !!!
F5 shortcut key

Console | Progress | SQL Result | Authentication Tokens

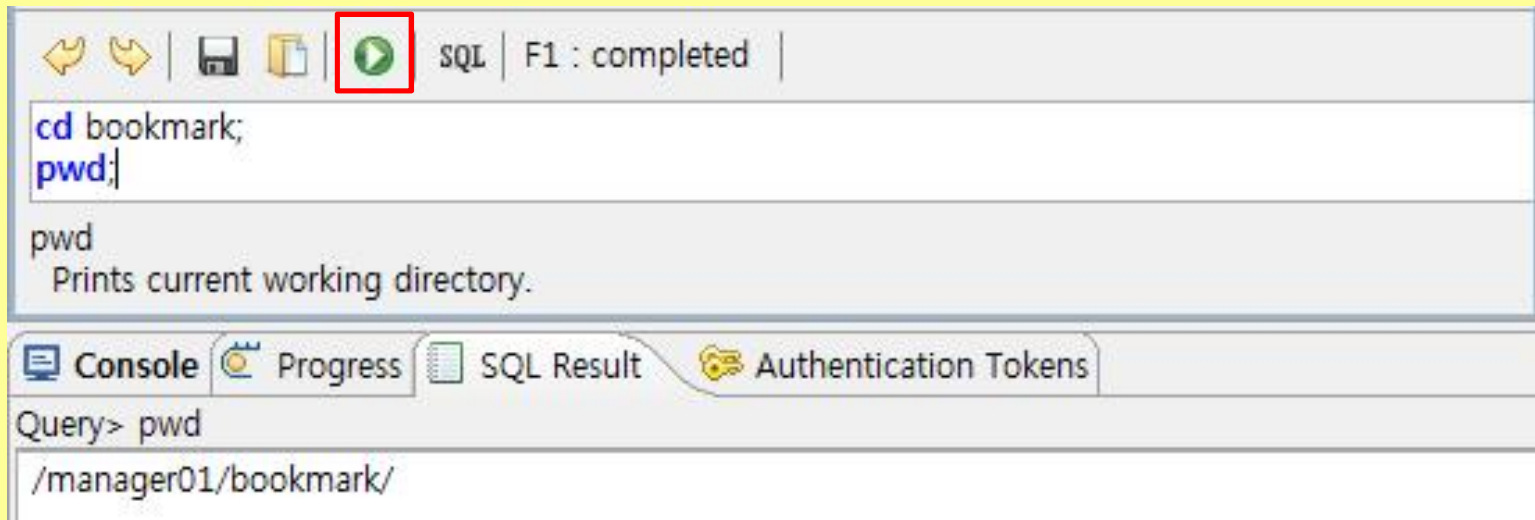
Query> createdir bookmark

Tip : Checking the current path every time reduce error being possible to be caused by your queries.

Multi-queries – Use SQL Editor

Change directory to bookmark directory and view current working directory at the same time. – multi-queries need semicolon(;) -

```
SQL Editor > cd bookmark;  
pwd;
```



Tip : The result of running multi-queries shows for only last one although several queries are run.


Add attributes – Use SQL Editor

Make attributes in the bookmark directory

SQL Editor> addattr . id int surl text type varchar(50) desc text







Current Path : /manager01/bookmark


 SQL | F1 : completed |





addattr . id int surl text type varchar(50) desc text

pwd
Prints current working directory.

 Console
  Progress
  SQL Result
  Authentication Tokens

Query> addattr . id int surl text type varchar(50) desc text

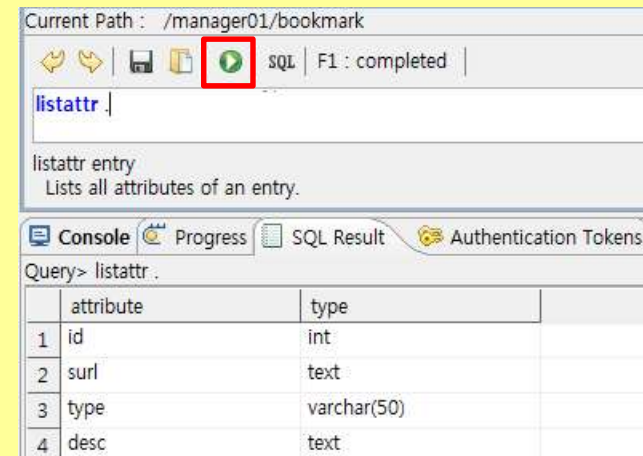
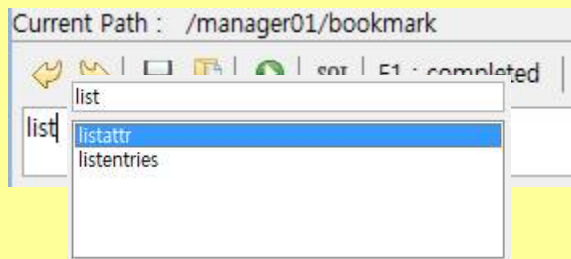
Attributes

- ▷  id [int]
- ▷  surl [text]
- ▷  type [varchar(50)]
- ▷  desc [text]

List attributes – Use SQL Editor

Check making well

SQL Editor > list + F1(Completed CLI) + *select* "listattr" + . + F5(run)



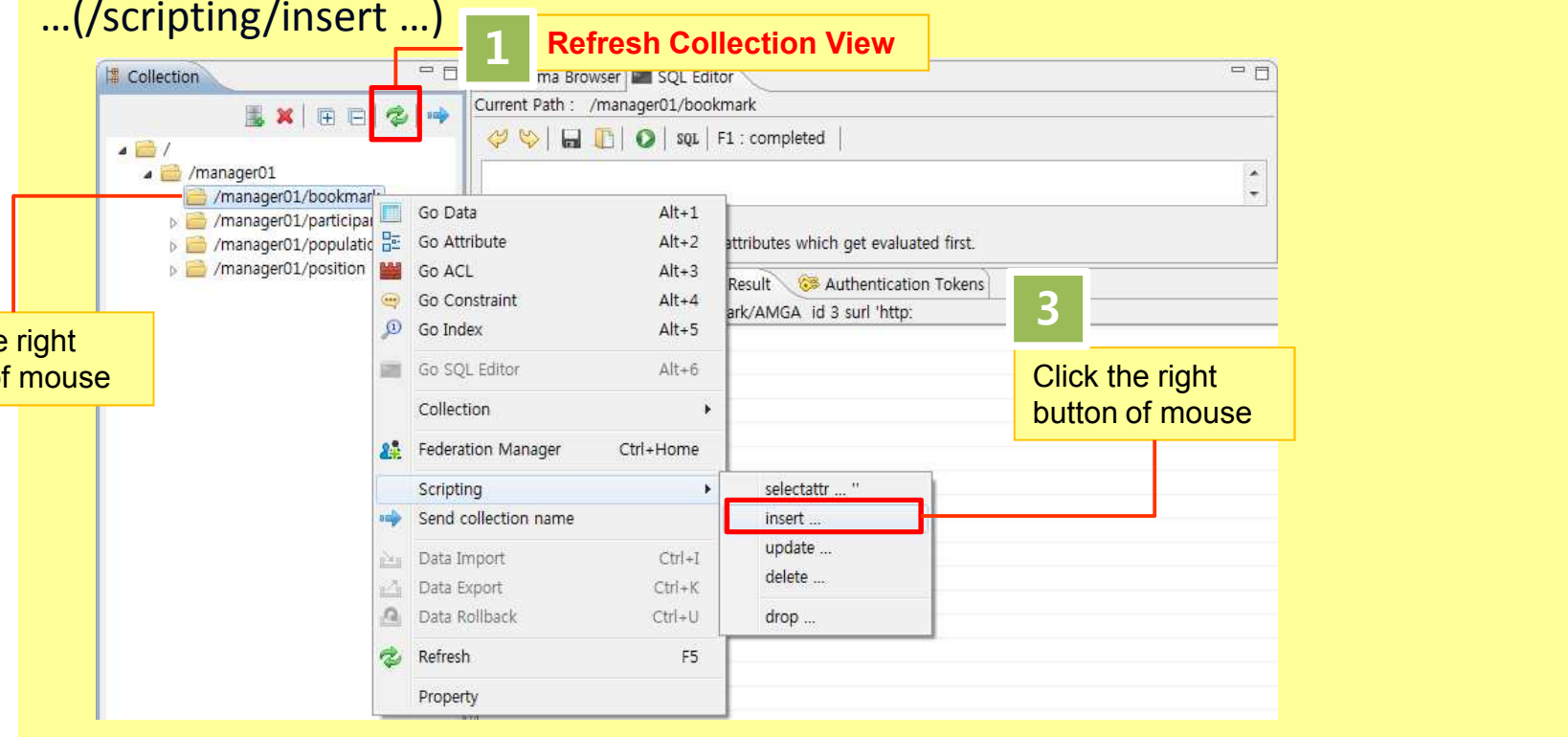
Pushing the F1(Completed CLI) to help you complete command.
Keep in mind F1(shortcut key) !!!

Insert(scripting) – Use SQL Editor

Following below dataset, make Insert query

	FILE	id	surl	type	desc
<input checked="" type="checkbox"/>	AMGA	3	http://amga.web.cern.ch/amga/downloads/2.1.1/	rpm	AMGA service

Click the right button of mouse in the target directory(bookmark), select insert ...(/scripting/insert ...)



1 Refresh Collection View

2 Click the right button of mouse

3 Click the right button of mouse

Insert(scripting) – Use SQL Editor

Fill-in the value at the sample query made from scripting



Current Path : /manager01/bookmark

SQL | F1 : completed

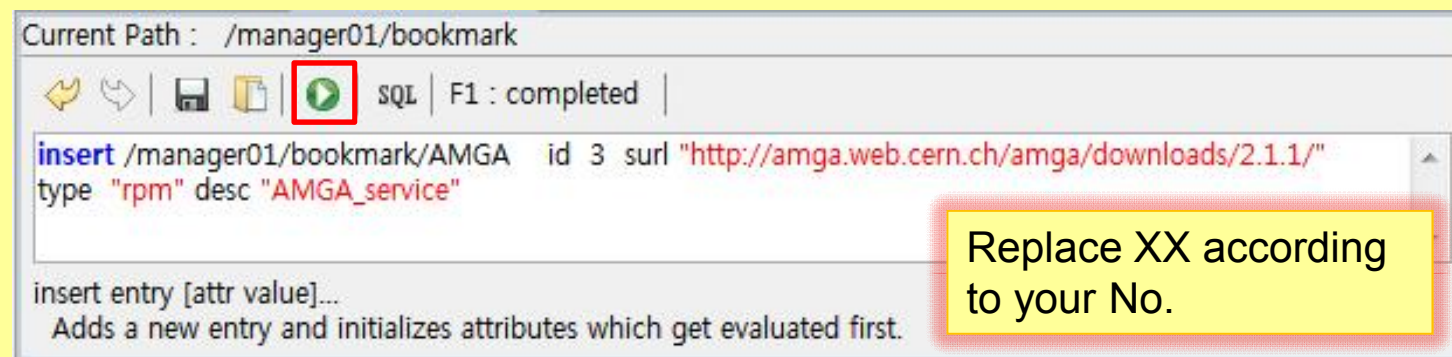
```
insert /manager01/bookmark/AMGA id 3 surl "http://amga.web.cern.ch/amga/downloads/2.1.1/"
type <value> desc <value>
```

insert entry [attr value]...
Adds a new entry and initializes attributes which get evaluated first.

Don't copy AMGA query

Complete insert query

SQL Editor> insert /managerXX/bookmark/AMGA id 3 surl
"http://amga.web.cern.ch/amga/downloads/2.1.1/" type "rpm" desc "AMGA_service"



Current Path : /manager01/bookmark

SQL | F1 : completed

```
insert /manager01/bookmark/AMGA id 3 surl "http://amga.web.cern.ch/amga/downloads/2.1.1/"
type "rpm" desc "AMGA_service"
```

insert entry [attr value]...
Adds a new entry and initializes attributes which get evaluated first.

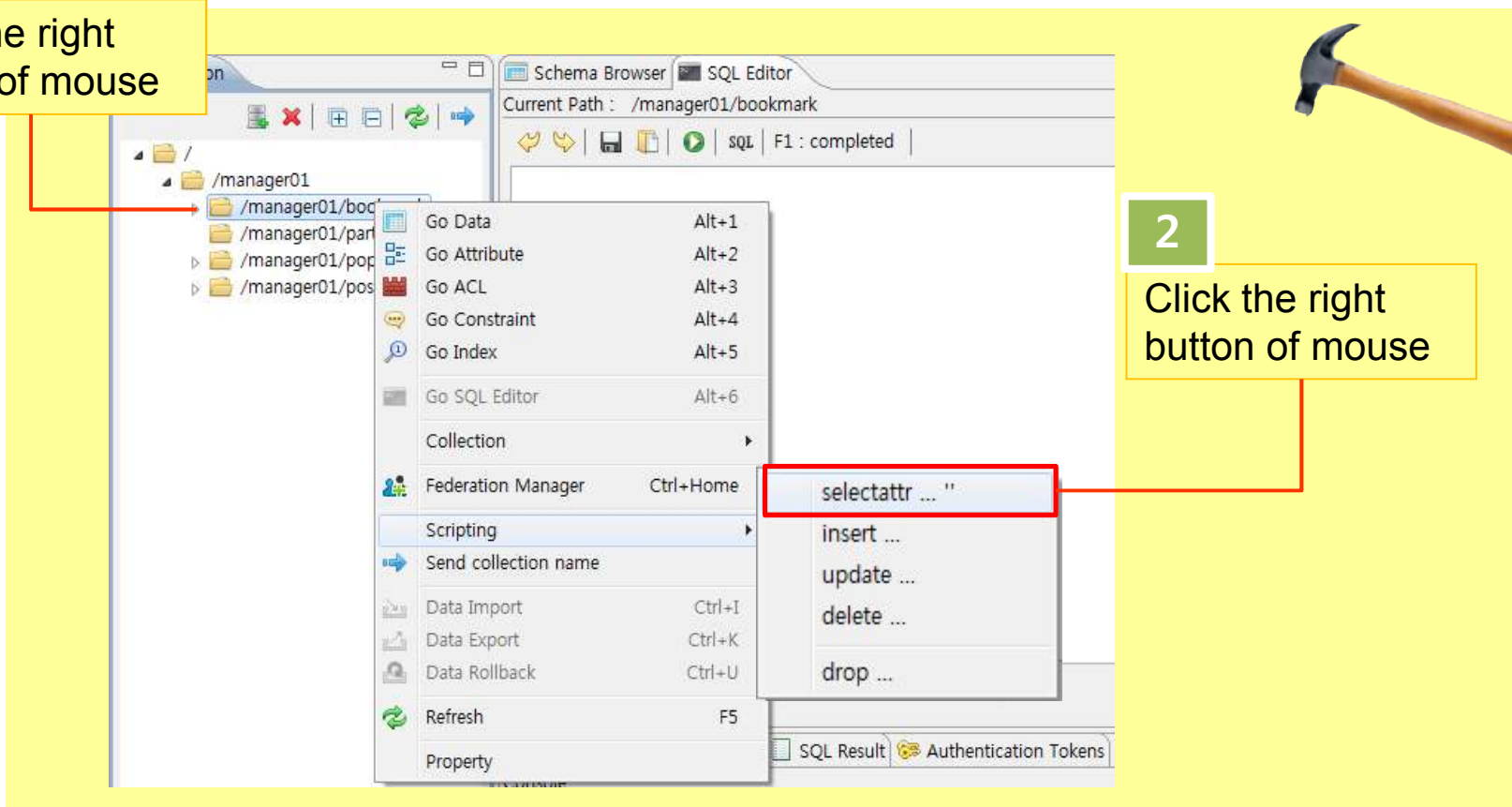
Replace XX according
to your No.

Selectattr(scripting) – Use SQL Editor

Choose selectattr command made from **scriping/selectattr** ... in the target directory (`/managerXX/bookmark`) in order to confirm inserted data

1

Click the right button of mouse



The screenshot shows the SQL Editor interface with a Schema Browser on the left and an SQL Editor window on the right. The current path is `/manager01/bookmark`. A context menu is open over the `/manager01/bookmark` directory, listing various actions such as 'Go Data', 'Go Attribute', 'Go ACL', 'Go Constraint', 'Go Index', 'Go SQL Editor', 'Collection', 'Federation Manager', 'Scripting', 'Send collection name', 'Data Import', 'Data Export', 'Data Rollback', 'Refresh', and 'Property'. The 'Scripting' menu item is expanded, showing a sub-menu with options: 'selectattr ...', 'insert ...', 'update ...', 'delete ...', and 'drop ...'. The 'selectattr ...' option is highlighted with a red box. A yellow callout box with the number '2' and the text 'Click the right button of mouse' points to this option. A hammer icon is positioned in the top right corner of the screenshot area.

2

Click the right button of mouse

Selectattr(scripting) – Use SQL Editor






Run the selectattr query clicking  or pushing the **F5(run)**



```
SQL Editor> selectattr /managerXX/bookmark:FILE /managerXX/bookmark:id
/managerXX/bookmark:surl /managerXX/bookmark:type
/managerXX/bookmark:desc ' '
```





Replace XX according to your No.

Current Path : /manager01/bookmark






 SQL | F1 : completed

```
selectattr /manager01/bookmark:FILE /manager01/bookmark:id /manager01/bookmark:surl
/manager01/bookmark:type /manager01/bookmark:desc ' '
```

insert entry [attr value]...
Adds a new entry and initializes attributes which get evaluated first.

 Console
  Progress
  SQL Result
  Authentication Tokens

Query> selectattr /manager01/bookmark:FILE /manager01/bookmark:id /manager01/bookmark:surl /manager01

	/ma...LE	/ma...id	/manager01/bookmark:surl	/m...e	/manager01...mark:desc
1	AMGA	1	http://amga.web.cern.ch/amga/downloads/2.1.1/	rpm	AMGA service

Update(scripting) – Use SQL Editor

Check changing population data in “Vietnam” entry using selectattr command and printing some attributes selected(FILE, rank, date_of_estimate) then we will change the value of “date_of_estimate” attribute to 2008



SQL Editor> selectattr /managerXX/population:FILE /managerXX/population:rank /managerXX/population:date_of_estimate 'like(/managerXX/population:FILE,"Vietnam")'

Replace XX according to your No.

1

Select target directory to activate it

2

Double click, to print attribute at SQL Editor

3

4


Check population data in “Vietnam” entry after run the select query

Update(scripting) – Use SQL Editor

Make **update** query

Replace XX according to your No.

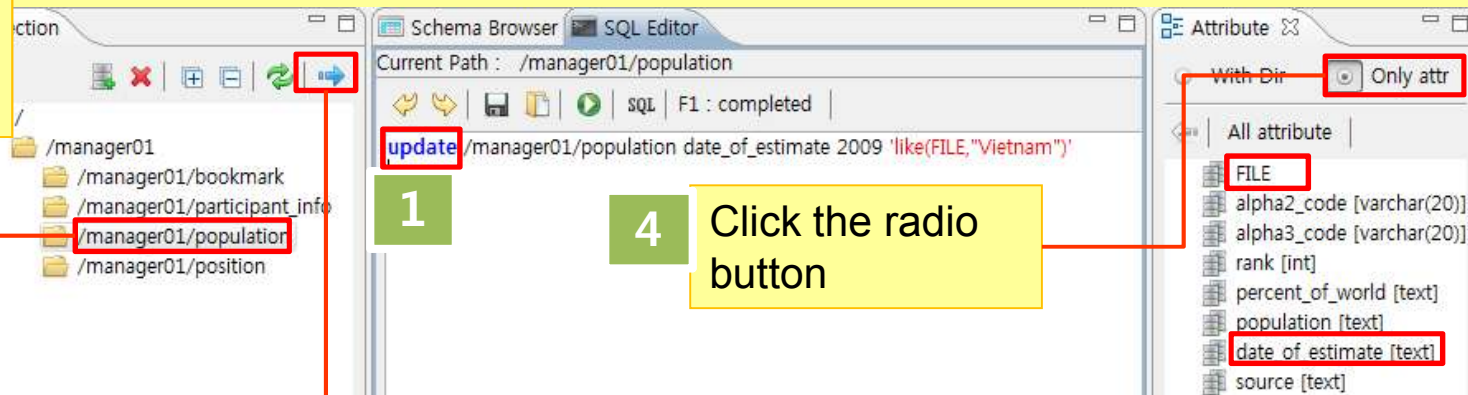
Tip : Value in date_of_estimate => 2011 , Condition => FILE name is Vietnam

- query : update + click  (print directory path : managerXX/population) + double click *date_of_estimate* (check the “only attr” radio button in Attribute view) + 2011 + ‘like(+ double click *FILE* + , “Vietnam”)’

2

SQL Editor> update /managerXX/population date_of_estimate 2011 'like(FILE,"Vietnam")'

Select target directory to activate it



The screenshot shows the SQL Editor interface with several annotations:

- 1**: A red box highlights the word "update" in the SQL query editor.
- 2**: A red box highlights the blue arrow icon in the Schema Browser toolbar.
- 3**: A red box highlights the "/manager01/population" directory in the Schema Browser tree.
- 4**: A red box highlights the "Only attr" radio button in the Attribute view.

The SQL query in the editor is: `update /manager01/population date_of_estimate 2009 'like(FILE,"Vietnam")'`

The Attribute view shows the following attributes: FILE, alpha2_code [varchar(20)], alpha3_code [varchar(20)], rank [int], percent_of_world [text], population [text], date_of_estimate [text], and source [text].

Click here to print working path

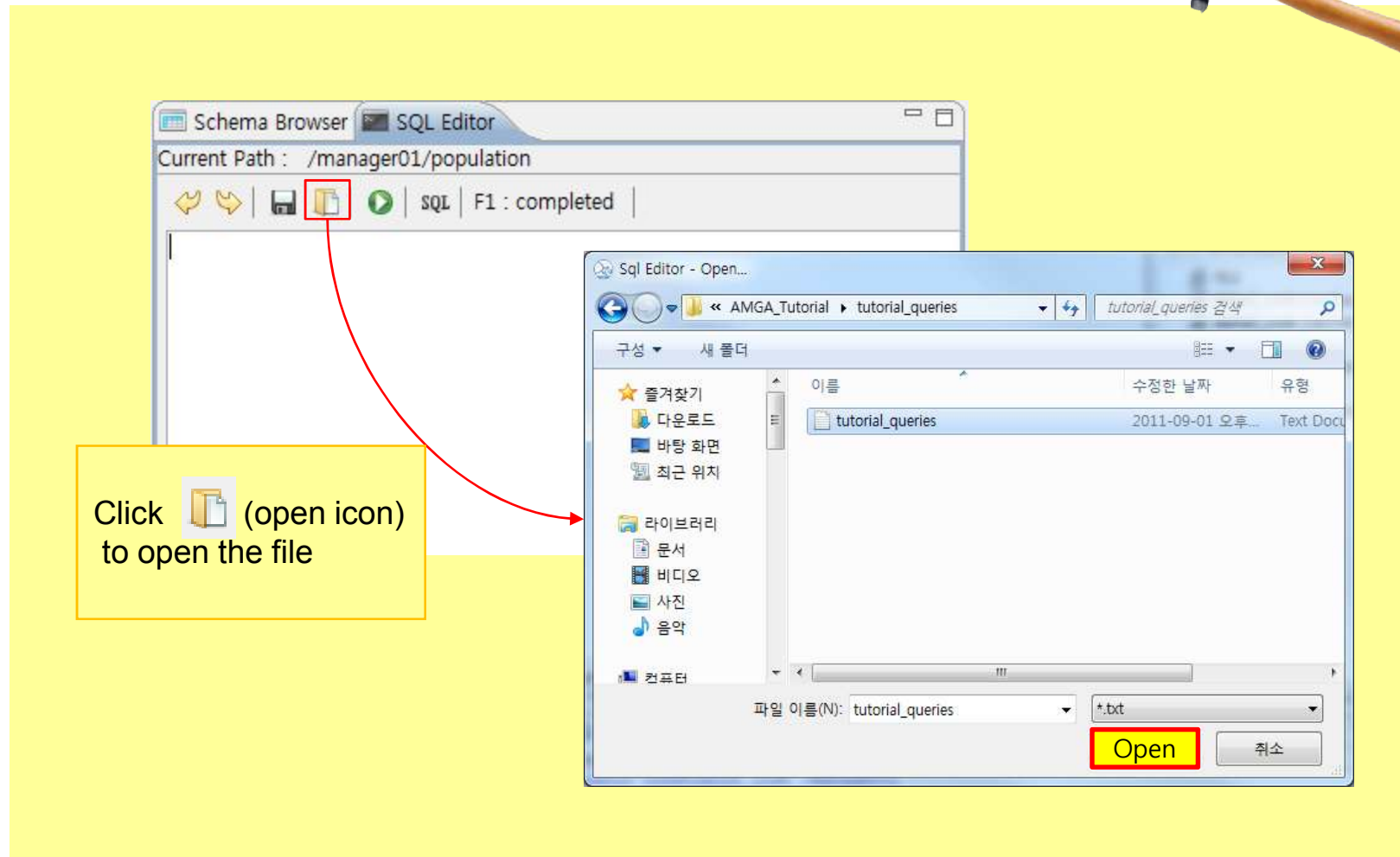


After No. 4, guess the usage !!


Check the inserted data with pervious page

Insert(reuse stored and used queries)

Open the stored queries file(tutorial_queries.txt) given by us.

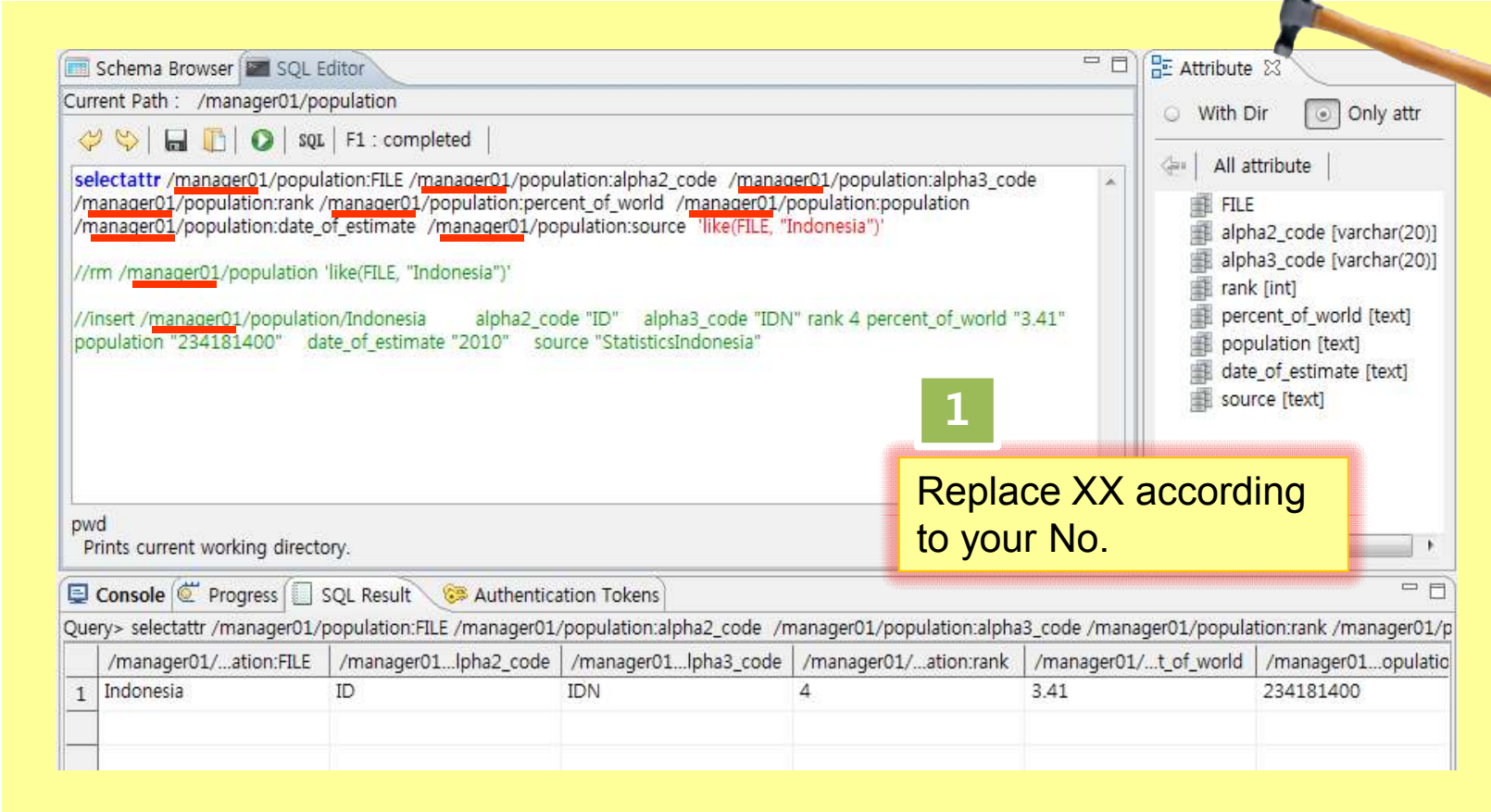


The screenshot shows a SQL Editor window with a toolbar containing an open file icon (a document with a folded corner) highlighted by a red box. A red arrow points from this icon to a file explorer window titled 'Sql Editor - Open...'. The file explorer shows the path 'AMGA_Tutorial > tutorial_queries' and a file named 'tutorial_queries' with a 'Text Docu' extension. The 'Open' button at the bottom right of the file explorer is also highlighted with a red box.

Click  (open icon) to open the file

Insert(reuse stored and used queries)

Following below, run the select query to check target entry which will be deleted.



The screenshot shows a SQL Editor window with the following content:

```

selectattr /manager01/population:FILE /manager01/population:alpha2_code /manager01/population:alpha3_code
/manager01/population:rank /manager01/population:percent_of_world /manager01/population:population
/manager01/population:date_of_estimate /manager01/population:source 'like(FILE, "Indonesia")'

//rm /manager01/population 'like(FILE, "Indonesia")'

//insert /manager01/population/Indonesia alpha2_code "ID" alpha3_code "IDN" rank 4 percent_of_world "3.41"
population "234181400" date_of_estimate "2010" source "StatisticsIndonesia"
    
```

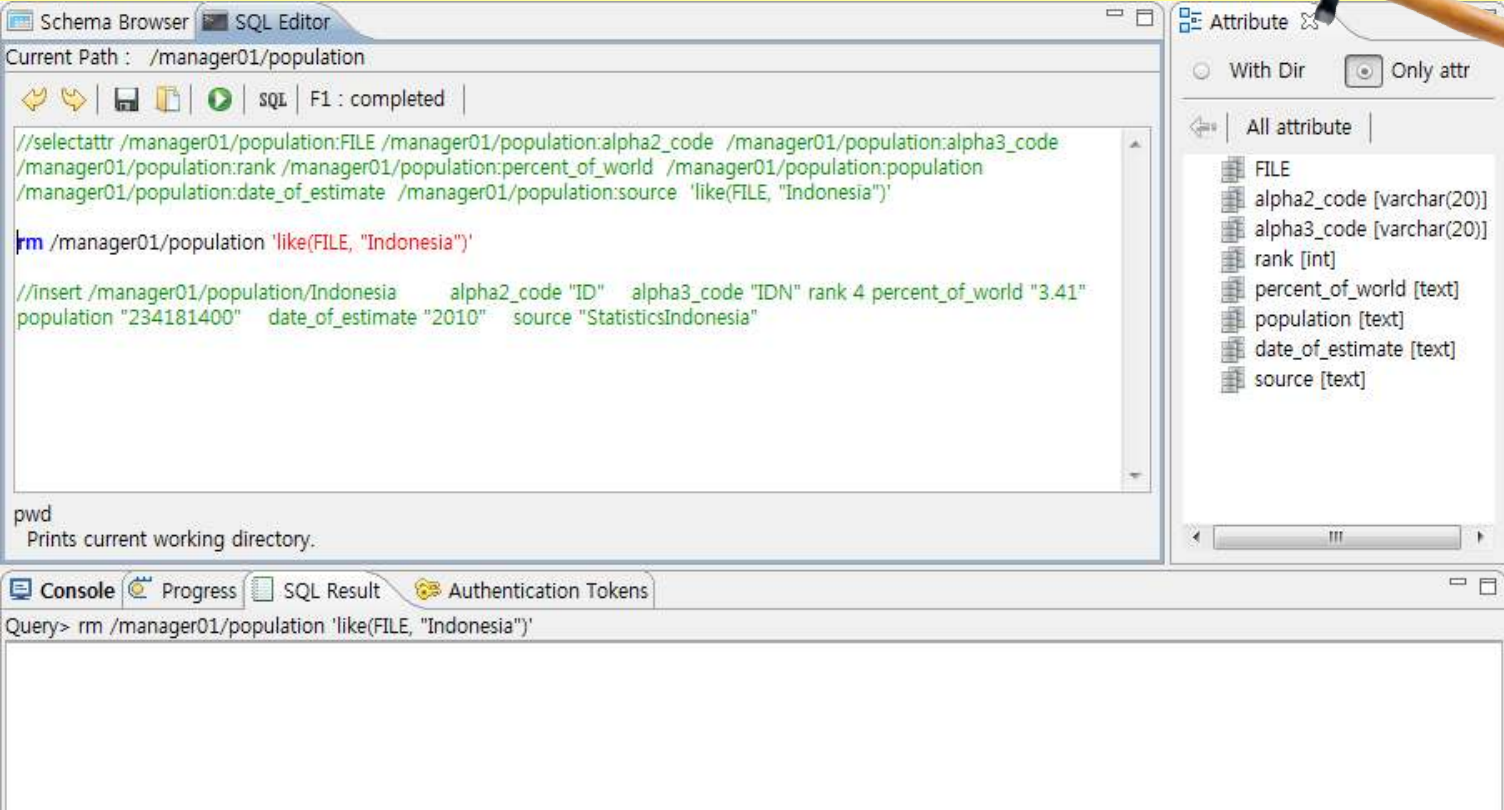
The console output shows the result of the select query:

	/manager01/...ation:FILE	/manager01/...lpha2_code	/manager01/...lpha3_code	/manager01/...ation:rank	/manager01/...t_of_world	/manager01/...opulation
1	Indonesia	ID	IDN	4	3.41	234181400

Deactivate used select query to use next rm query.

Insert(reuse stored and used queries)

As the figure is shown, remove //(double slash) and run activating rm query .



The screenshot shows a SQL Editor window with the following content:

```

Current Path : /manager01/population

//selectattr /manager01/population:FILE /manager01/population:alpha2_code /manager01/population:alpha3_code
//manager01/population:rank /manager01/population:percent_of_world /manager01/population:population
//manager01/population:date_of_estimate /manager01/population:source 'like(FILE, "Indonesia")'

rm /manager01/population 'like(FILE, "Indonesia")'

//insert /manager01/population/Indonesia alpha2_code "ID" alpha3_code "IDN" rank 4 percent_of_world "3.41"
population "234181400" date_of_estimate "2010" source "StatisticsIndonesia"
    
```

The console window at the bottom shows the execution of the rm query:

```

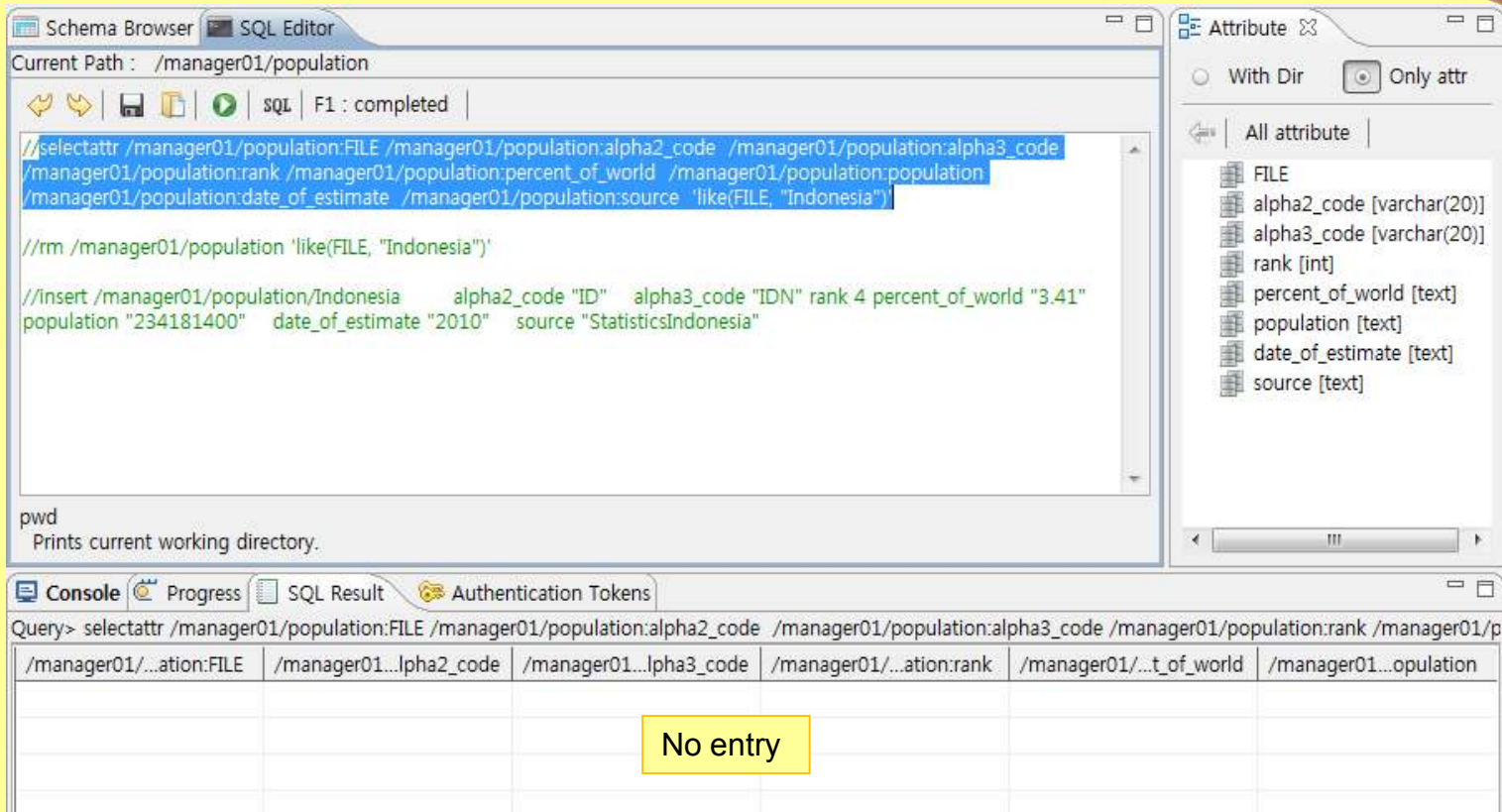
Query> rm /manager01/population 'like(FILE, "Indonesia")'
    
```

A hammer icon is positioned over the double slash in the rm query line in the SQL Editor.

Deactivate used rm query with “//”.

Insert(reuse stored and used queries)

As the figure is shown, check no entry as a result of removing entry.
 Drag select query part and just run it

Schema Browser SQL Editor

Current Path : /manager01/population

```
//selectattr /manager01/population:FILE /manager01/population:alpha2_code /manager01/population:alpha3_code
/manager01/population:rank /manager01/population:percent_of_world /manager01/population:population
/manager01/population:date_of_estimate /manager01/population:source 'like(FILE, "Indonesia")'

//rm /manager01/population 'like(FILE, "Indonesia")'

//insert /manager01/population/Indonesia alpha2_code "ID" alpha3_code "IDN" rank 4 percent_of_world "3.41"
population "234181400" date_of_estimate "2010" source "StatisticsIndonesia"
```

Attribute

With Dir Only attr

All attribute

- FILE
- alpha2_code [varchar(20)]
- alpha3_code [varchar(20)]
- rank [int]
- percent_of_world [text]
- population [text]
- date_of_estimate [text]
- source [text]

Console Progress SQL Result Authentication Tokens

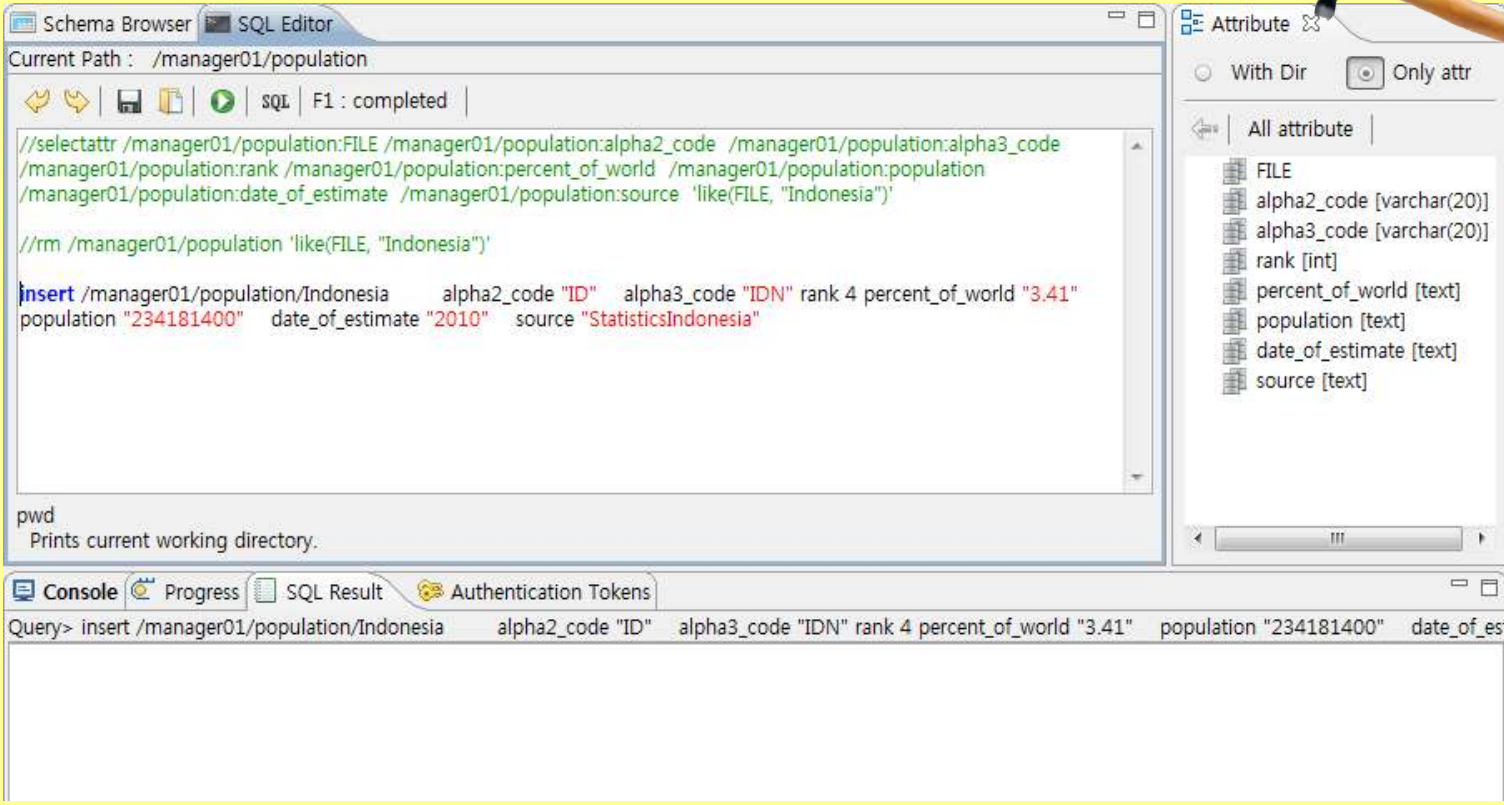
Query> selectattr /manager01/population:FILE /manager01/population:alpha2_code /manager01/population:alpha3_code /manager01/population:rank /manager01/population:percent_of_world /manager01/population:population /manager01/population:date_of_estimate /manager01/population:source 'like(FILE, "Indonesia")'

/manager01/...ation:FILE	/manager01...lpha2_code	/manager01...lpha3_code	/manager01/...ation:rank	/manager01/...t_of_world	/manager01...opulation
No entry					

pwd
Prints current working directory.

Insert(reuse used and stored queries)

As the figure is shown, remove //(double slash) and run activating insert query .



The screenshot shows a SQL Editor window with the following content:

```

//selectattr /manager01/population:FILE /manager01/population:alpha2_code /manager01/population:alpha3_code
//manager01/population:rank /manager01/population:percent_of_world /manager01/population:population
//manager01/population:date_of_estimate /manager01/population:source 'like(FILE, "Indonesia")'

//rm /manager01/population 'like(FILE, "Indonesia")'

insert /manager01/population/Indonesia alpha2_code "ID" alpha3_code "IDN" rank 4 percent_of_world "3.41"
population "234181400" date_of_estimate "2010" source "StatisticsIndonesia"
    
```

The console at the bottom shows the execution of the insert query:

```

Query> insert /manager01/population/Indonesia alpha2_code "ID" alpha3_code "IDN" rank 4 percent_of_world "3.41" population "234181400" date_of_es
    
```

Deactivate used insert query with `//`. **Then guess how to check inserted data !!**

Hands-on by yourself

From “**Join**(Warming up for Quiz)” to “**View**(Warming up for Quiz)”
(p.56 ~ p.61)

Please, try to **make selectattr query with join condition**
and **make simple view** using AMGA Manager by
yourself

Let's go with me



Join(Warming up for Quiz)

As you can see below, It is possible to make complex queries allowing the user to make joins two collections



<Mission>

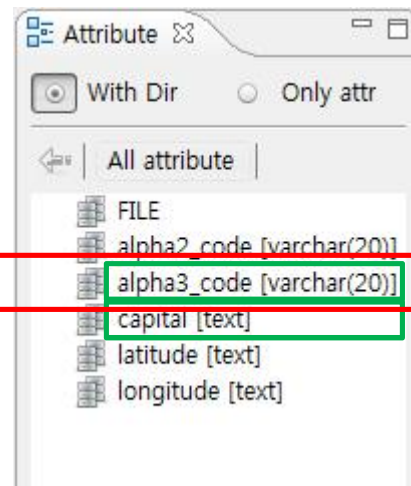
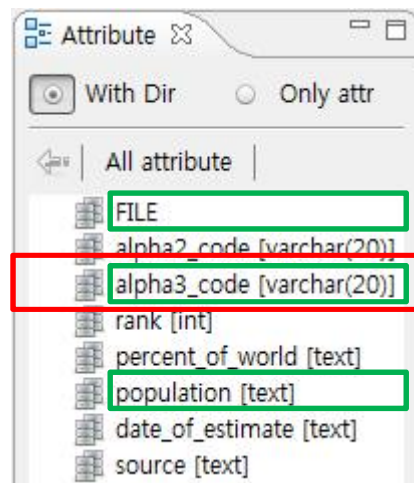
Show a data-set of countries which have population information, its capital and alpha3_code from two collections(population, position)

Tip : define attributes and relation key

Replace XX according to your No.

/managerXX/population

/managerXX/position



Attributes(4) :
FILE, alpha3_code,
capital, population

relation key (1):
alpha3_code

Join(Warming up for Quiz)

Tip : define attributes and relation key

Syntax : selectattr dir1:attr1 dir1:attr2 dir1:attr3 dir2:attr1 'dir1:attr2 = dir2:attr2'

SQL Editor >

```
selectattr /managerXX/population:FILE /managerXX/population:alpha3_code  
/managerXX/population:population /managerXX/position:capital  
'/managerXX/population:alpha3_code =/managerXX/position:alpha3_code'
```

Replacing XX according to your number like 01,02 ...



Join(Warming up for Quiz)

This figure depicts the result of your selectattr query with join condition



The screenshot shows a database management tool interface. The top window is the 'SQL Editor' with the following query:

```
selectattr /manager01/population:FILE /manager01/population:alpha3_code
/manager01/population:population /manager01/position:capital
'/manager01/population:alpha3_code =/manager01/position:alpha3_code '
```

The bottom window is the 'SQL Result' tab, displaying the following table:

	/manager01/...ation:FILE	/manager01...lpha3_code	/manager01...opulation	/manager01/...ion:capital
1	Afghanistan	AFG	29117000	Kabul
2	Albania	ALB	3195000	Tirane
3	Algeria	DZA	35423000	Algiers
4	AmericanSamoa	ASM	69000	Pago Pago
5	Andorra	AND	84082	Andorra la Vella
6	Angola	AGO	18993000	Luanda
7	AntiguaandBarbuda	ATG	89000	W. Indies
8	Argentina	ARG	40518951	Buenos Aires
9	Armenia	ARM	3238000	Yerevan

View(Warming up for Quiz)

Views allow you to create virtual new tables (directories) that combine the information of other tables, similar to what **selectattr** does.

In the following example, the first one shows a use case where a view is created using all the entries in the current directory, but using only the attr1 or attr2 columns. In the second example a view is created combining attributes from the current directory and the dir subdirectory.

Views can be accessed and deleted like normal directories.

```
Query> view_create view1 . attr1 attr2 "  
Query> view_create view2 . attr1 ./dir:attr2 'dir:FILE = FILE'
```

You will learn:

- how to make virtual table

View(Warming up for Quiz)

<Mission>

Make simple view query as the following script

```
SQL Editor> pwd  
/managerXX/population/
```

```
SQL Editor> view_create spviewXX . /managerXX/population:alpha2_code  
/managerXX/population:rank /managerXX/population:population ' '
```

Replacing XX according to your number like 01,02 ...

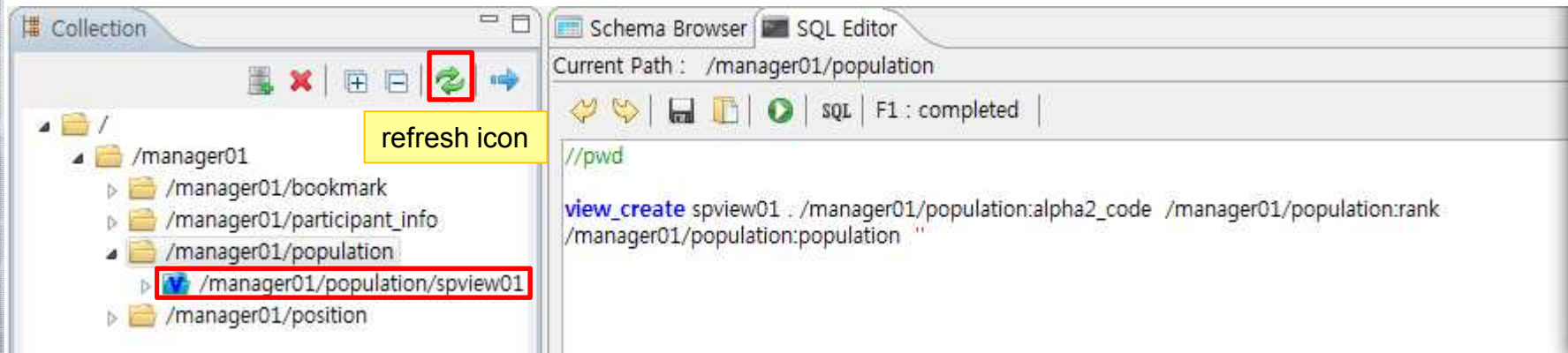
Checking the result

Refresh collection view and find view made by you in Schema Browser(Data)

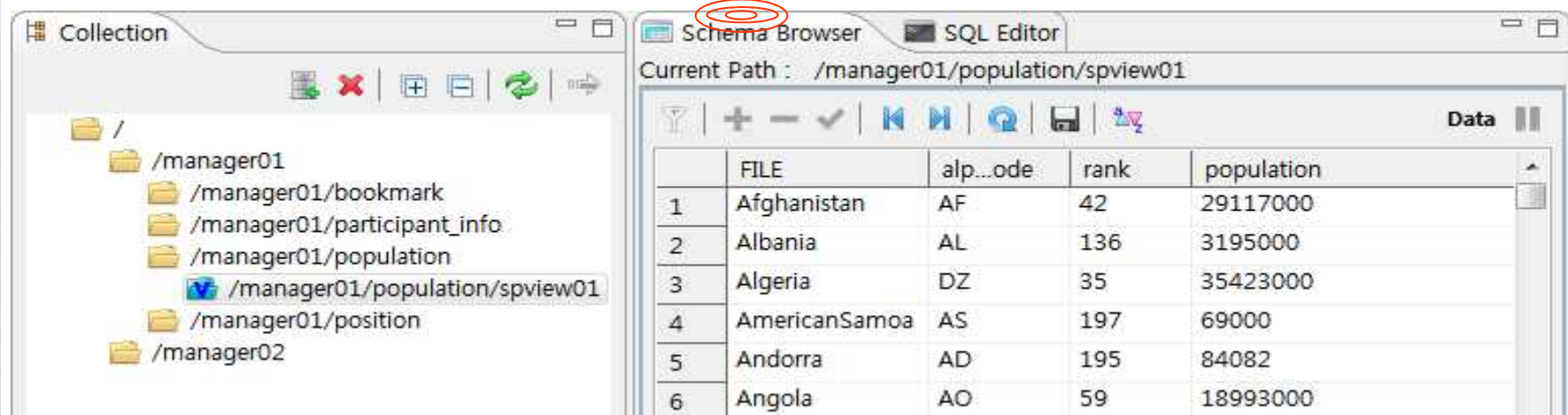
**Tip : You always have to use current path which you want to mainly work at.
Please check current path during making view.**

View(Warming up for Quiz)

1. Refresh collection view and find view made by you



2. Check Schema Browser(Data)



Quiz

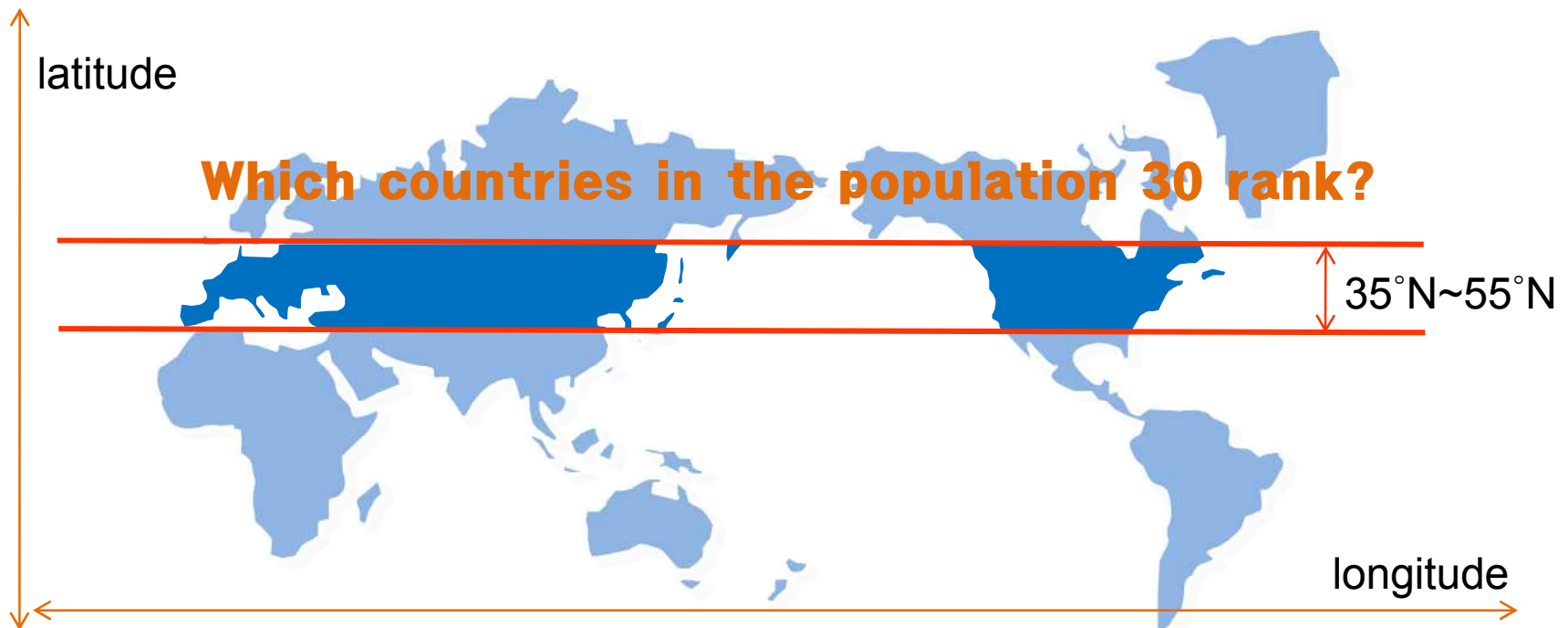


Quiz(question)

To-Do

Select which countries satisfy the conditions that the latitude of capitals is between 35 degrees north and 55 degrees north and population rank is less than 30 using selectattr and then make view using select query(2 questions).

Tip the attributes of data-set : population:FILE population:alpha3_code population:rank population:population position:capital position:latitude position:longitude



EXTRA HANDS-ON

From “Change ACL” to “Data Export Wizard”
(p.64 ~ p.74)

Please, try to **change ACL** in target collection to show your metadata with the schema and **Export** data to a file using Data **Export Wizard** by yourself

Let's go alone



Overview of Extra Hands-on

1. Change ACL condition in target collection
2. Data Export wizard

It's not mandatory !!!!

1. Change the permission at ACL browser

<Precondition>

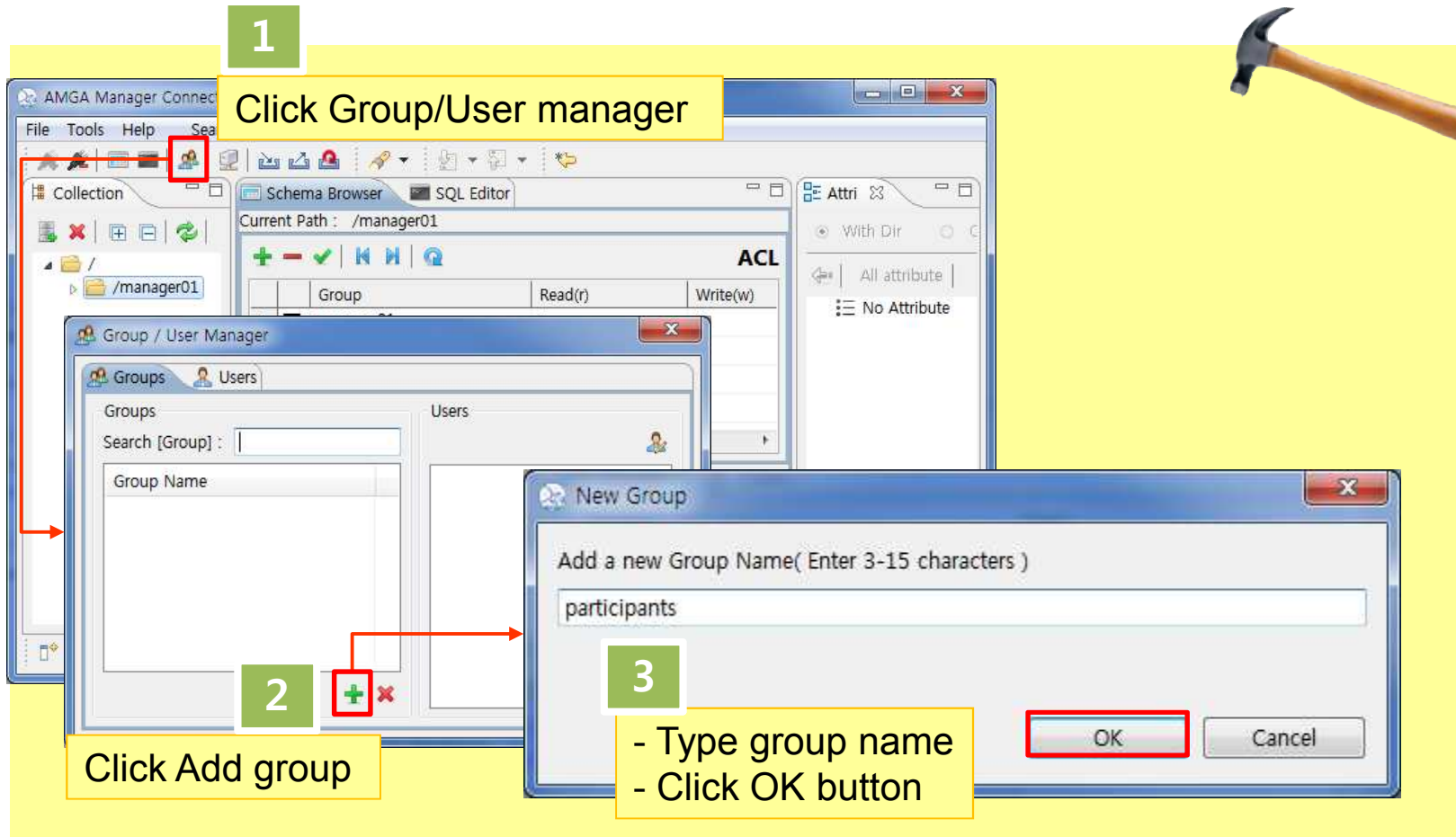
participants who took a look at the collection view

<Mission>

Provide other tutorial participants with the reading permission at ACL browser

1. Change the permission at ACL browser

Make a group so as to give reading permission to the group including other tutorial participants



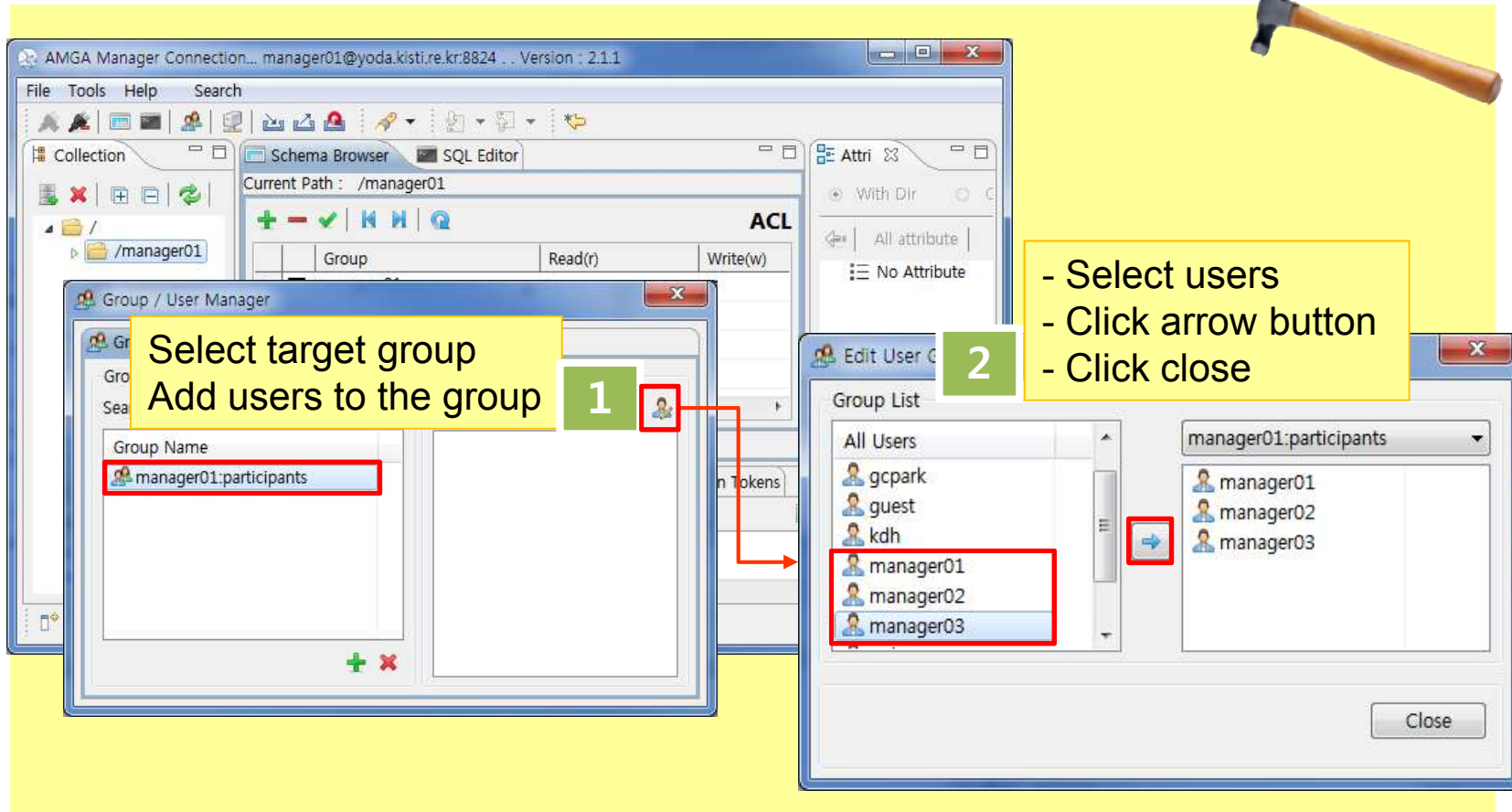
1
Click Group/User manager

2
Click Add group

3
- Type group name
- Click OK button

1. Change the permission at ACL browser

Add users to the group made by you to define the group member

The screenshot shows the AMGA Manager Connection interface. The main window displays the ACL browser for the path /manager01. A 'Group / User Manager' dialog box is open, showing a list of groups with 'manager01:participants' selected. A yellow callout box with the number '1' contains the text: 'Select target group' and 'Add users to the group'. An arrow points from this box to the 'manager01:participants' entry. Another 'Edit User' dialog box is open, showing a 'Group List' with 'manager01:participants' selected. A yellow callout box with the number '2' contains the text: '- Select users', '- Click arrow button', and '- Click close'. An arrow points from this box to the right-pointing arrow button in the 'Edit User' dialog. A hammer icon is positioned in the top right corner of the screenshot area.

1. Change the permission at ACL browser

Add group to access control list with its permission In order to show other participants your metadata

2

Click add icon



	Group	Read(r)	Write(w)	Eexecution(x)
1	<input type="checkbox"/> manager01	r	w	x
2	<input checked="" type="checkbox"/> system:anyuser	Read	No Write	Eexecution

4

Click commit icon

1

Click ACL tab

3

- Click the the group field
- Select managerXX:participants group

1. Change the permission at ACL browser

ASK other people to access to your directory !

2. Data Export Wizard

<Precondition>

participants who imported some data in the file into target collection

<Mission>

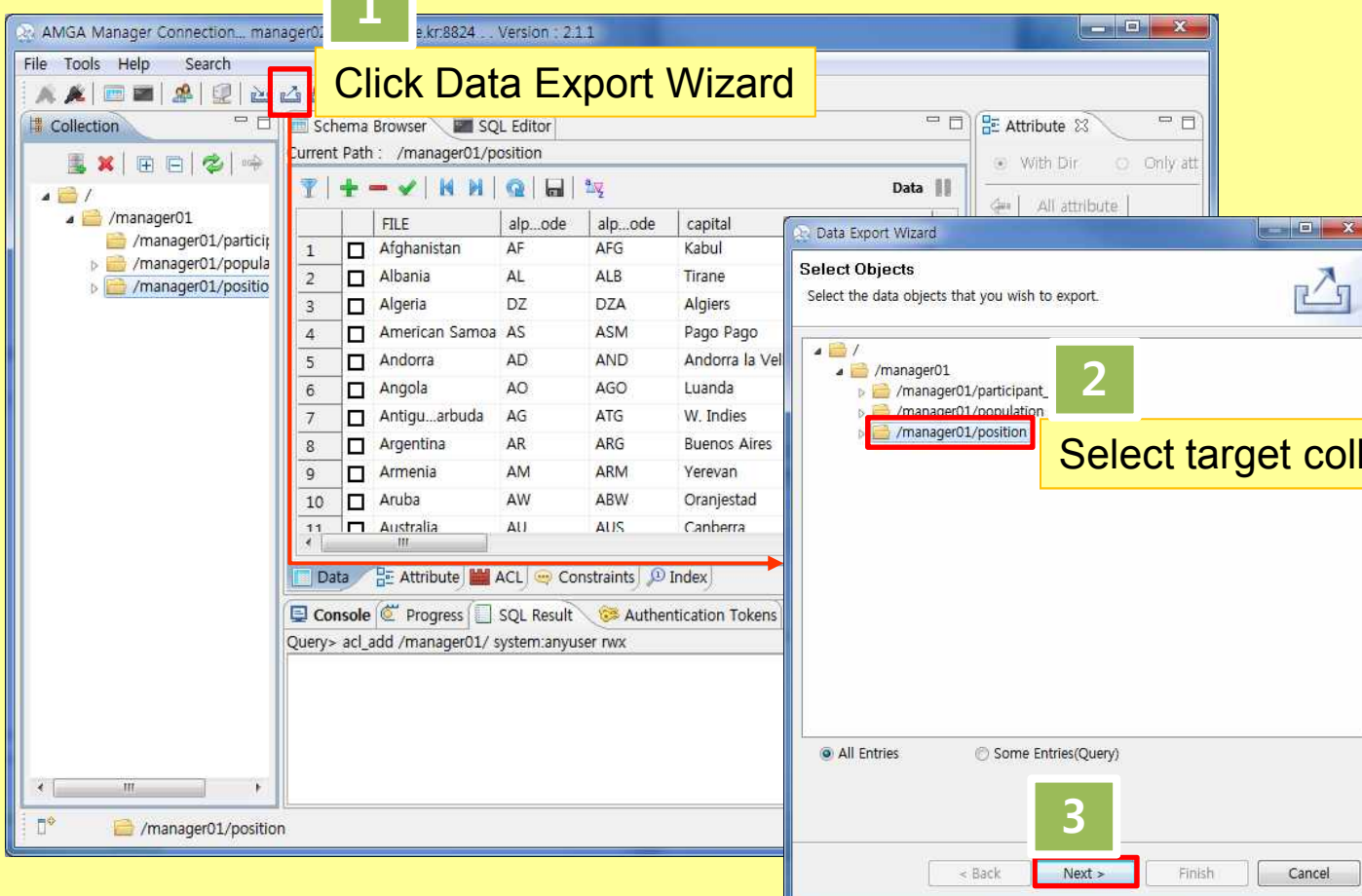
Generate the file storing metadata in position schema using Data Export Wizard

2. Data Export Wizard



1

Click Data Export Wizard



2

Select target collection

	FILE	alp...ode	alp...ode	capital	
1	<input type="checkbox"/>	Afghanistan	AF	AFG	Kabul
2	<input type="checkbox"/>	Albania	AL	ALB	Tirane
3	<input type="checkbox"/>	Algeria	DZ	DZA	Algiers
4	<input type="checkbox"/>	American Samoa	AS	ASM	Pago Pago
5	<input type="checkbox"/>	Andorra	AD	AND	Andorra la Vel
6	<input type="checkbox"/>	Angola	AO	AGO	Luanda
7	<input type="checkbox"/>	Antigu...arbuda	AG	ATG	W. Indies
8	<input type="checkbox"/>	Argentina	AR	ARG	Buenos Aires
9	<input type="checkbox"/>	Armenia	AM	ARM	Yerevan
10	<input type="checkbox"/>	Aruba	AW	ABW	Oranjestad
11	<input type="checkbox"/>	Australia	AI	AUS	Canberra

3

Next >



2. Data Export Wizard

Select Output Options
Select options for formatting the data fields.

Output Format: Excel File

String quote character: Tab

Info of output file(s)
entries : 201
File(s) : 1
Excel sheet : 1

※Tips :
1. One file consists of max 7 sheets including 50,000 entries (Total : 350,000 entries)
2. In case of a large scale of metadata, we recommend you to choose text format.

< Back **Next >** Finish Cancel

Excel file format and Delimited text format

Configuration information about excel file

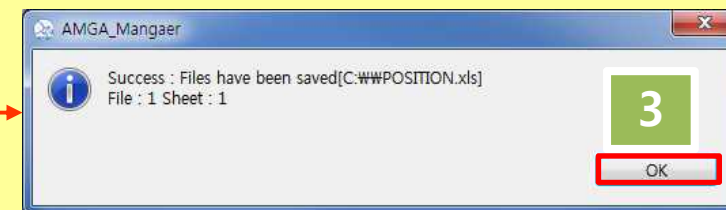
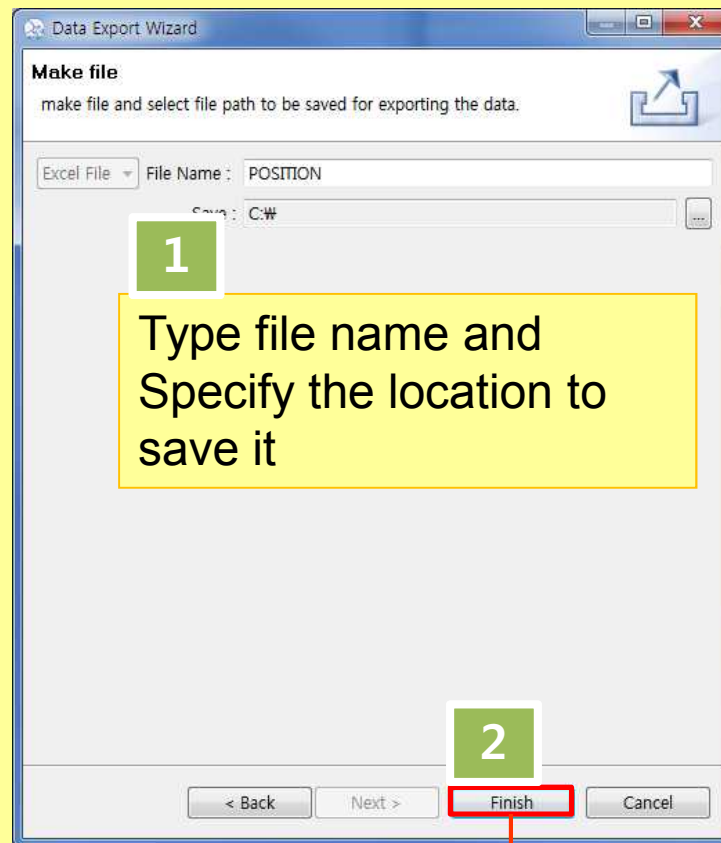
Amga Attributes	Data Type
FILE	FILE
alpha2_code	varchar(20)
alpha3_code	varchar(20)
capital	text
latitude	text
longitude	text

< Back **Next >** Finish Cancel

Check attributes



2. Data Export Wizard



2. Data Export Wizard

Open POSITION.xls file within the excel program!

If you don't have excel program, please carry out these steps again so as to export to text file.



Quiz

Presenter : Taesang Huh

Supporters : Geunchul Park, Soonwook Hwang

Supercomputing Center

KISTI (Korea Institute of Science and Technology Information)



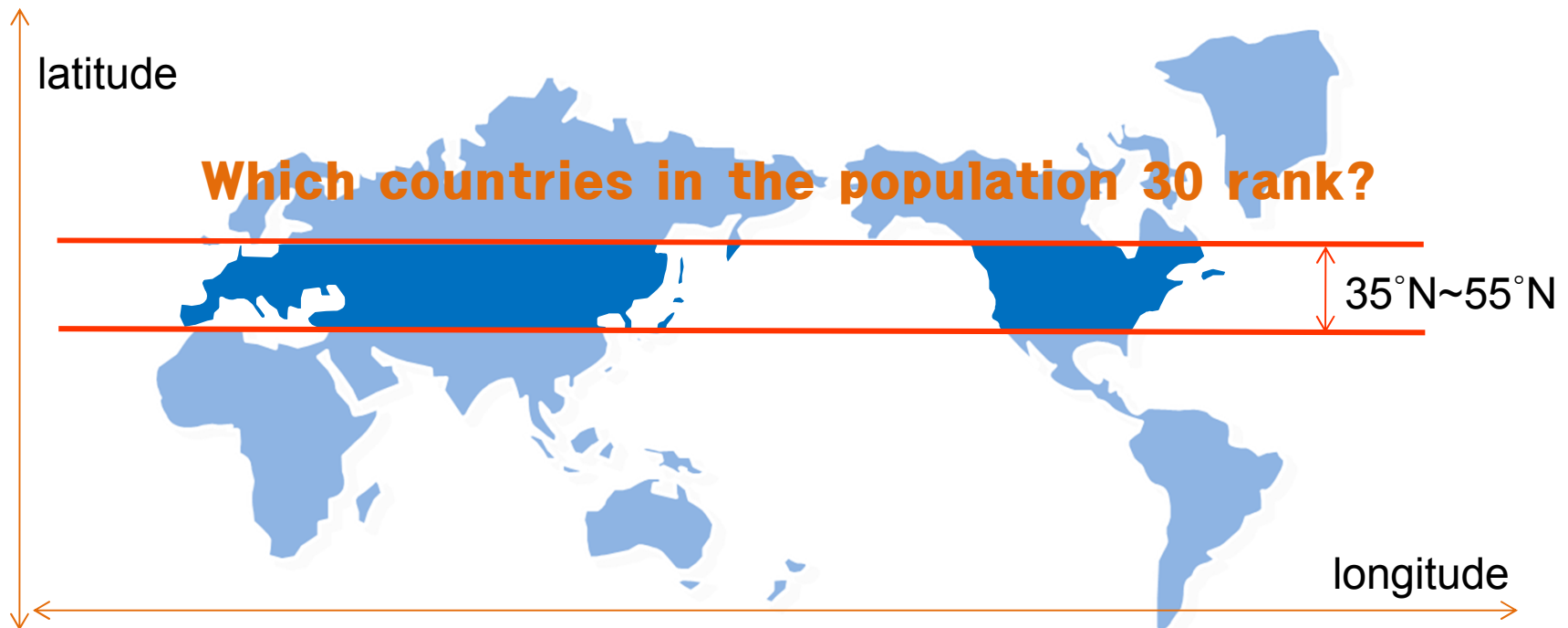
AMGA Tutorial

Quiz(question)

To-Do

Select which countries satisfy the conditions that the latitude of capitals is between 35 degrees north and 55 degrees north and population rank is less than 30 using selectattr and then make view using select query(2 questions).

Tip the attributes of data-set : population:FILE population:alpha3_code population:rank population:population position:capital position:latitude position:longitude



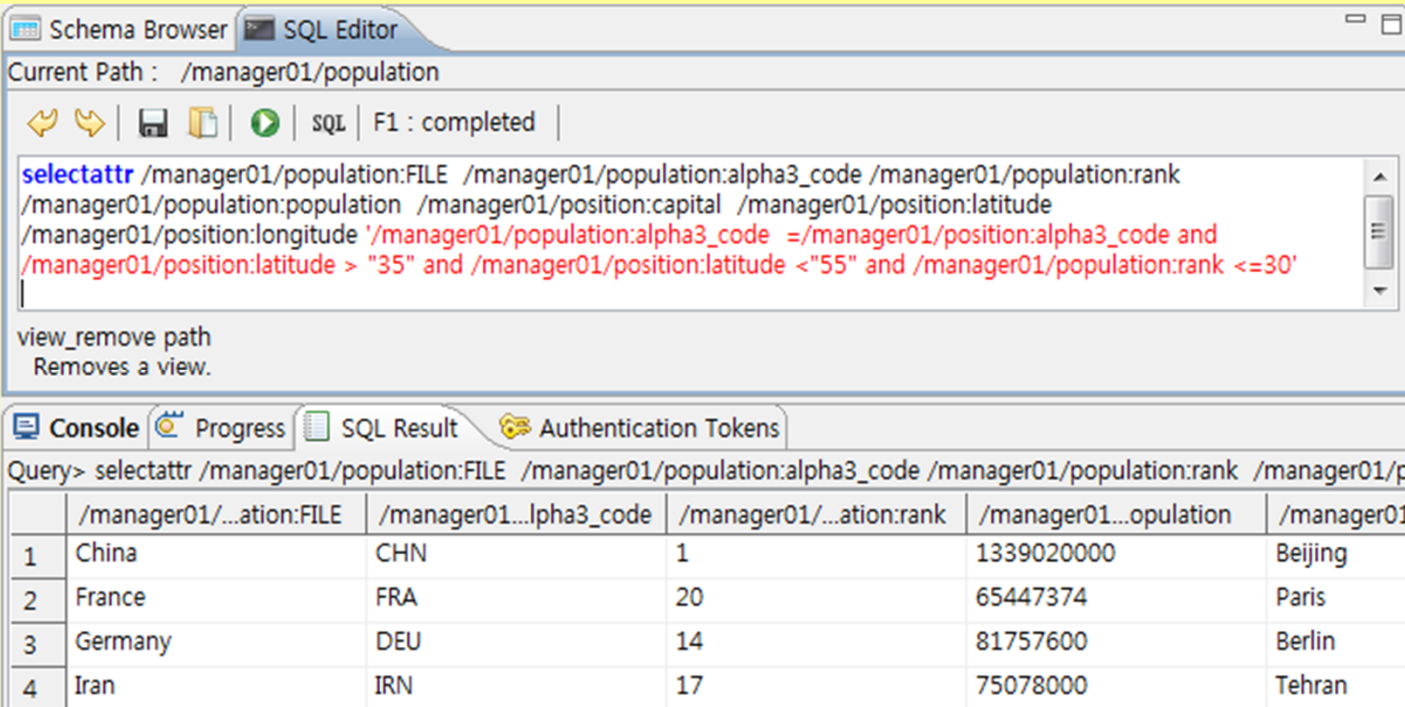
View – ANS1

ANSWER 1



SQL Editor >

```
selectattr /managerXX/population:FILE /managerXX/population:alpha3_code
/managerXX/population:rank /managerXX/population:population /managerXX/position:capital
/managerXX/position:latitude /managerXX/position:longitude '/managerXX/population:alpha3_code
=/'managerXX/position:alpha3_code and /managerXX/position:latitude > "35" and
/managerXX/position:latitude <"55" and /managerXX/population:rank <=30'
```



The screenshot shows a SQL Editor window with the following content:

Current Path : /manager01/population

SQL | F1 : completed

```
selectattr /manager01/population:FILE /manager01/population:alpha3_code /manager01/population:rank
/manager01/population:population /manager01/position:capital /manager01/position:latitude
/manager01/position:longitude '/manager01/population:alpha3_code =/'manager01/position:alpha3_code and
/manager01/position:latitude > "35" and /manager01/position:latitude <"55" and /manager01/population:rank <=30'
```

view_remove path
Removes a view.

Console | Progress | SQL Result | Authentication Tokens

Query> selectattr /manager01/population:FILE /manager01/population:alpha3_code /manager01/population:rank /manager01/population:population /manager01/position:capital /manager01/position:latitude /manager01/position:longitude

	/manager01/...ation:FILE	/manager01...lpha3_code	/manager01/...ation:rank	/manager01...opulation	/manager01/...osition:capital
1	China	CHN	1	1339020000	Beijing
2	France	FRA	20	65447374	Paris
3	Germany	DEU	14	81757600	Berlin
4	Iran	IRN	17	75078000	Tehran

View – ANS2

ANSWER 2



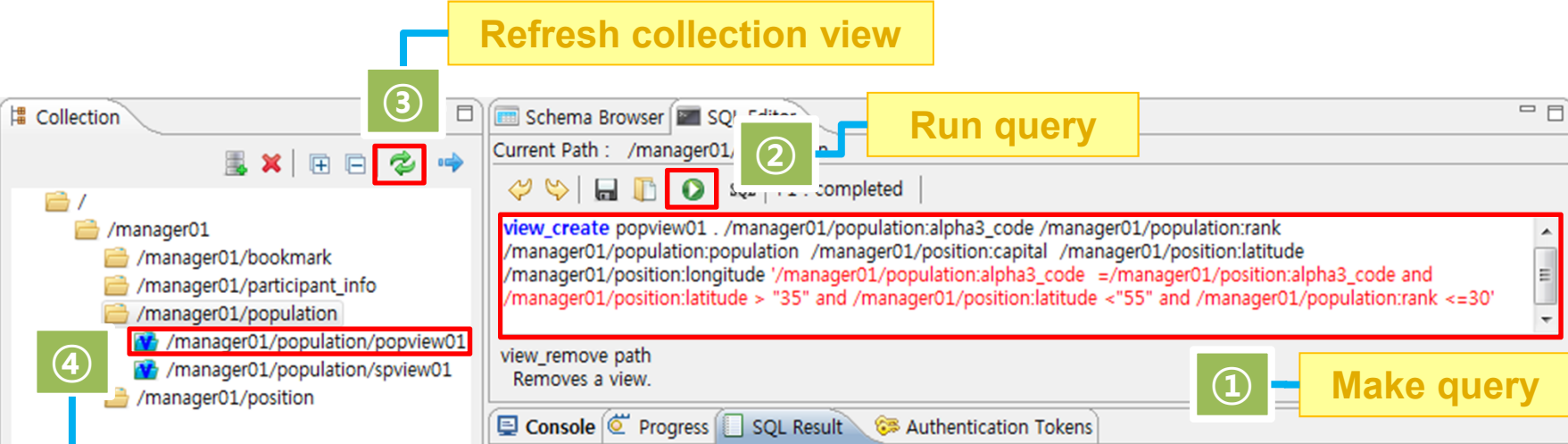
```
SQL Editor> pwd  
/managerXX/population/
```

SQL Editor >

```
view_create popviewXX . /managerXX/population:alpha3_code  
/managerXX/population:rank /managerXX/population:population  
/managerXX/position:capital /managerXX/position:latitude  
/managerXX/position:longitude '/managerXX/population:alpha3_code  
=/managerXX/position:alpha3_code and /managerXX/position:latitude > "35" and  
/managerXX/position:latitude <"55" and /managerXX/population:rank <=30'
```

Tip : You always have to use current path which you want to mainly work at.
Please check current path during making view.

View – View collection



Refresh collection view

Run query

Make query

Find view directory generated

Collection

- /
- /manager01
 - /manager01/bookmark
 - /manager01/participant_info
 - /manager01/population
 - /manager01/population/popview01**
 - /manager01/population/spview01
 - /manager01/position

Schema Browser

Current Path : /manager01

view_create popview01 . /manager01/population:alpha3_code /manager01/population:rank
/manager01/population:population /manager01/position:capital /manager01/position:latitude
/manager01/position:longitude '/manager01/population:alpha3_code =/manager01/position:alpha3_code and
/manager01/position:latitude > "35" and /manager01/position:latitude < "55" and /manager01/population:rank <=30'

view_remove path
Removes a view.

Console Progress SQL Result Authentication Tokens



Fill the Questionnaire form out, and bring it to us

^ _ ^;

Thank you!

EMI is partially funded by the European Commission under Grant Agreement RI-261611