AMGA Tutorial Session 2
Hands-on : AMGA Manager

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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/nAlR3

(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

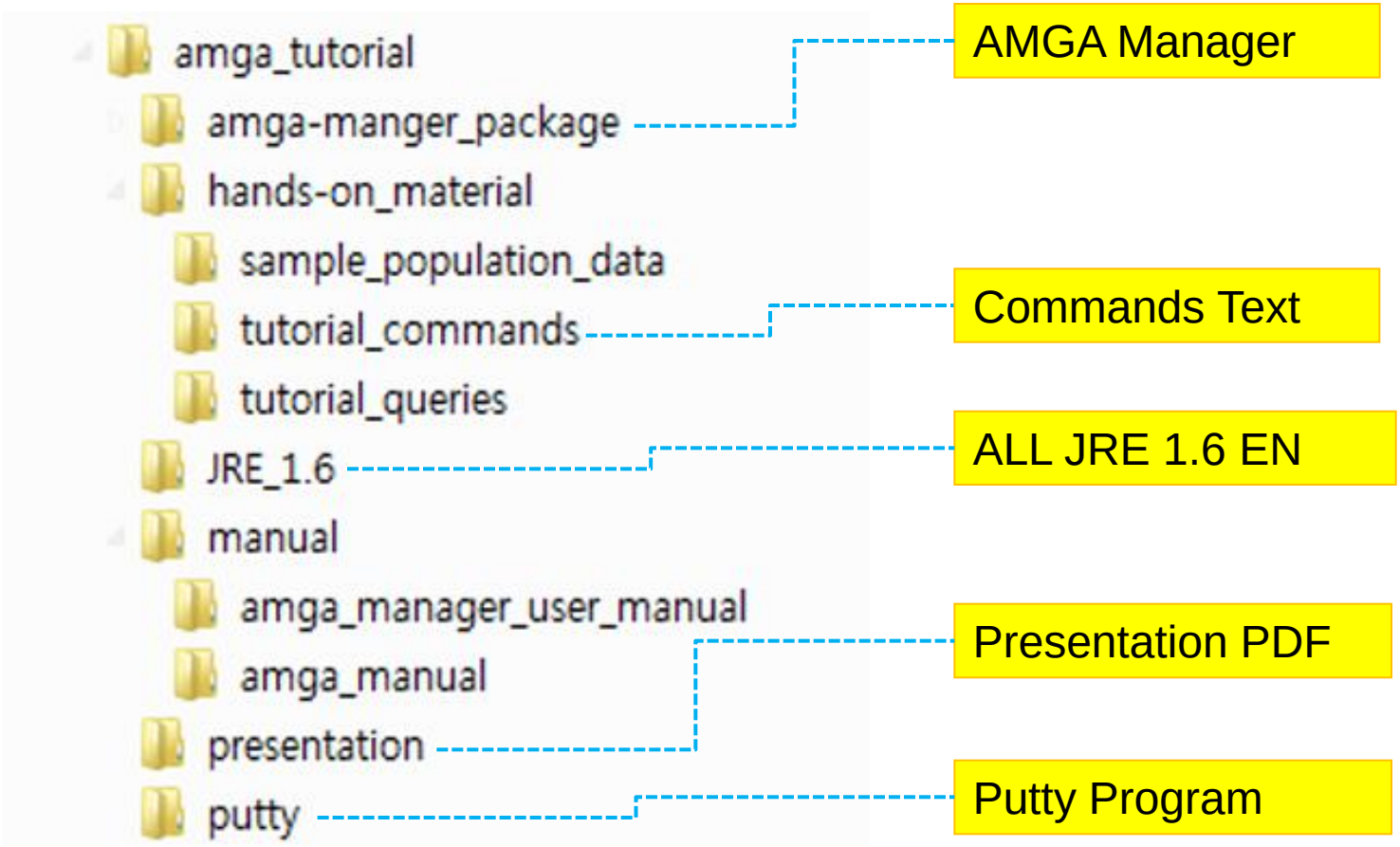
- **Putty**

  ; 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'

EUROPEAN MIDDLEWARE INITIATIVE

Hands-on (I)

Use of AMGA service using the mdclient utility

September 19, 2011

Lyon Convention Center

EMI INFSO-RI-261611

Before getting your hands dirty (1)

- AMGA server set up in CC-IN2P3
  - ccheb03.in2p3.fr

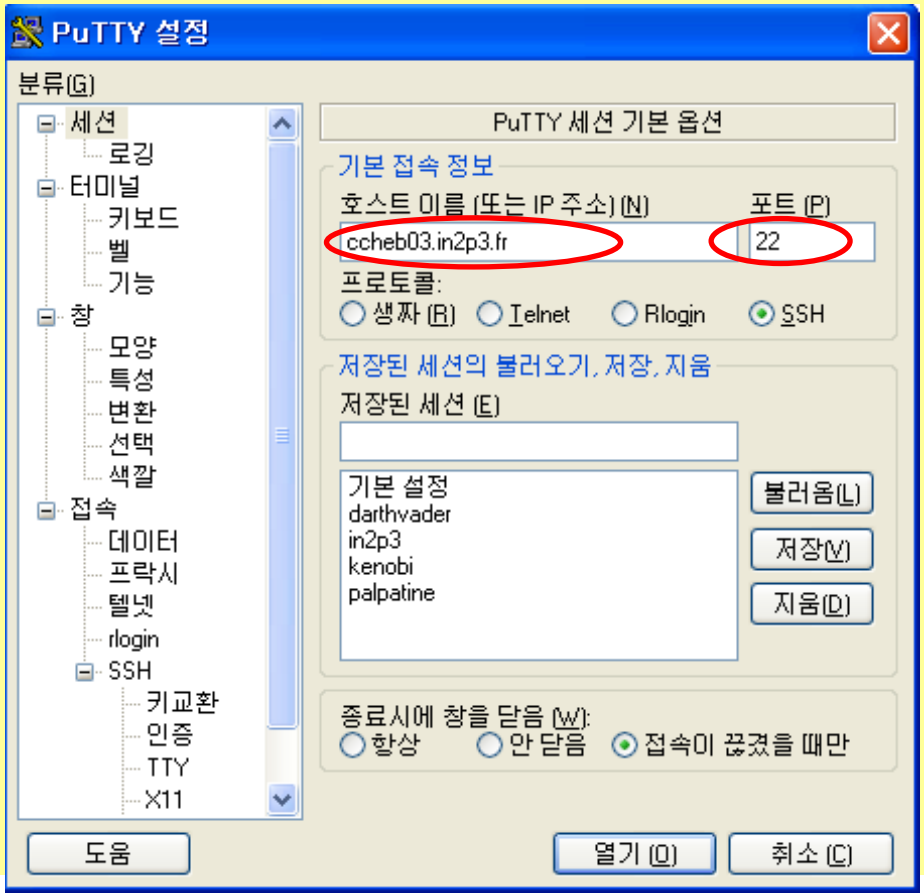
- Linux Account to access the AMGA server
  - Id: amgaXX (e.g., amga01)
  - Password: XXpwdamga (e.g.,01pwdamga)

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



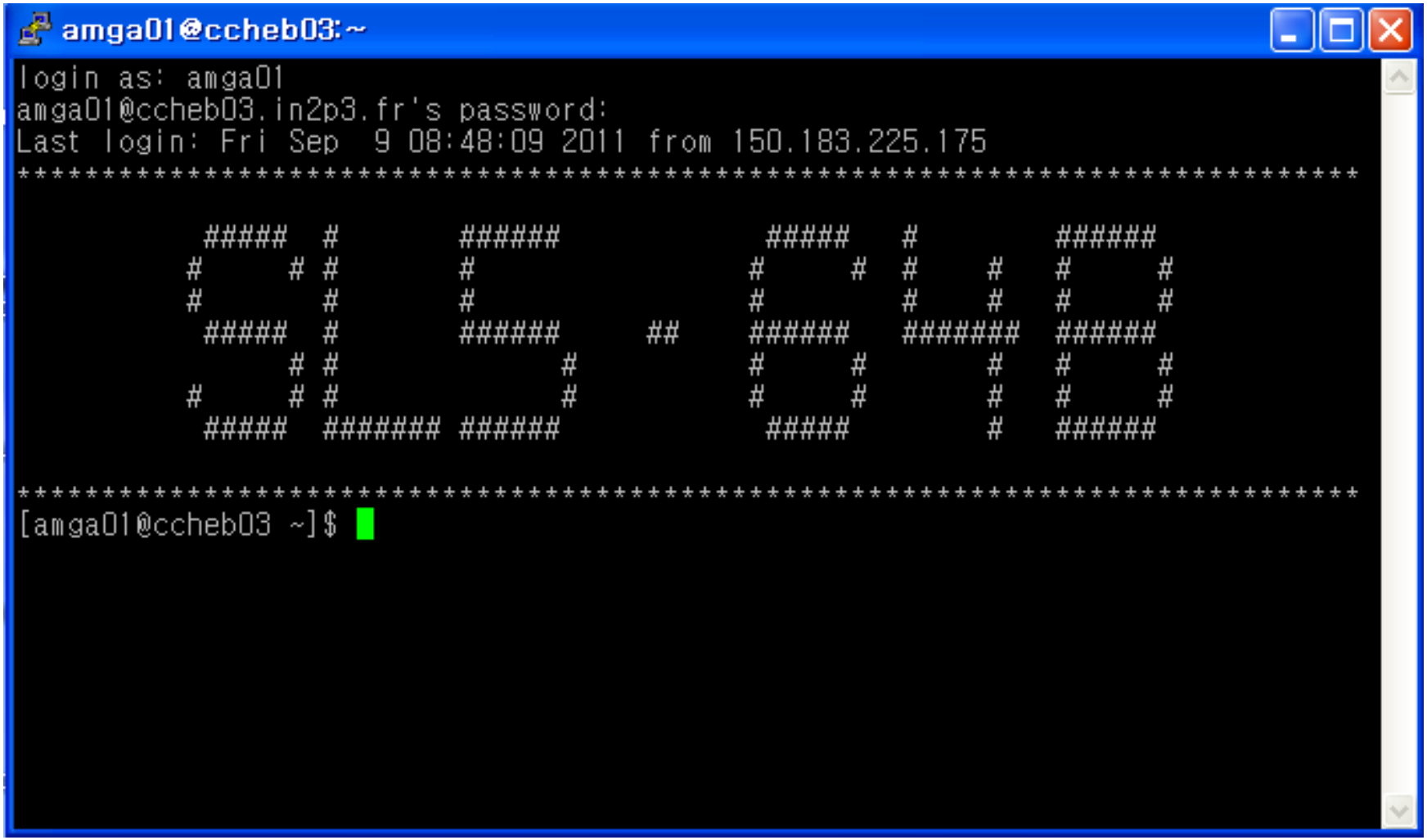
Host name	**ccheb03.in2p3.fr**
port	**22**
Protocol	**SSH**

Login onto AMGA server using Putty

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

EUROPEAN MIDDLEWARE INITIATIVE

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 Manupulation

- Let's create and delete a directory in AMGA

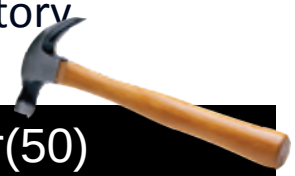
```
Query> pwd
>> /manager01/
Query> createdir  testdir
Query> ls
>> /manager01/testdir
>> /manager01/position
Query> cd testdir
Query> pwd
>> /manager01/testdir
Query> cd ..
Query> rmdir  testdir
```

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 corrisponding 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

Prerequesite

- **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 :

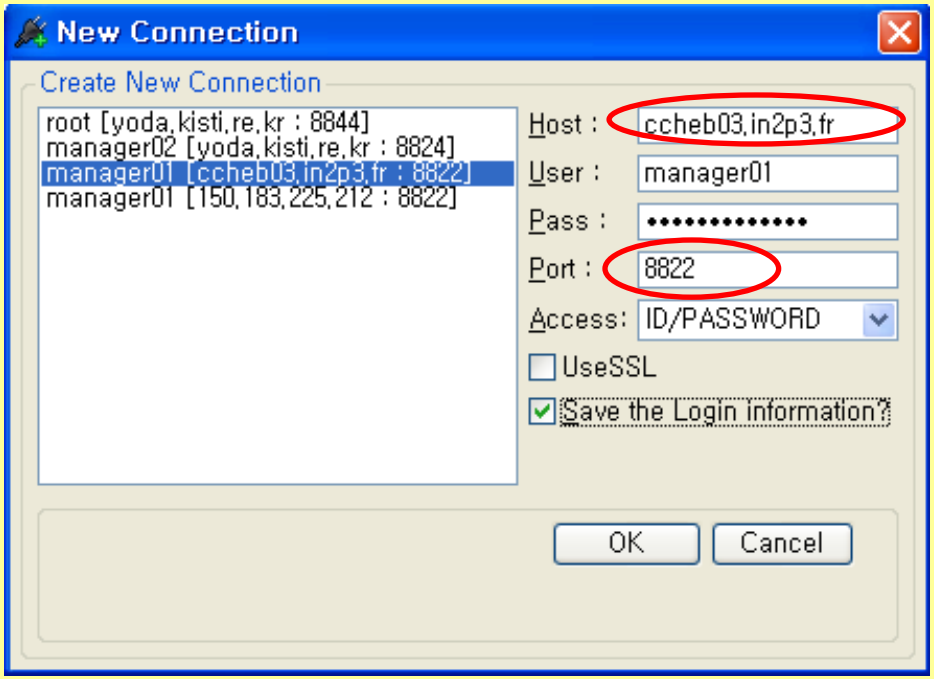
    http://cern.ch/amga/downloads/AMGA_Manager

    http://goo.gl/3tTZj

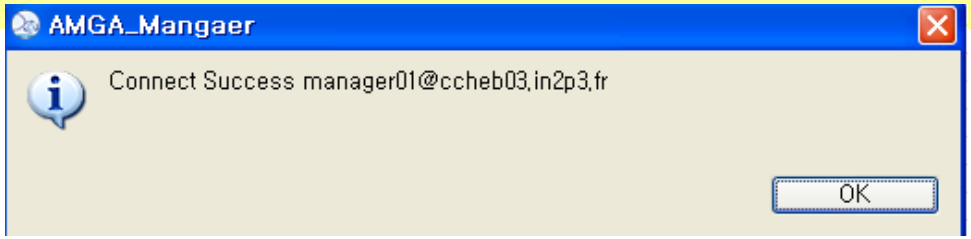
  - Unzip the downloaded file to a proper dir

  - Execute the AMGA Manager executable file

Connection to AMGA service using AMGA Manager



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



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
...
```

EUROPEAN MIDDLEWARE INITIATIVE

AMGA Tutorial Session 2
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Supercomputing Center

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Belle II

CERN

KiSTi www.kisti.re.kr

INFN

IN2P3 Institut National de Physique Nucléaire et de Physique des Particules

EUROPEAN MIDDLEWARE INITIATIVE

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

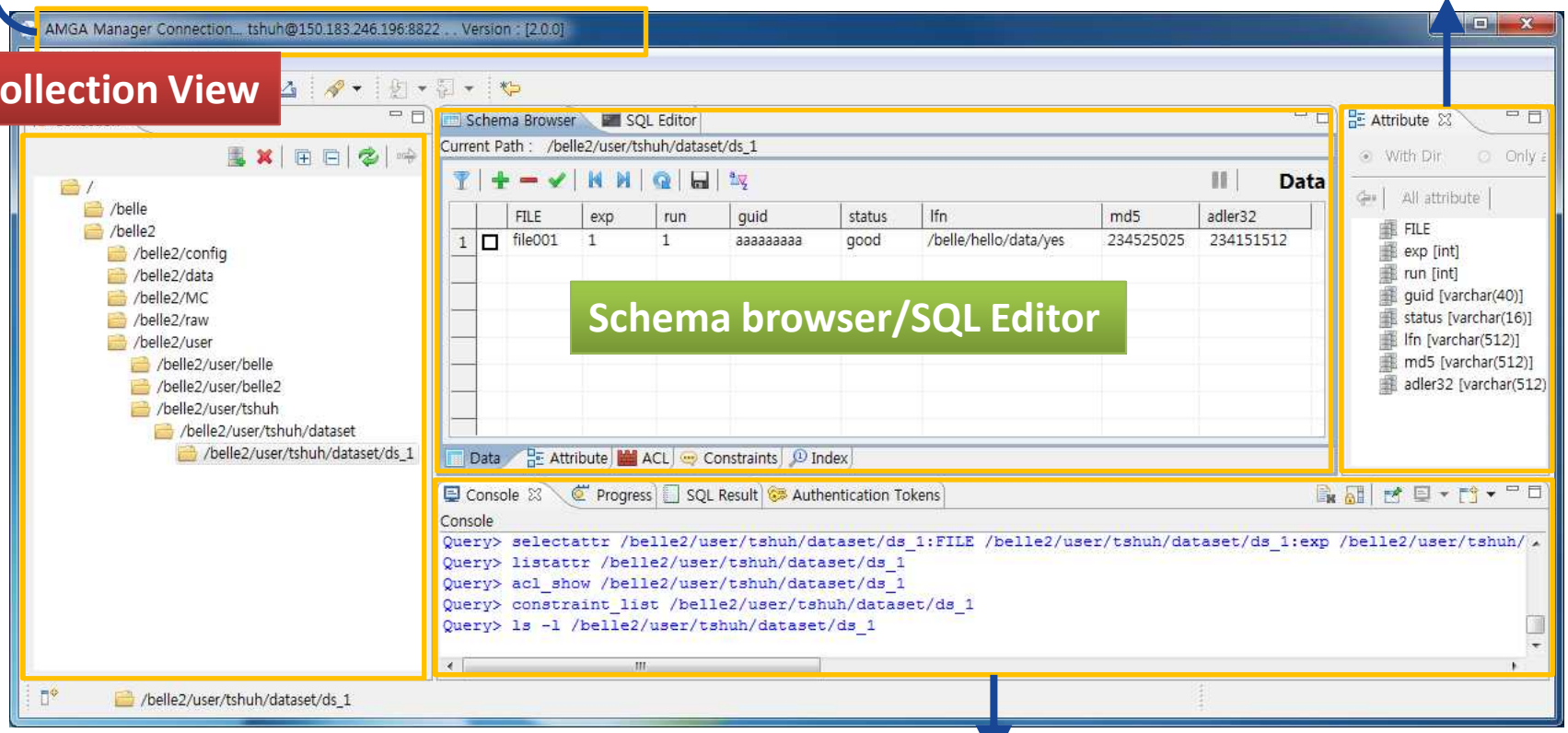
Product Features

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



Console/Progress/SQL Result/Authen. Token view

Main Toolbar in AMGA Manager

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

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)

Shortcut keys - MENU

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

MENU	*Shortcut key*
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	
Popup Menu [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	
Popup Menu [right-button/mouse]	
-> Copy	Ctrl + C
-> Select All	Ctrl + A

Schema Browser Shortcut key	
Popup Menu [right-button/mouse]	
-> All Seclect	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	
Popup Menu [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

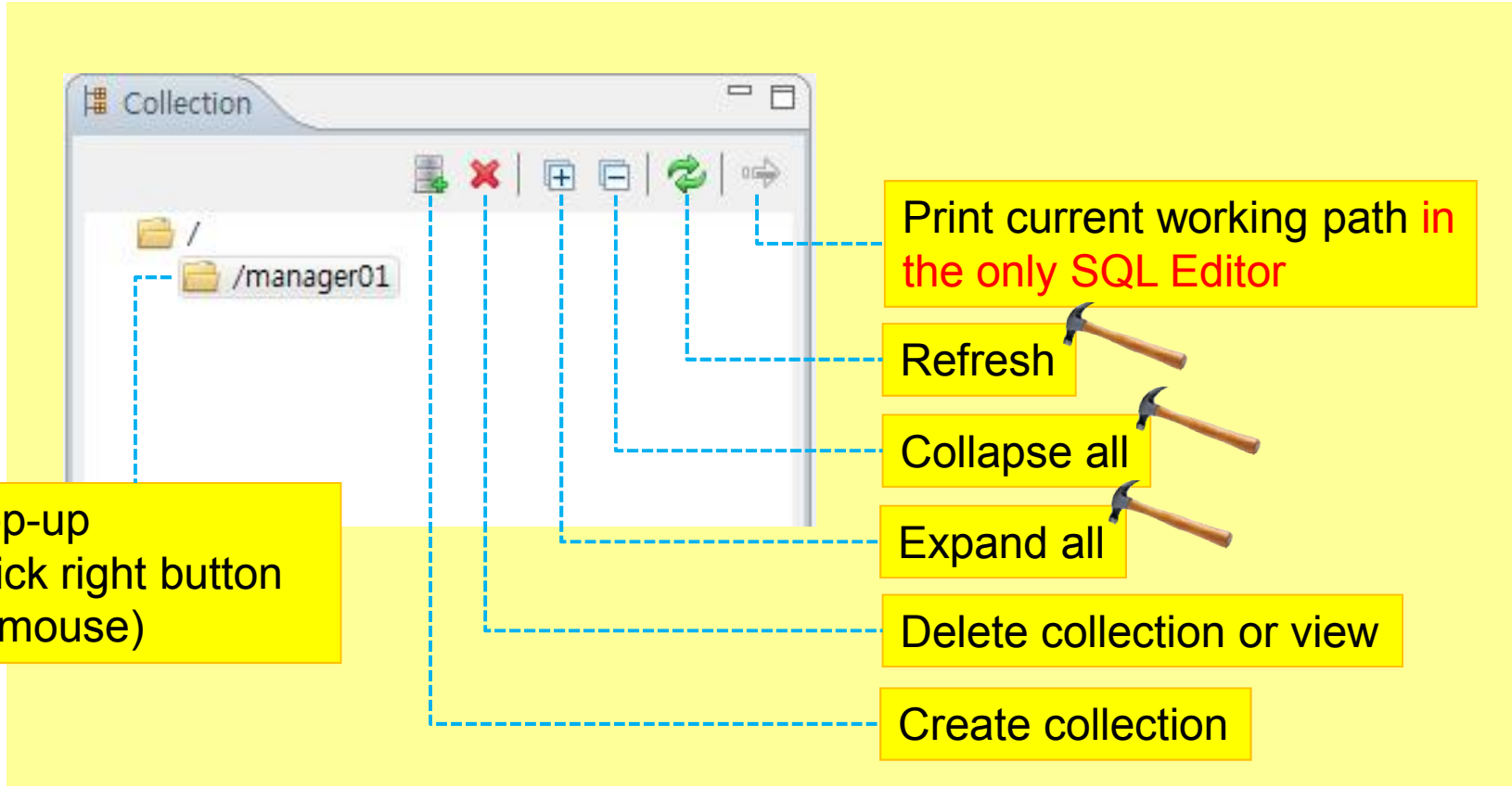
From “Browser around Collection view” to “Pop-up menu”
(p.11 ~ p.14)

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

Browse around Collection View

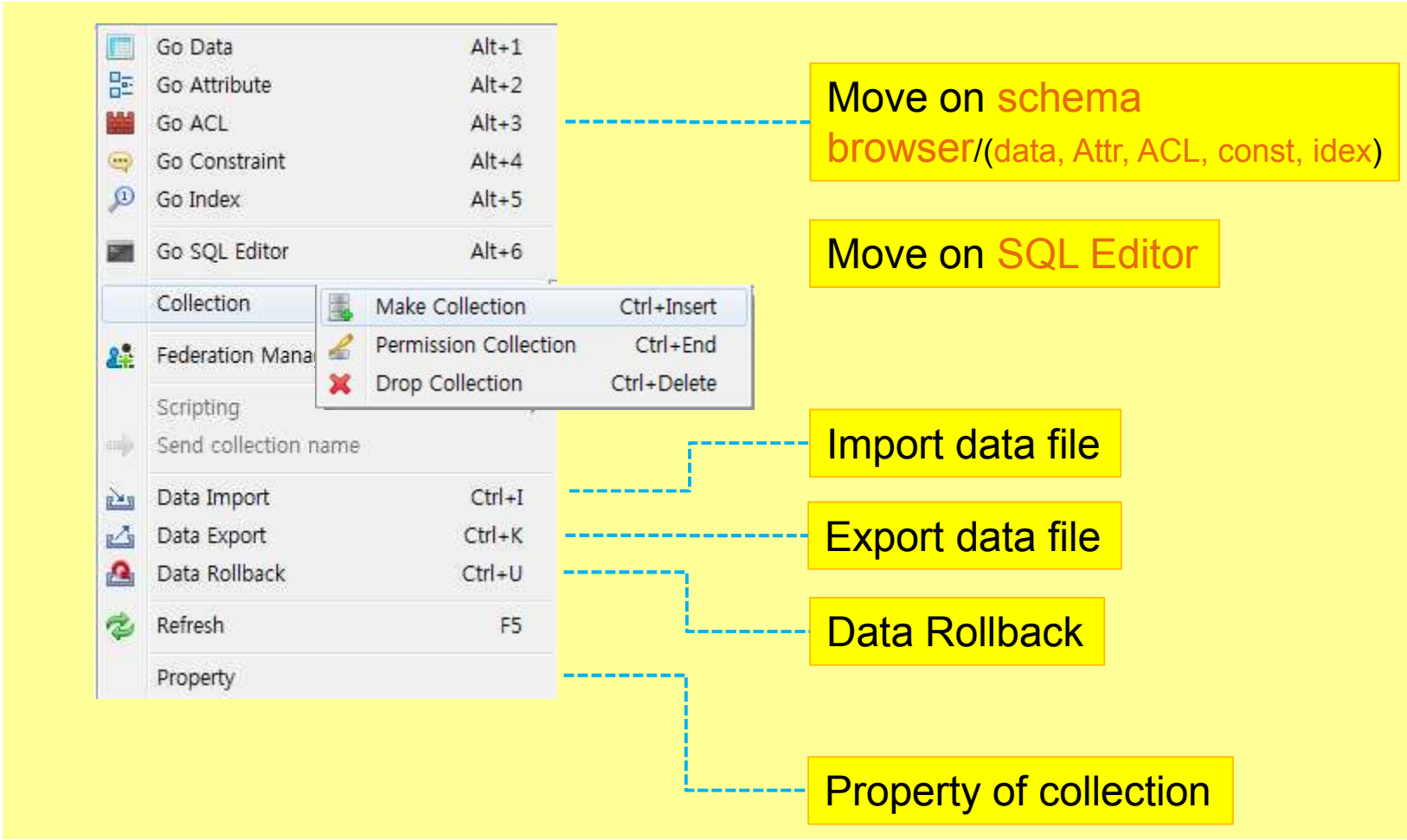
The menu of collection view shows following below.

Don’t delete your directory !!!!



Pop-up Menu - Browse around Collection View

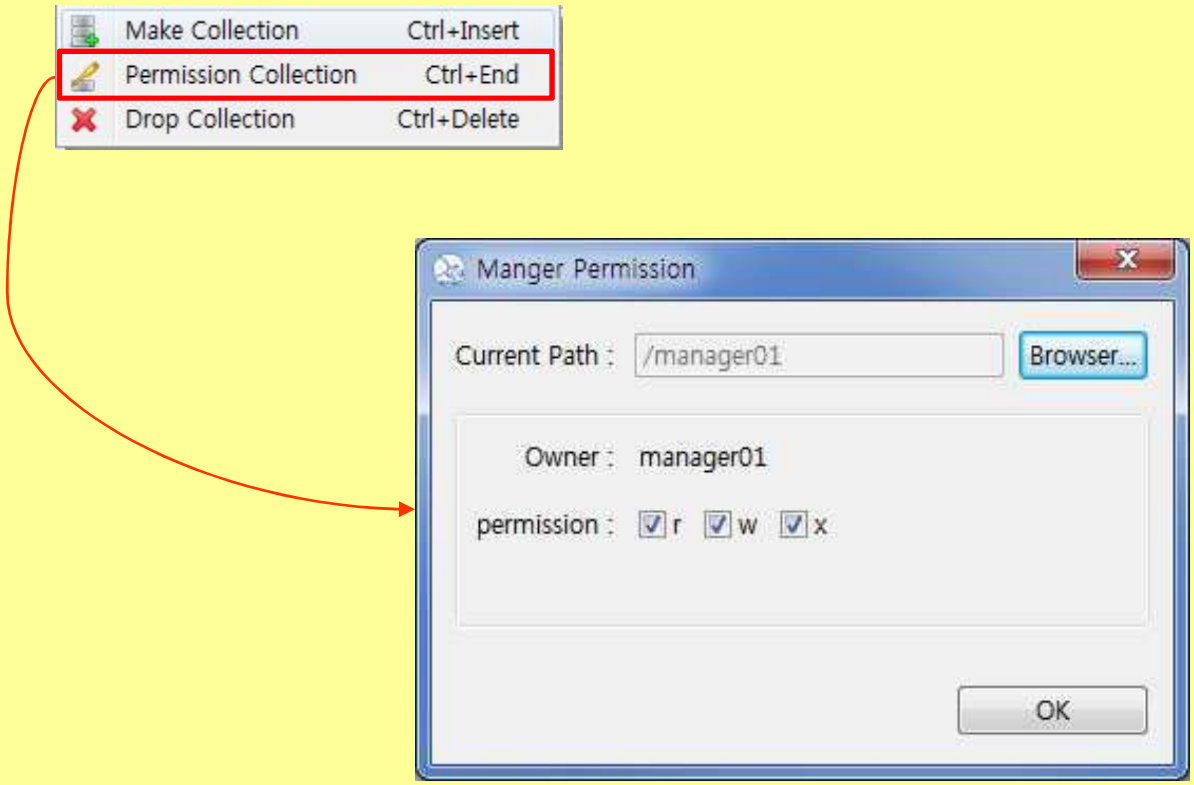
The menu of pop-up(clicking right button of mouse) at your directory(managerXX) in collection view shows following below.



Pop-up Menu - Browse around Collection View

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

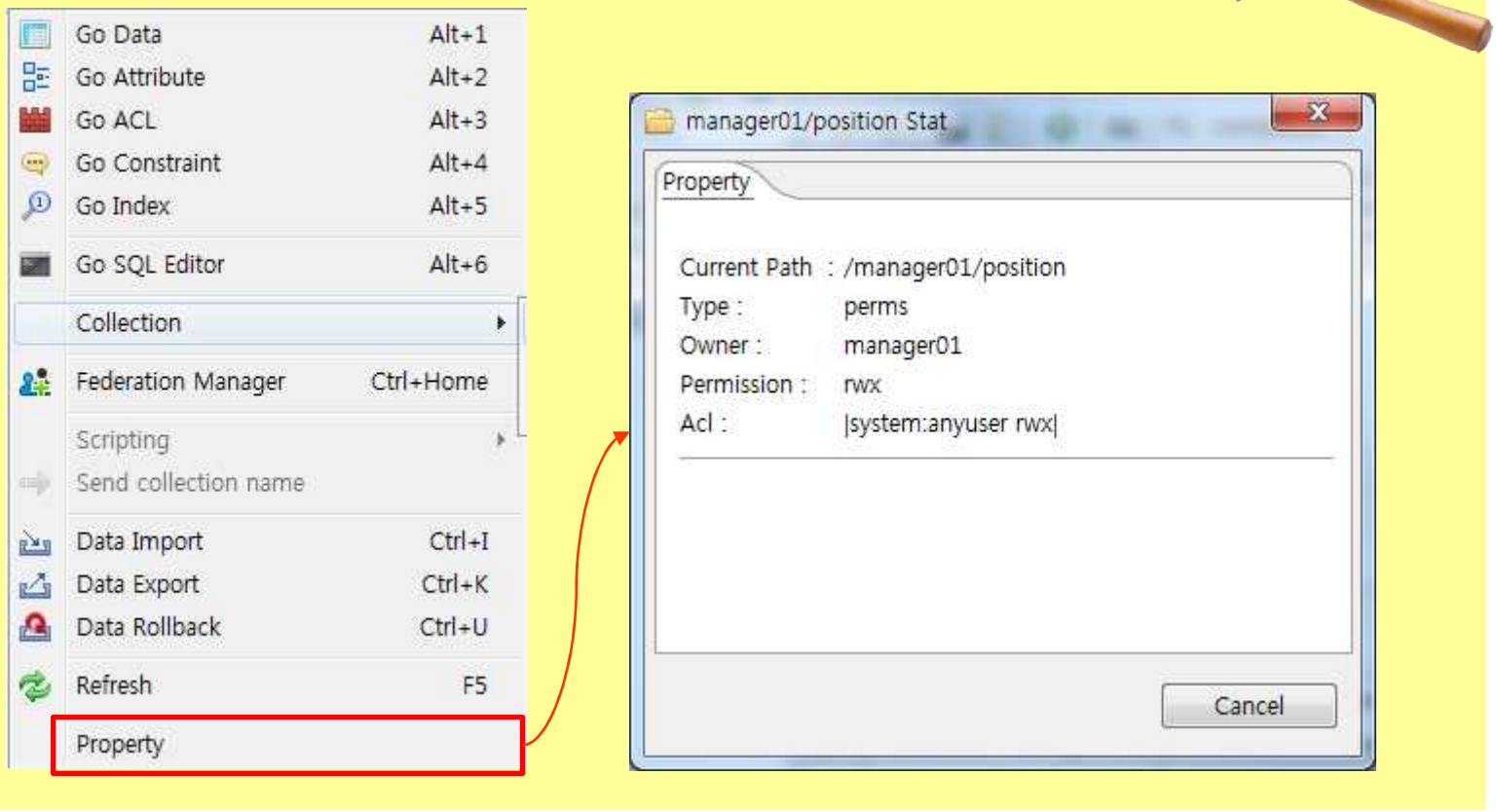
You can manage the owner and permission in the target collection.



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



Hands-on by yourself

From “Make Collection” to “Data Import Wizard”

(p.16 ~ p.23)

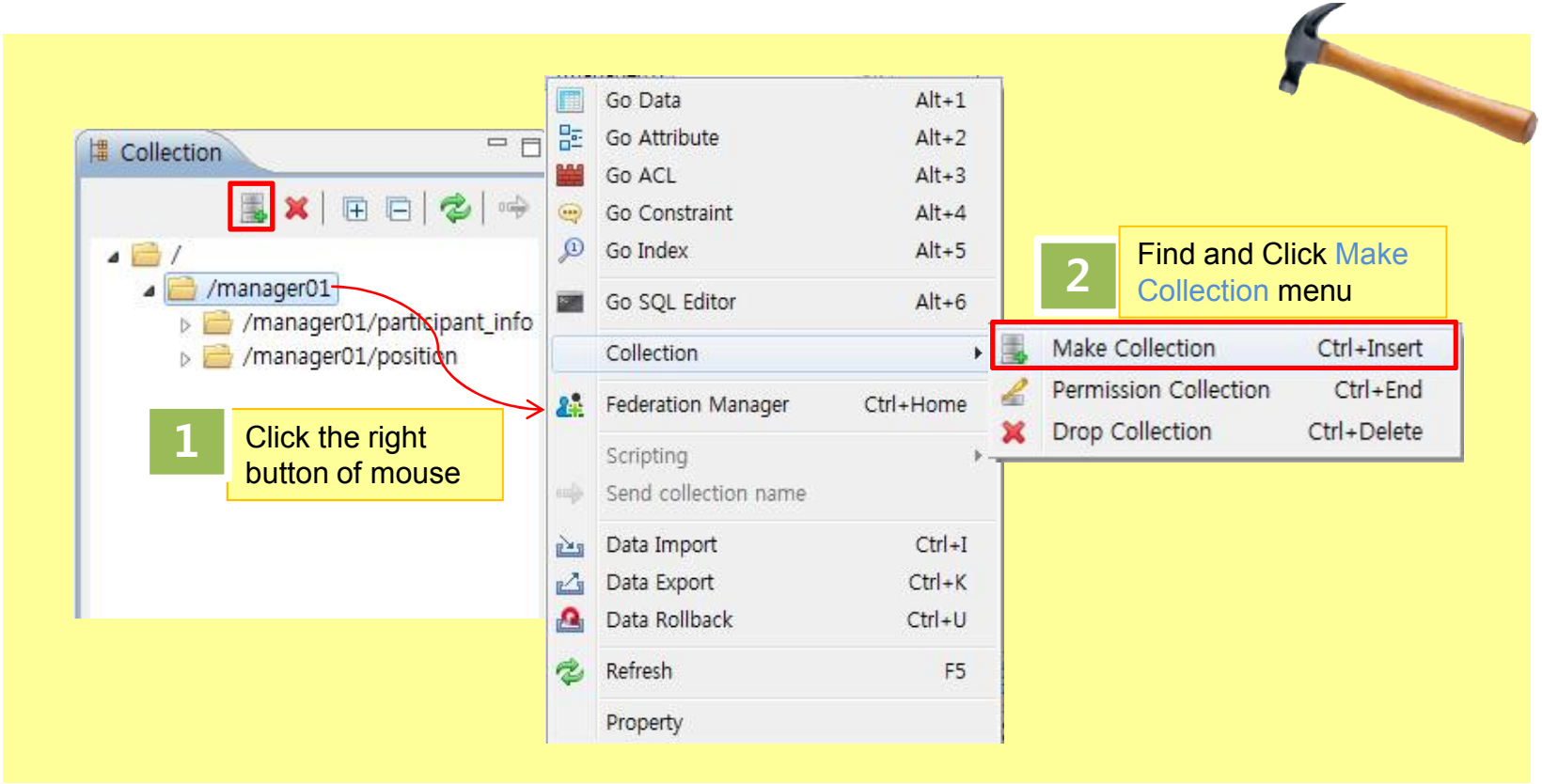
Please, try to **make your collection** and **import data-set in the file(population.xls) into the collection** using AMGA Manager by yourself

Let’s go with me

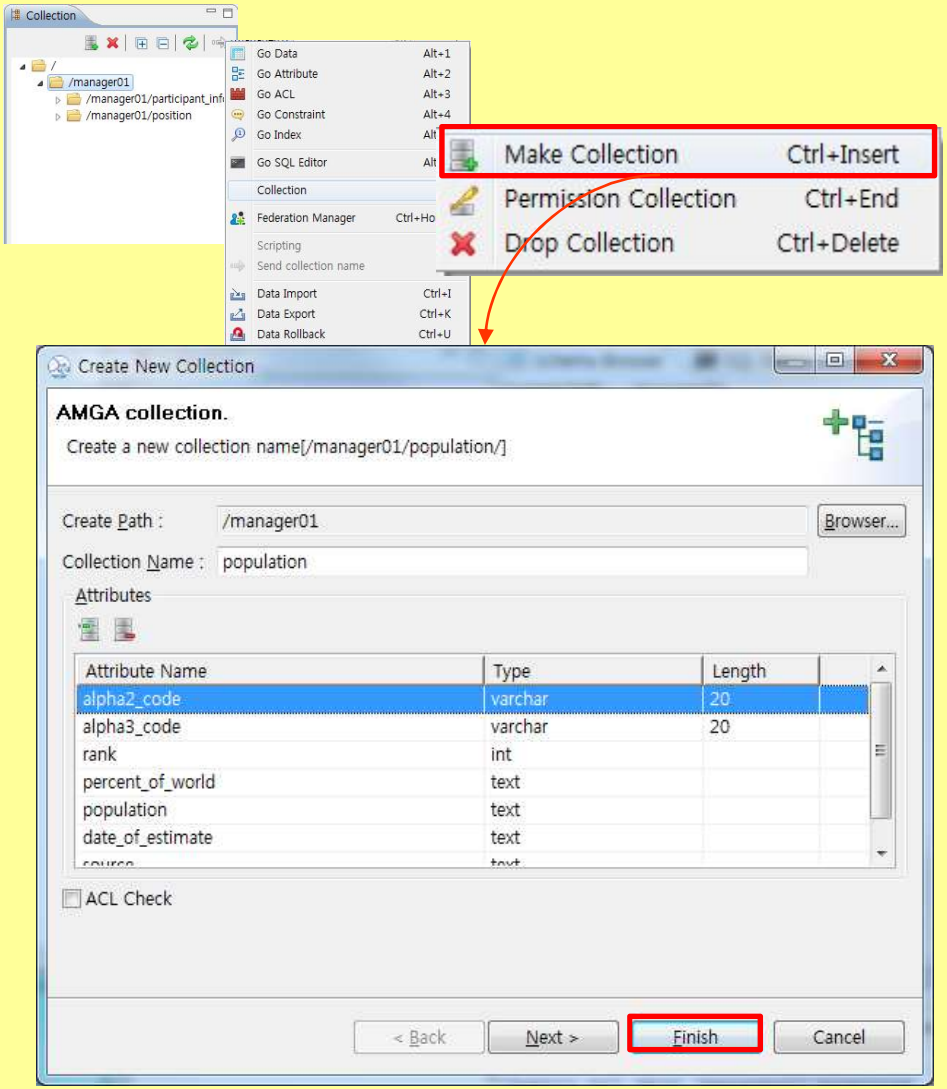
Make collection

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



Make collection



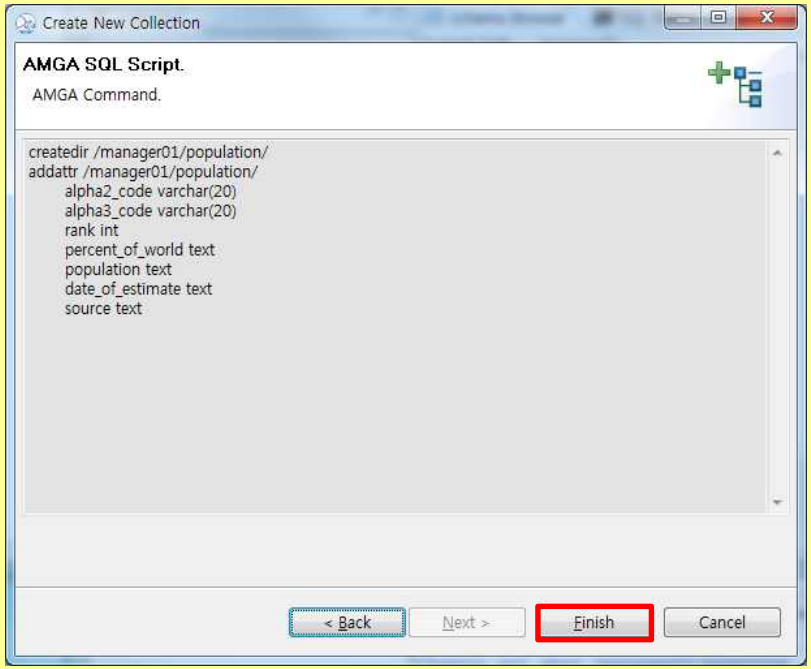
Create Path /managerXX

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

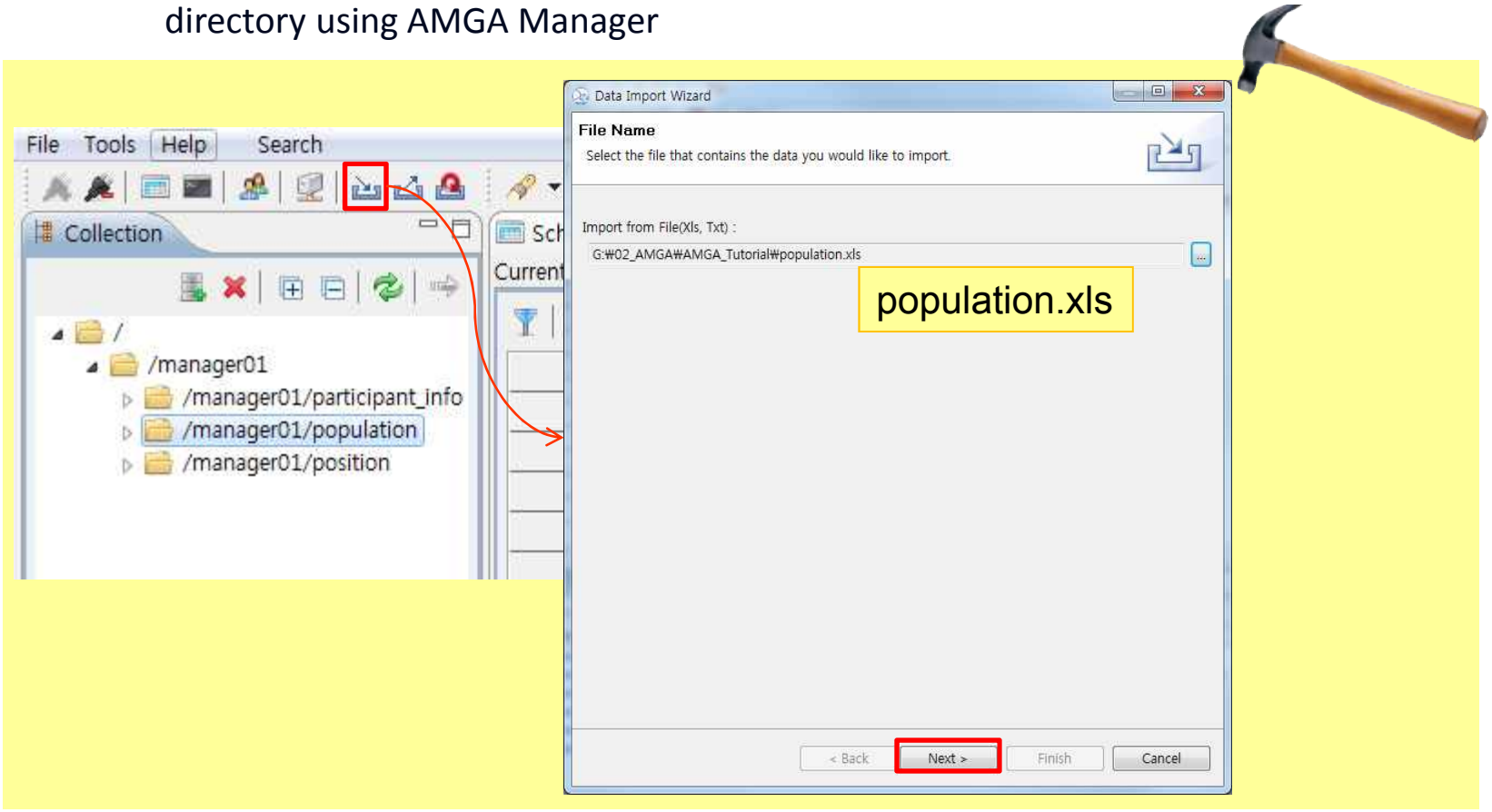


Ready to prepare rice bowl, in the next step, fill the bowl with rice

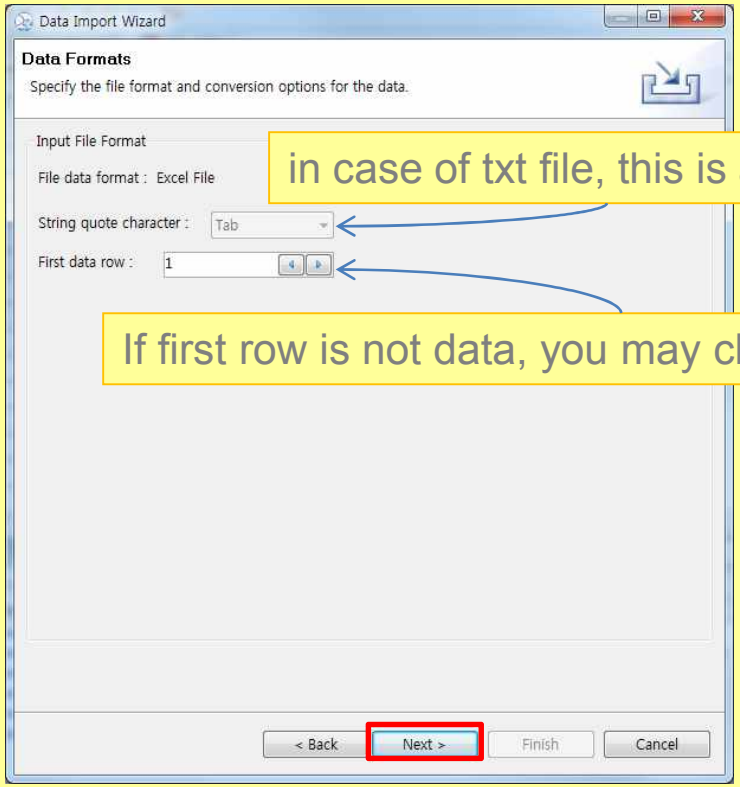
Data Import Wizard

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

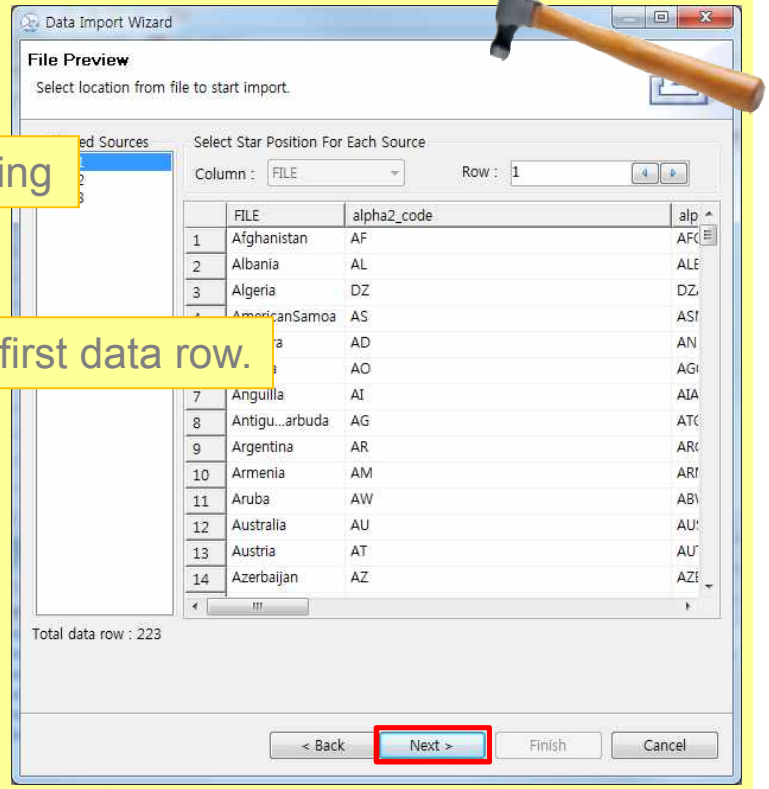


Data Import Wizard



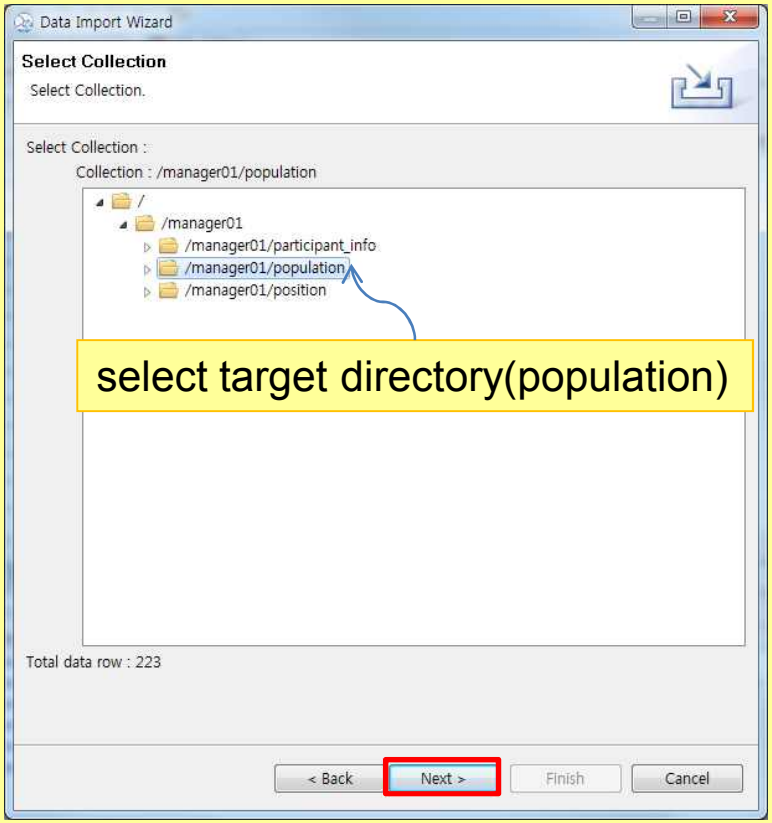
in case of txt file, this is activating

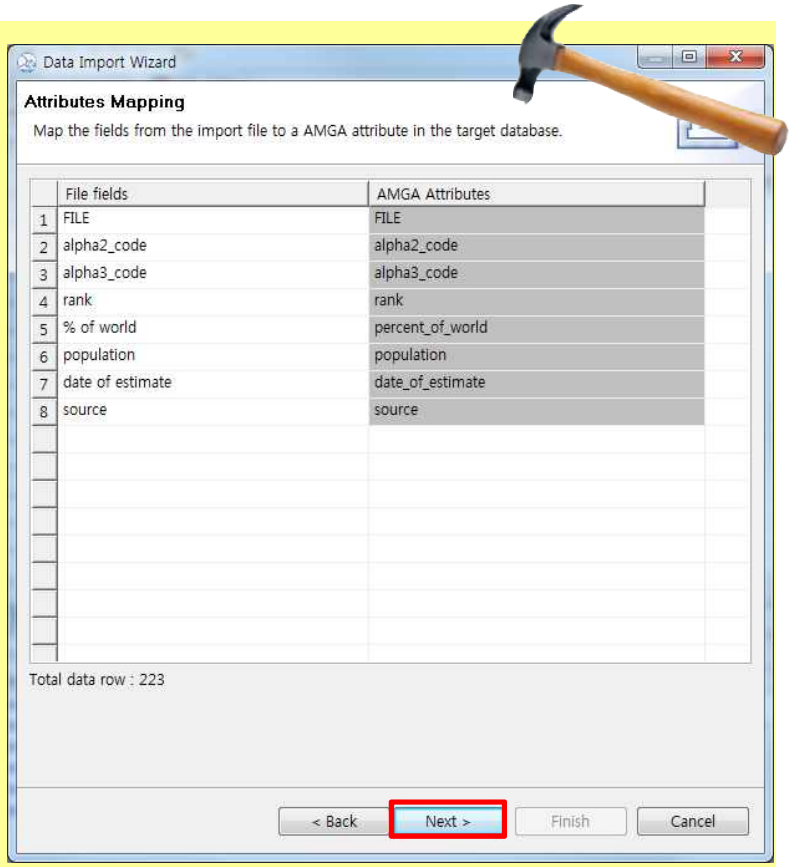
If first row is not data, you may change first data row.



Preview your data in the file

Data Import Wizard

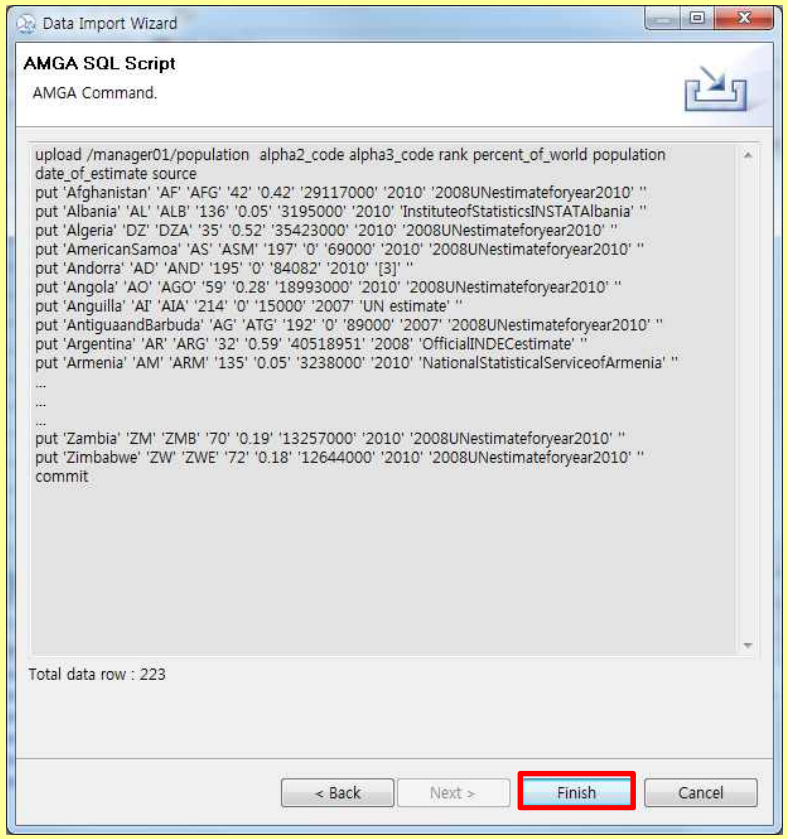




Check matching between file fields and attributes

No match, you cann'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

Data

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

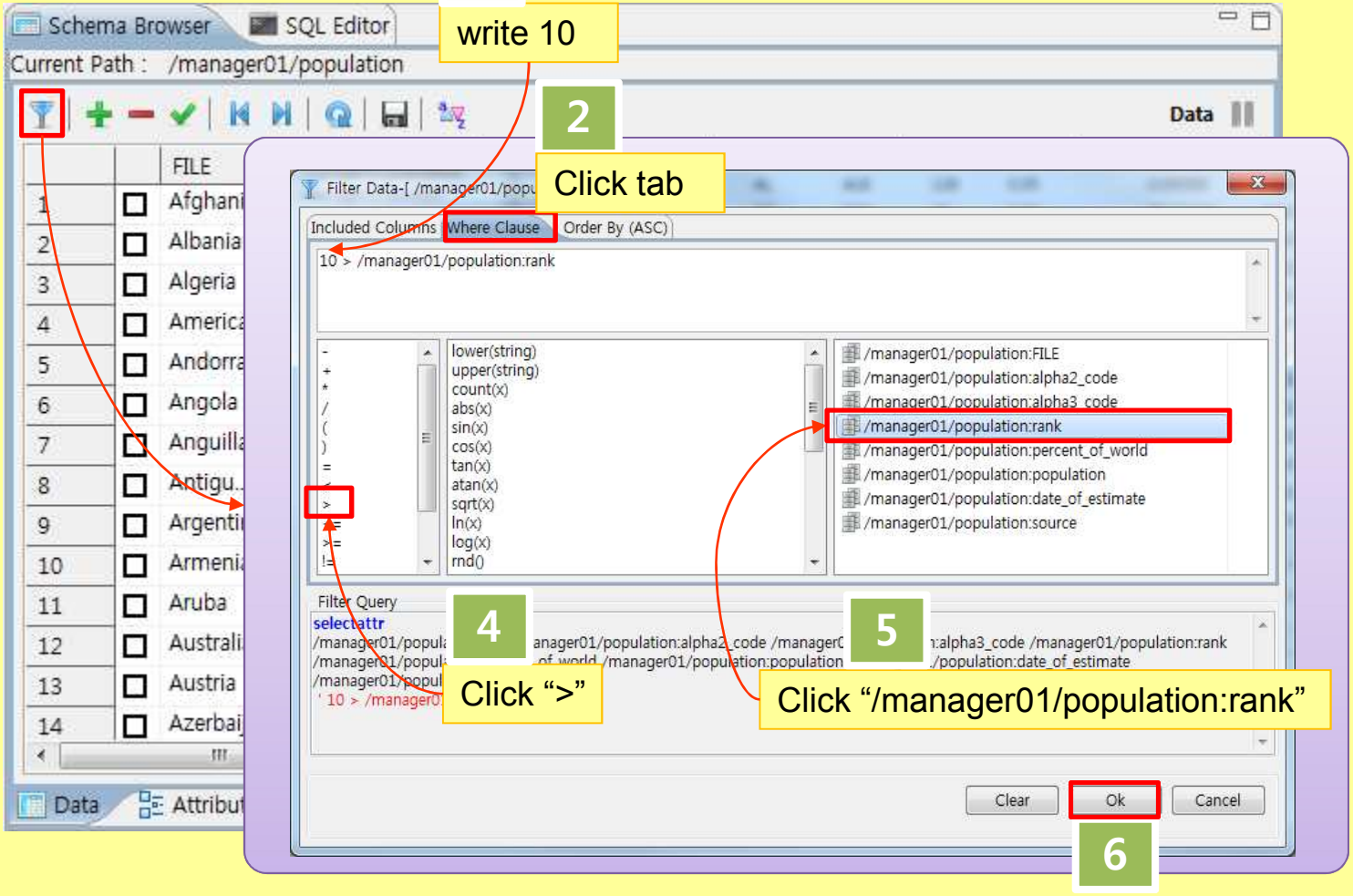
(p.25 ~ p.33)

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

Let’s go with me

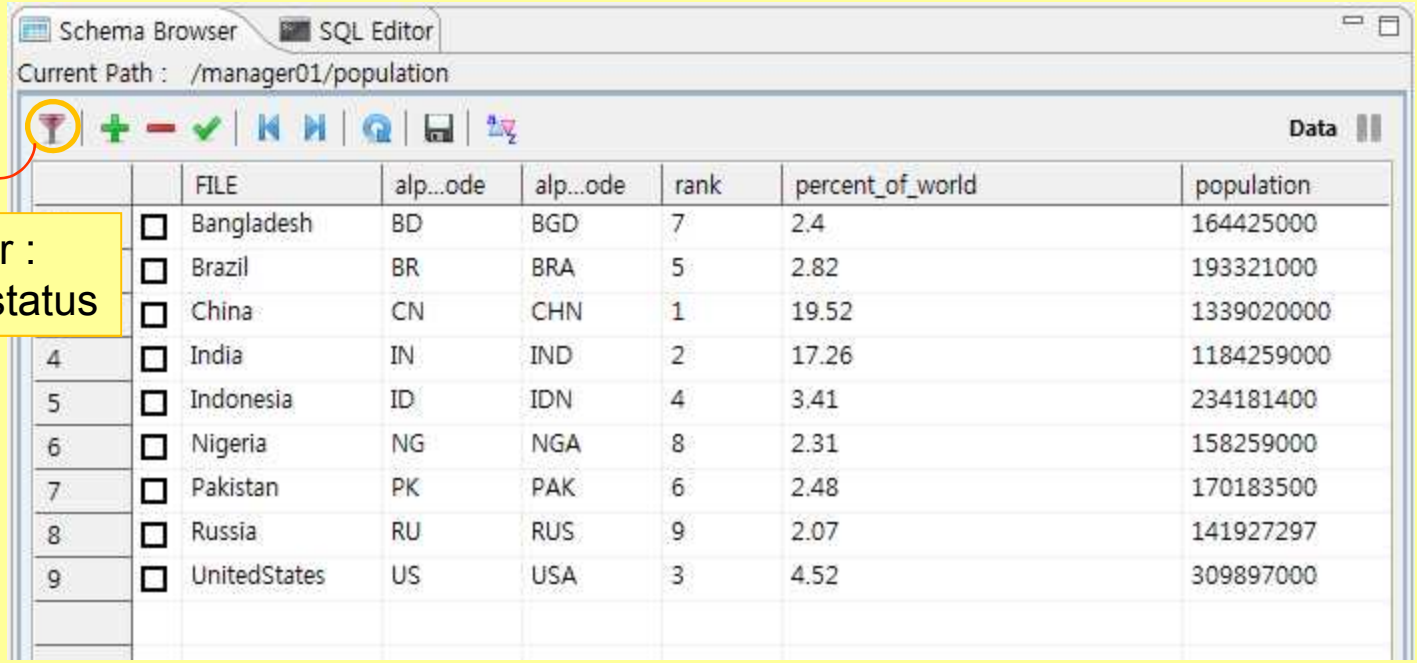
Filter - Manage Schema browser(Data)

- **Try to make Filter**



Filter - Manage Schema browser(Data)

- **Filtered data**

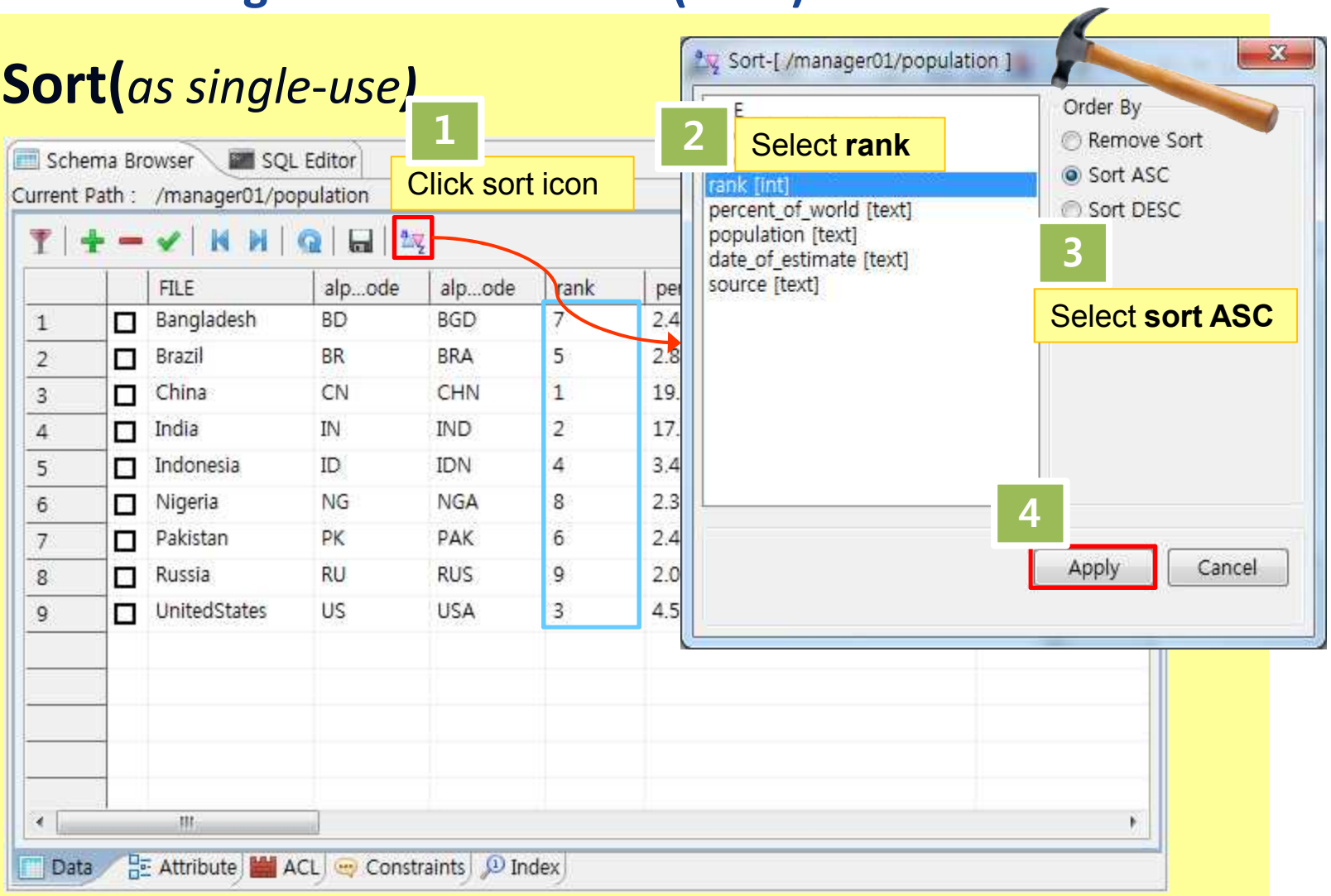


		FILE	alp...ode	alp...ode	rank	percent_of_world	population
	☐	Bangladesh	BD	BGD	7	2.4	164425000
	☐	Brazil	BR	BRA	5	2.82	193321000
	☐	China	CN	CHN	1	19.52	1339020000
4	☐	India	IN	IND	2	17.26	1184259000
5	☐	Indonesia	ID	IDN	4	3.41	234181400
6	☐	Nigeria	NG	NGA	8	2.31	158259000
7	☐	Pakistan	PK	PAK	6	2.48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

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***)**



Sort - Manage Schema browser(Data)

- **Sorted data**

Schema Browser | SQL Editor

Current Path : /manager02/population

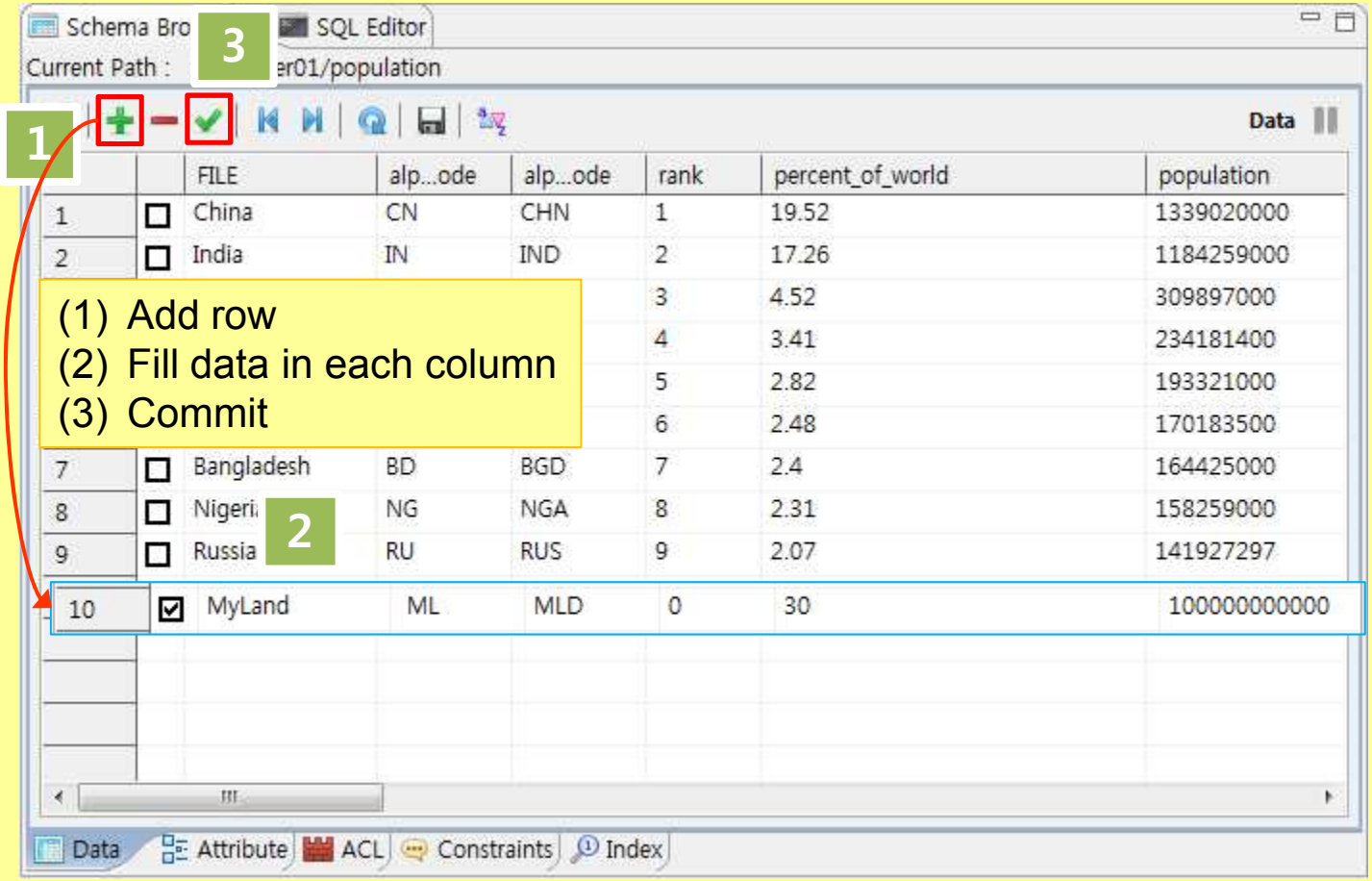
Data

		FILE	alp...ode	alp...ode	rank	percent_of_world	population
1	☐	China	CN	CHN	1	19.52	1339020000
2	☐	India	IN	IND	2	17.26	1184259000
3	☐	UnitedStates	US	USA	3	4.52	309897000
4	☐	Indonesia	ID	IDN	4	3.41	234181400
5	☐	Brazil	BR	BRA	5	2.82	193321000
6	☐	Pakistan	PK	PAK	6	2.48	170183500
7	☐	Bangladesh	BD	BGD	7	2.4	164425000
8	☐	Nigeria	NG	NGA	8	2.31	158259000
9	☐	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**



Add entry - Manage Schema browser(Data)

- **Added data**

Schema Browser | SQL Editor

Current Path : /manager01/population

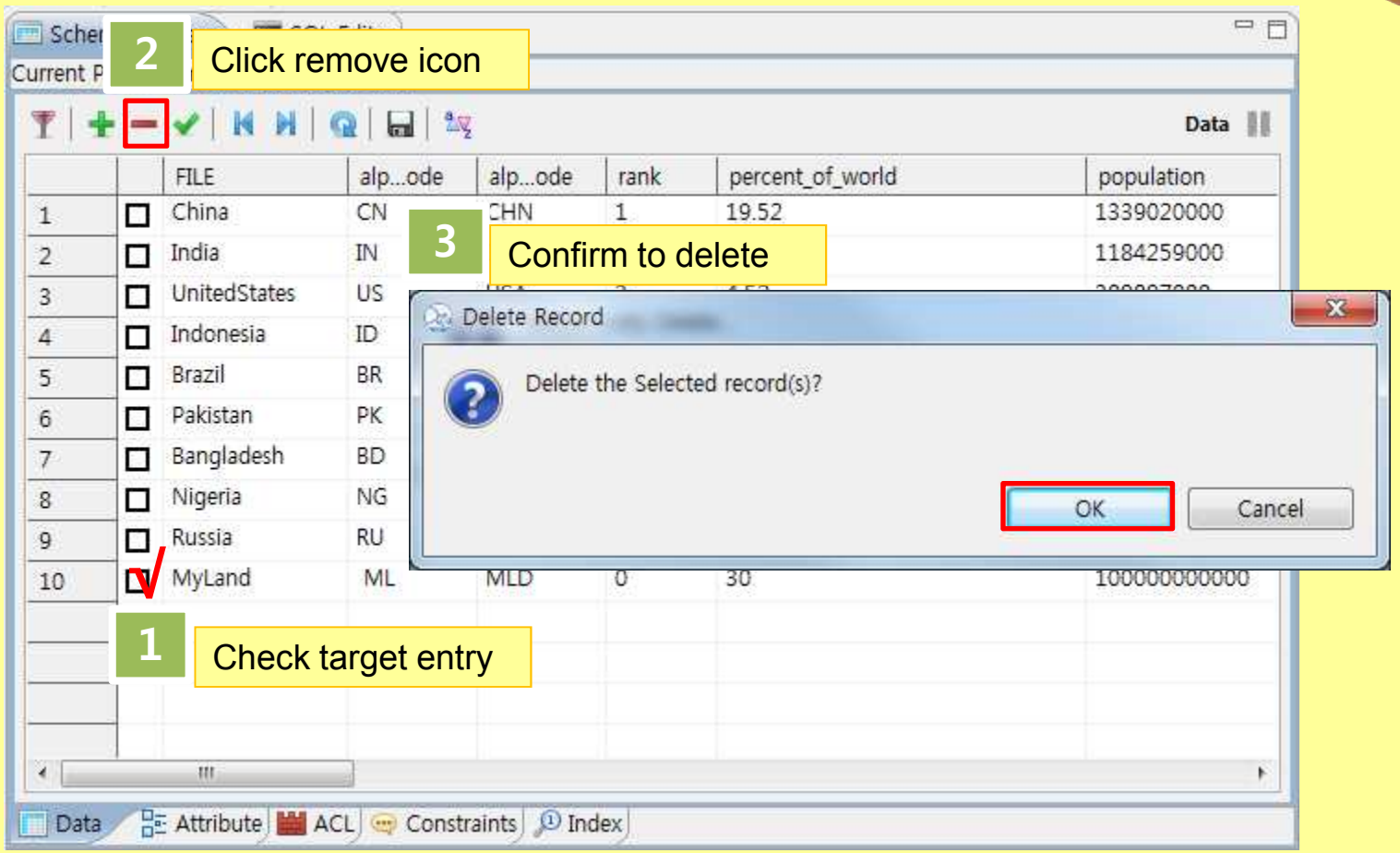
Data

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

Data | Attribute | ACL | Constraints | Index

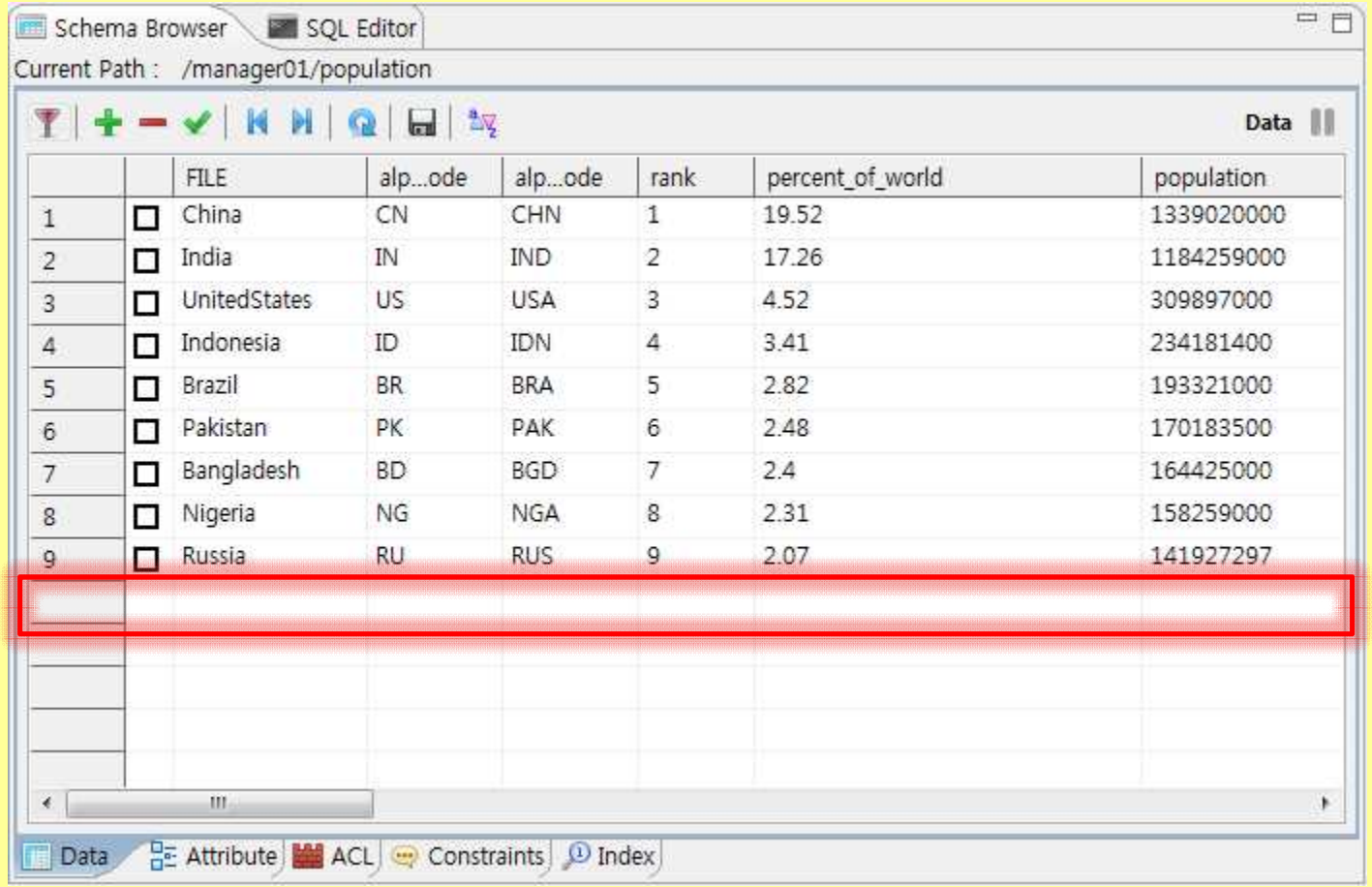
Delete entry - Manage Schema browser(Data)

- **Try to Delete**



Delete entry - Manage Schema browser(Data)

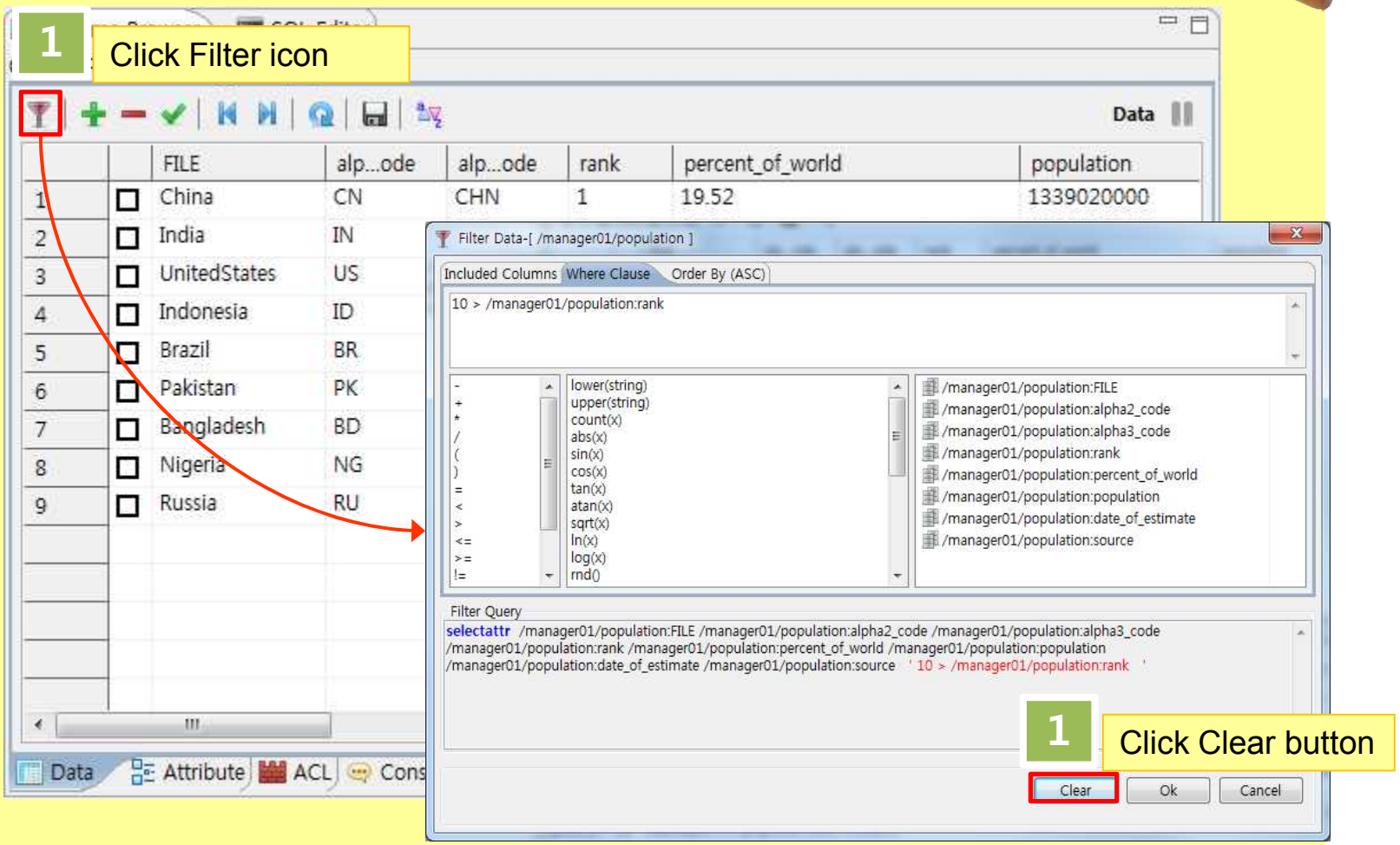
- **Deleted data**



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

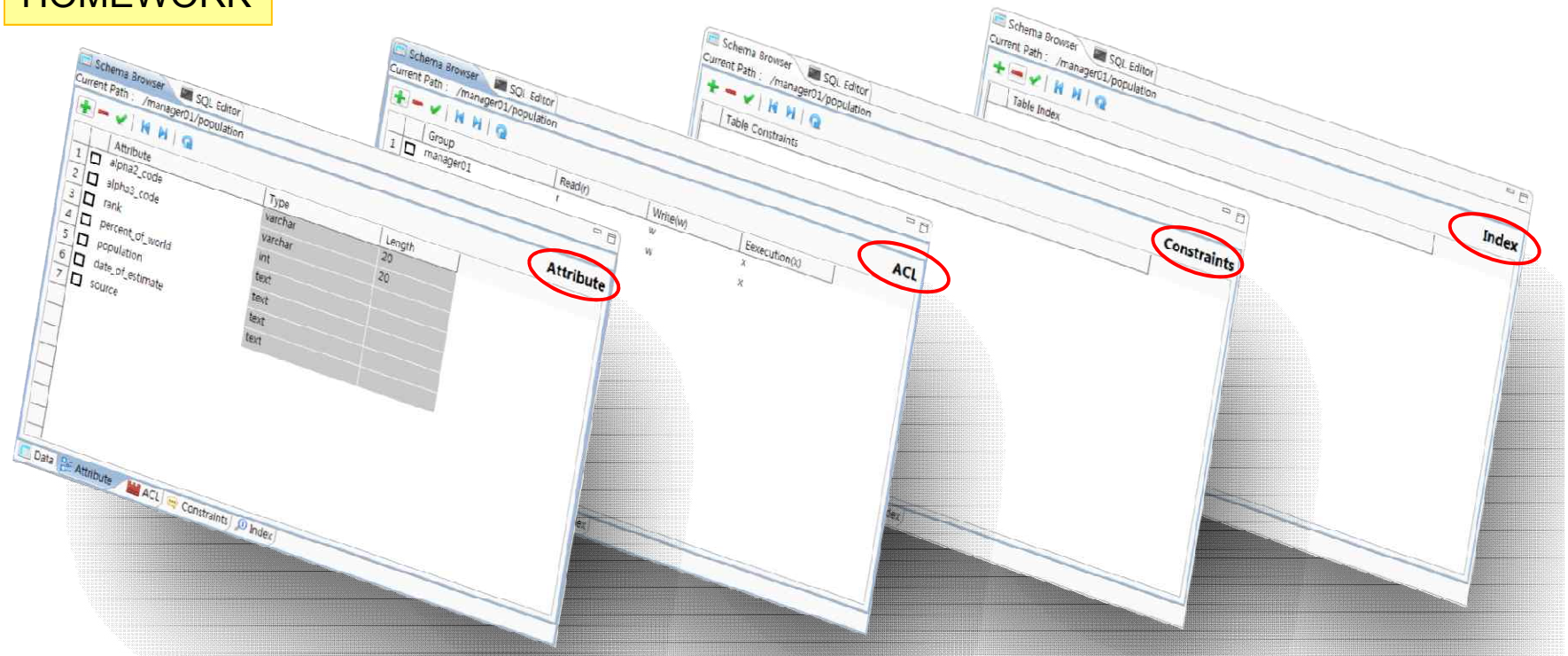
Clear Filter - Manage Schema browser(Data)

- **Try to Clear filter**



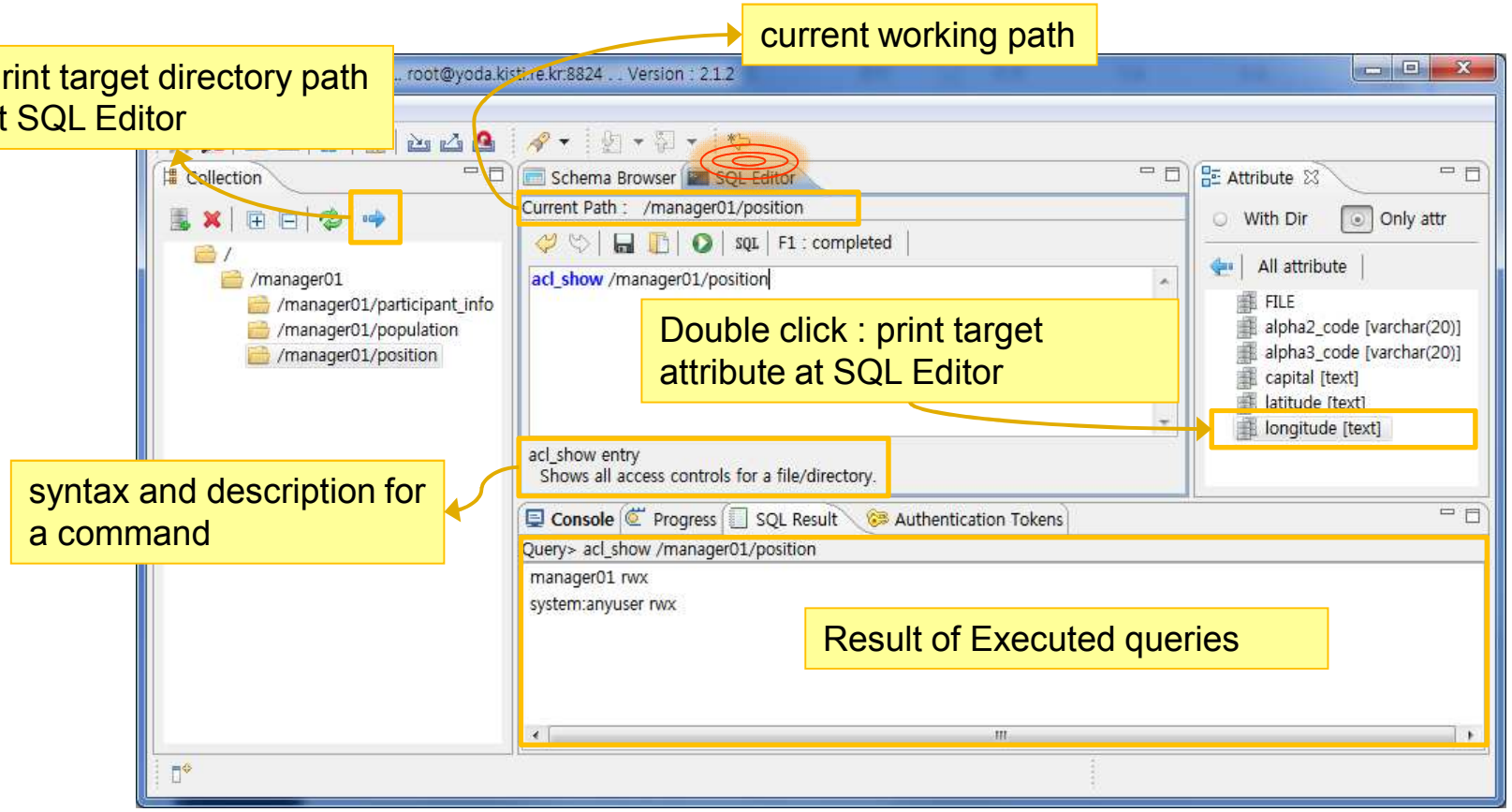
Manage Schema browser(others)

HOMEWORK

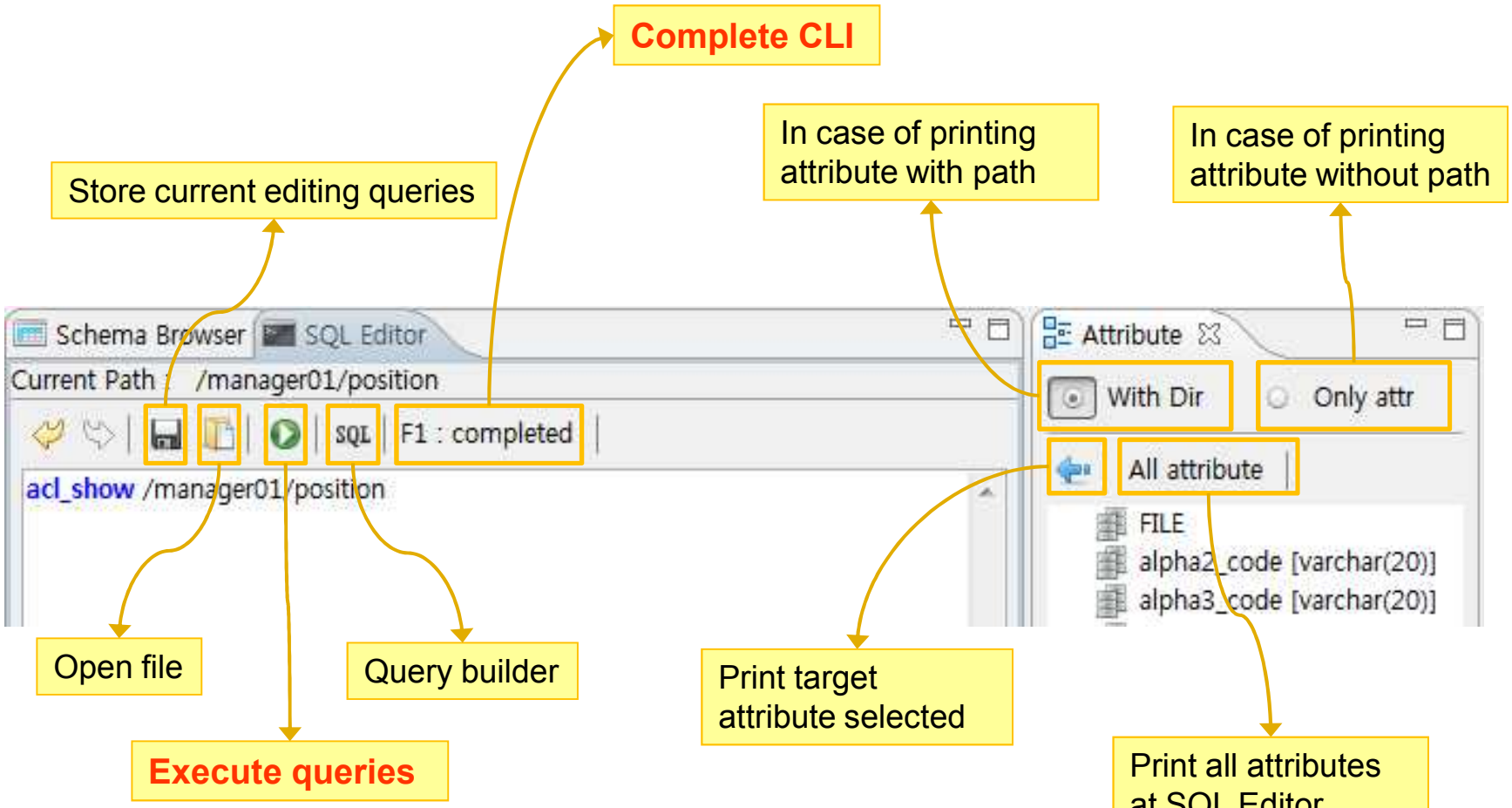


Attributes	ACL	Constraints	Index
Create Read Delete	Create Read Update Delete	Create Read Delete	Create Read Delete

Overview of SQL Editor Use



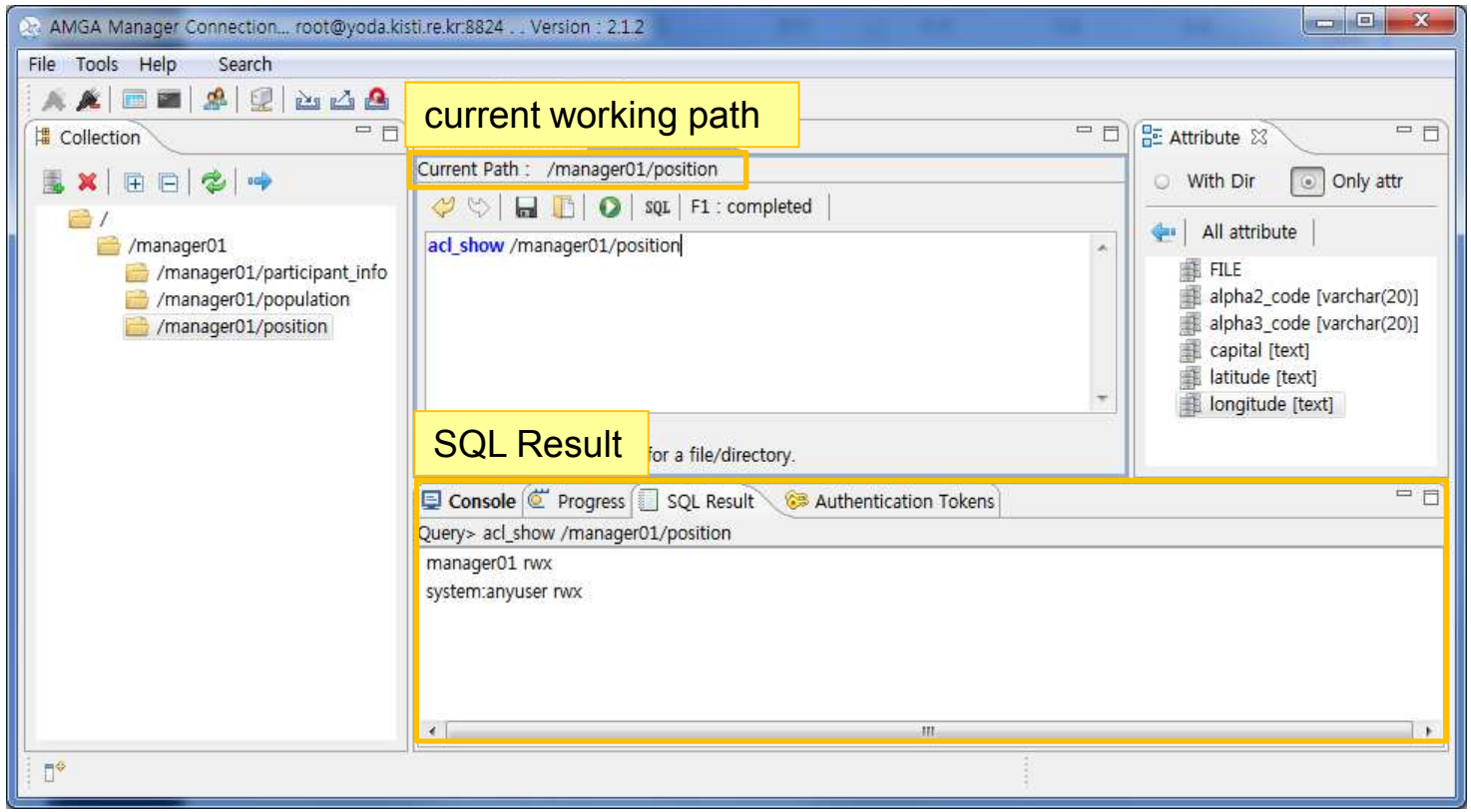
Use SQL Editor



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?

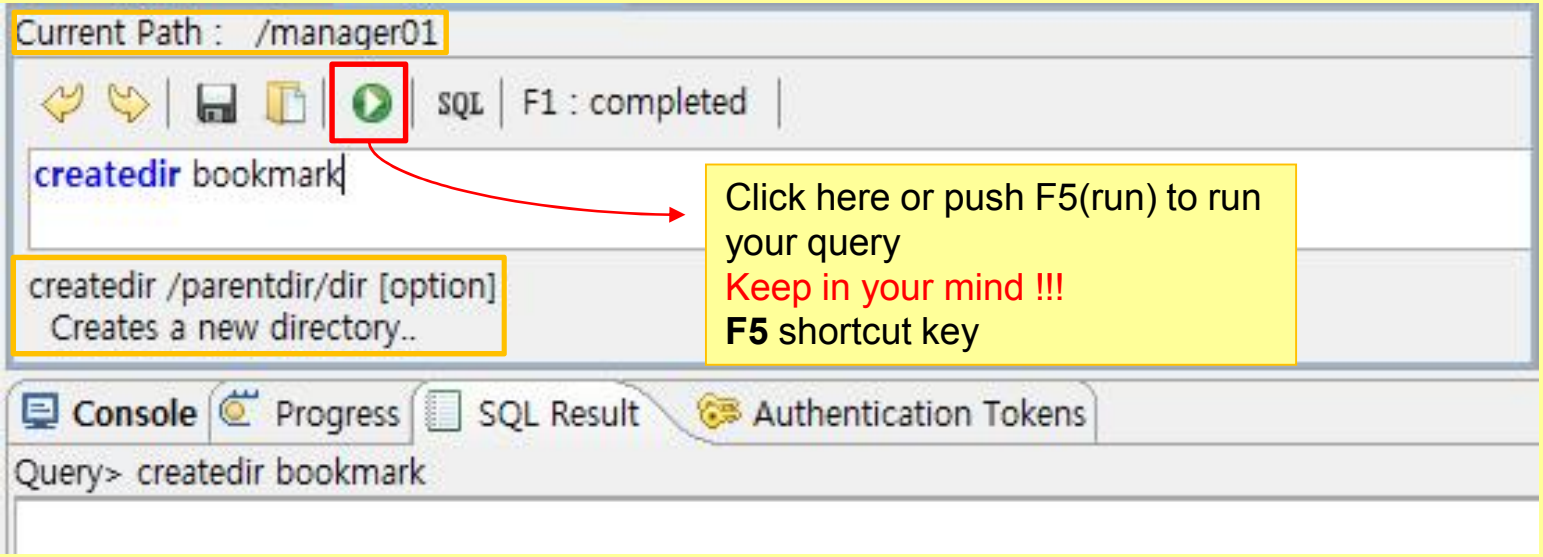
Following steps, you will learn:

- 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)

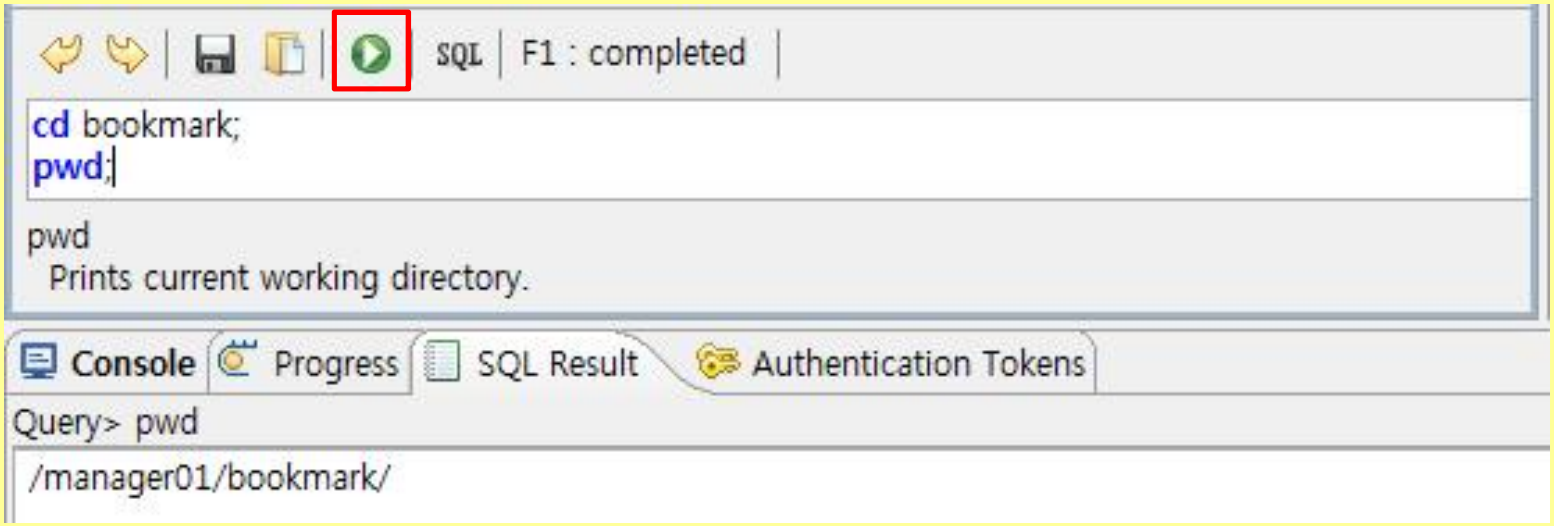


Tip : Checking the current path every time reduce error being possible to be caused by your queries.

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;

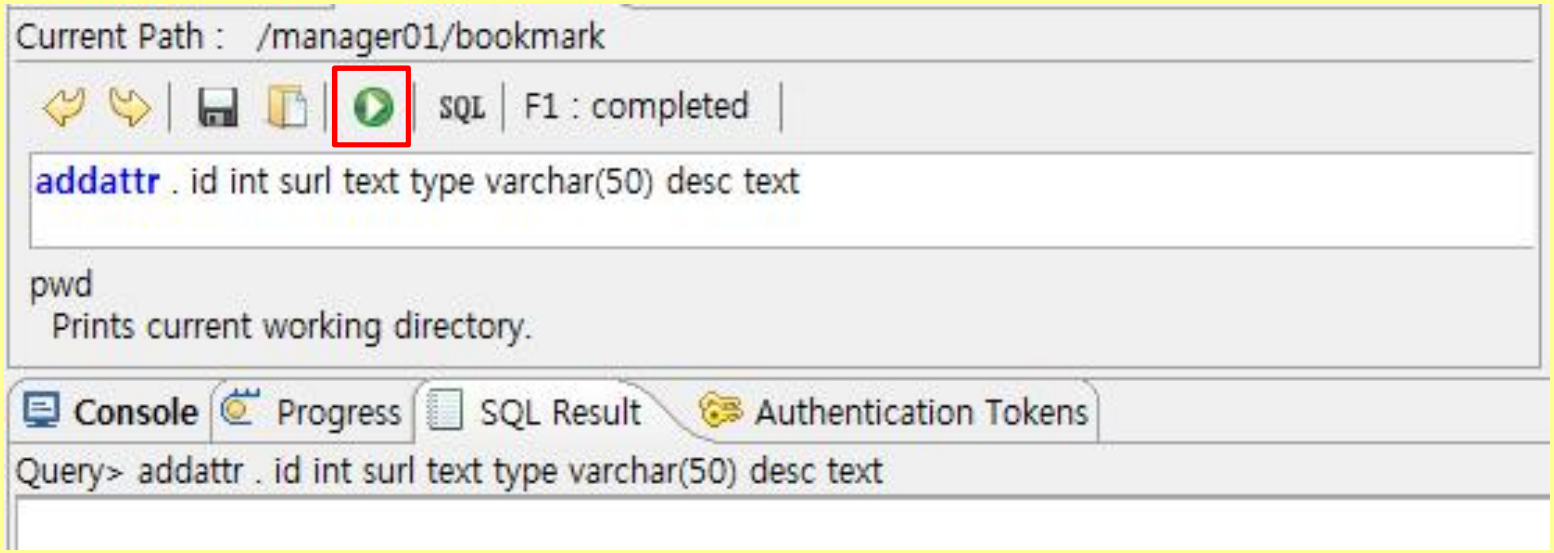


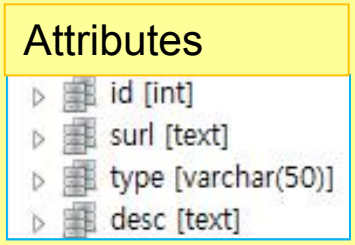
Tip : The result of running multi-queries shows for only last one although several queries are run.

Add attributes – Use SQL Editor

Make attributes in the bookmark directory

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

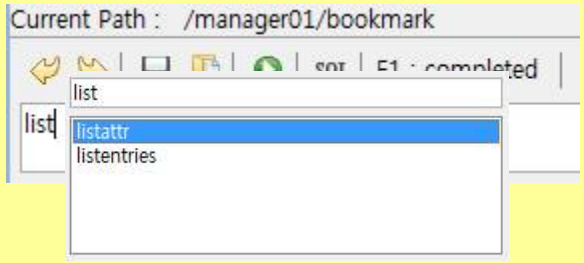


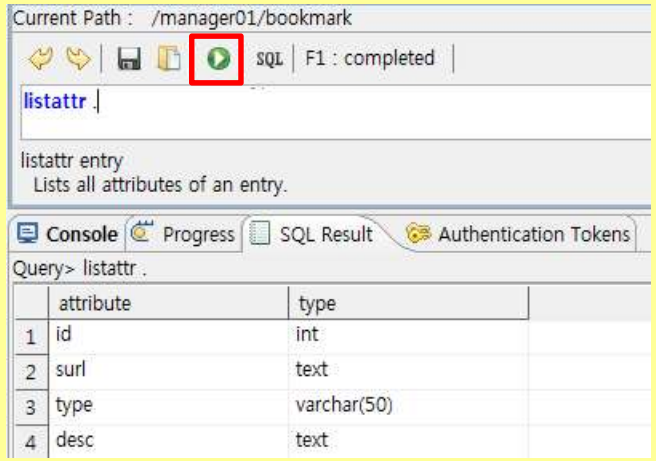


List attributes – Use SQL Editor

Check making well

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





	attribute	type
1	id	int
2	surl	text
3	type	varchar(50)
4	desc	text

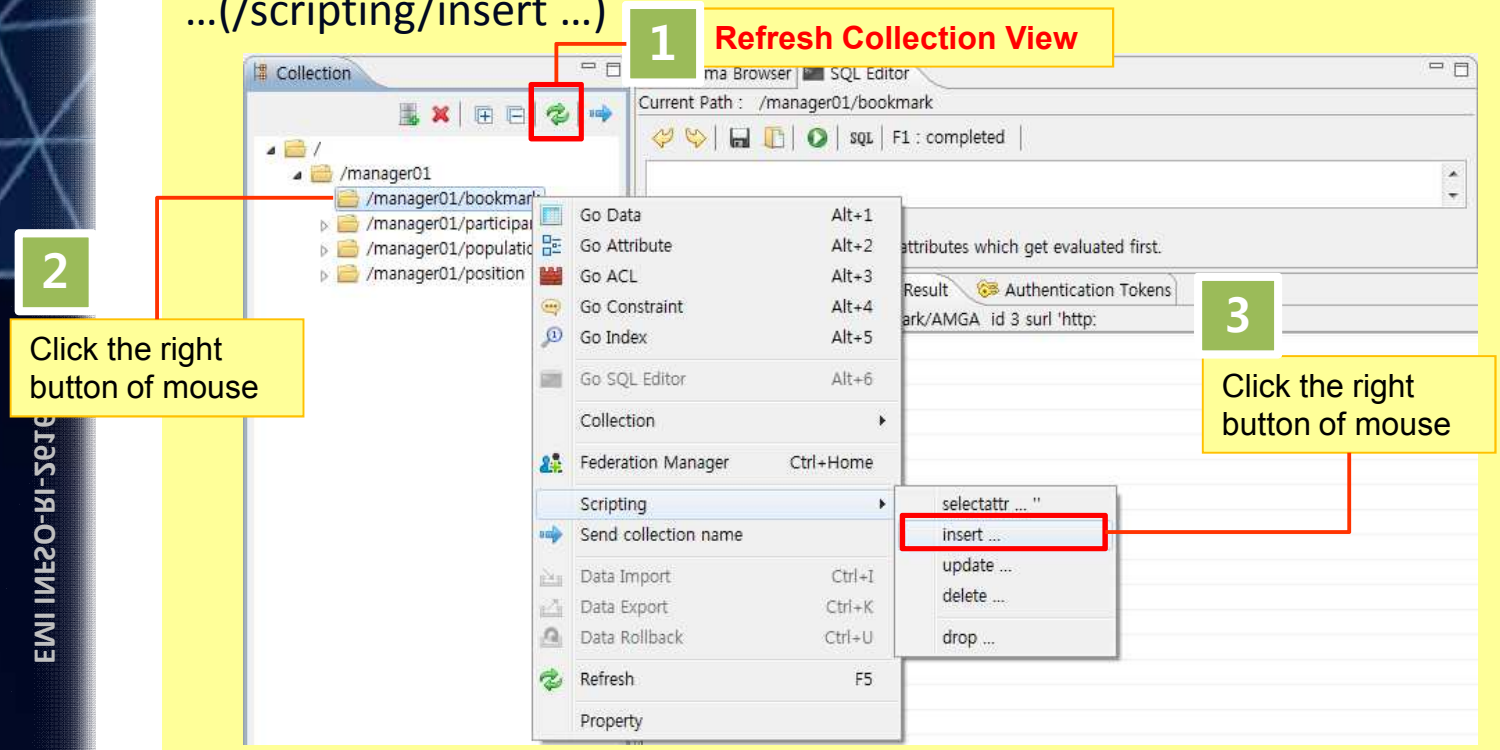
Pushing the F1(Completed CLI) to help you complete command.
Keep in mind **F1**(shortcut key) !!!

Insert(scripting) – Use SQL Editor

Following below dataset, make Insert query

	FILE	id	surl	type	desc
☐	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 …)

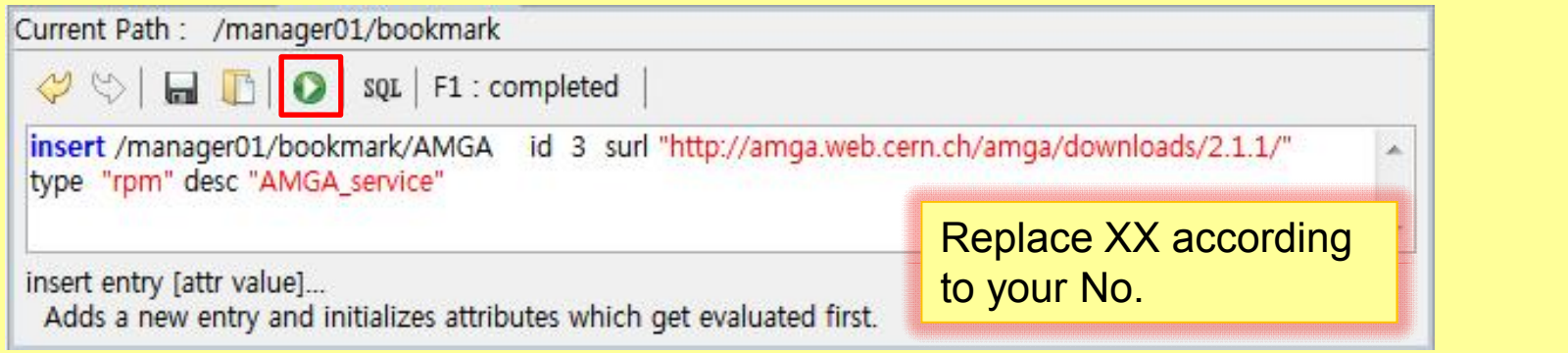


Insert(scripting) – Use SQL Editor

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

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"

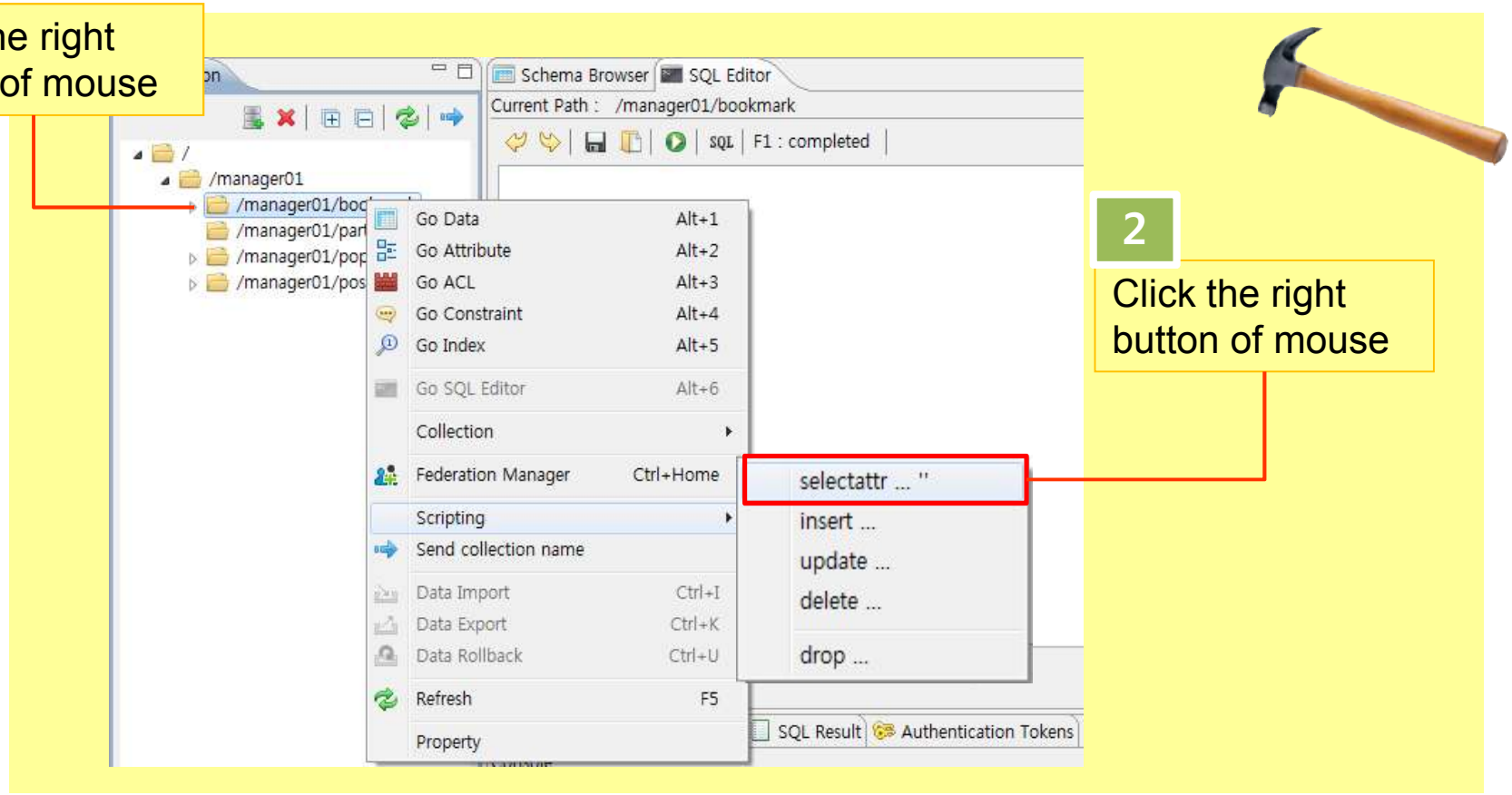


Selectattr(scipting) – Use SQL Editor

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



2

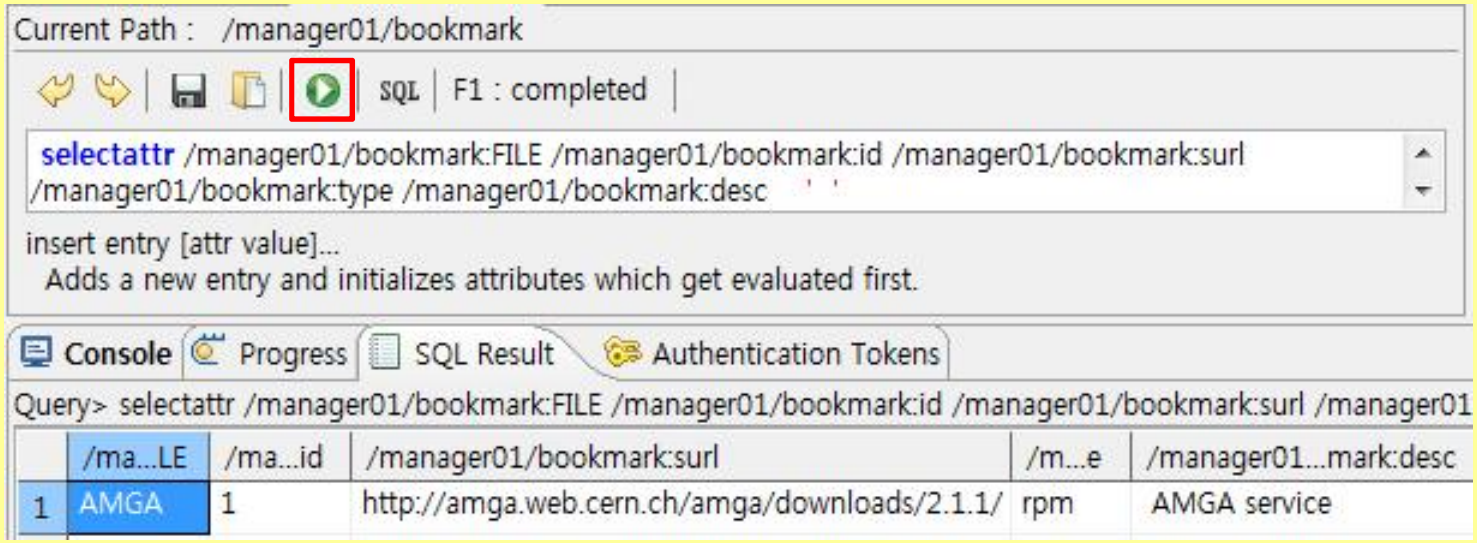
Click the right button of mouse

Selectattr(scipting) – 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.



Update(scipting) – Use SQL Editor

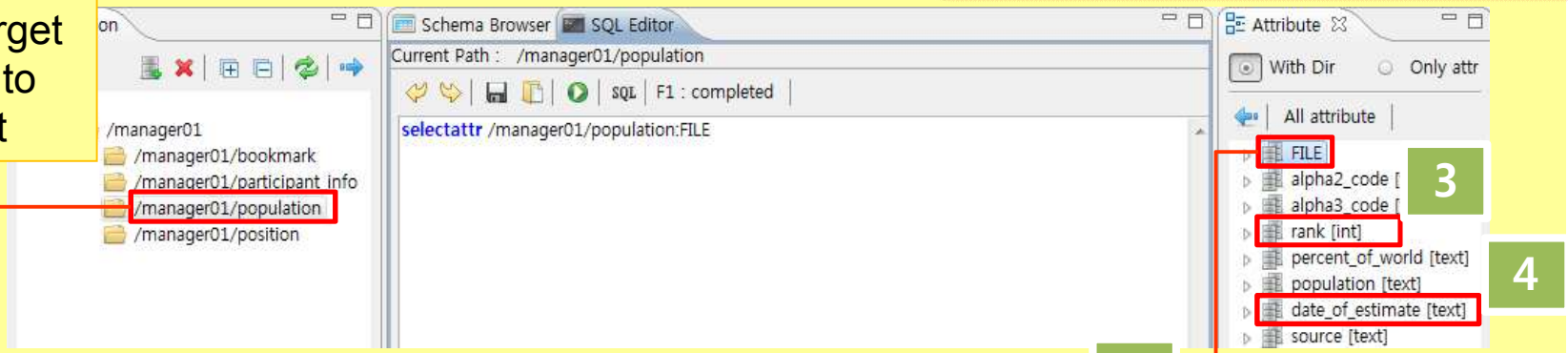
Check changing population data in “Vietnam” entry using selectattr command and printing some attributes selected(FILE, rank, date_of_estimate) then we will change the valueof *“date_of_estimate”* attribute to 2008

```
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



Double click, to print attribute at SQL Editor

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

Update(scipting) – Use SQL Editor

Make **update** query

Replace XX according to your No.

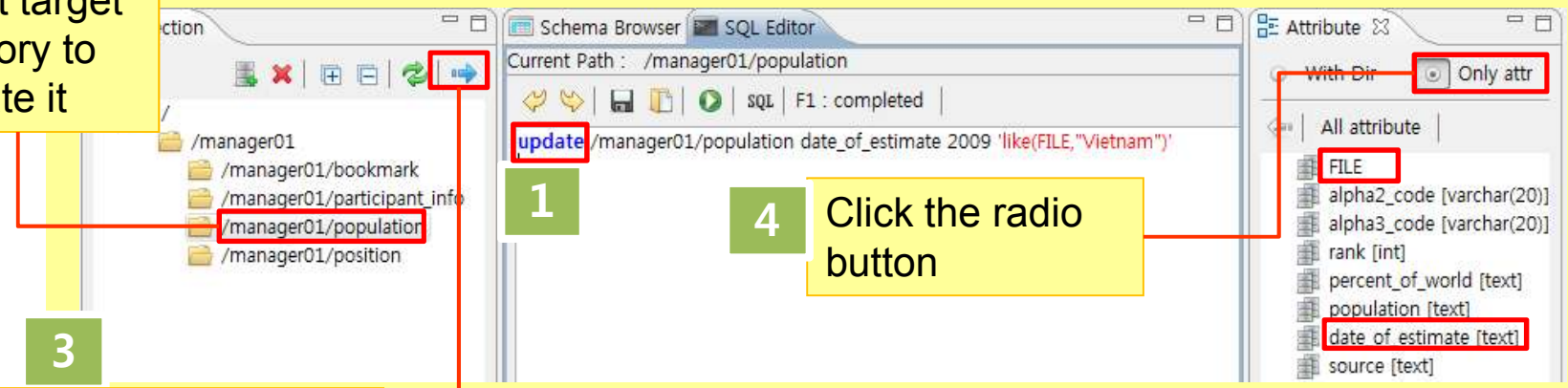
Tip : Value in date_of_estimate => 2011 , Condition => FILE name is Vietnam

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

2

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

Select target directory to activate it



1

3

Click here to print working path

4

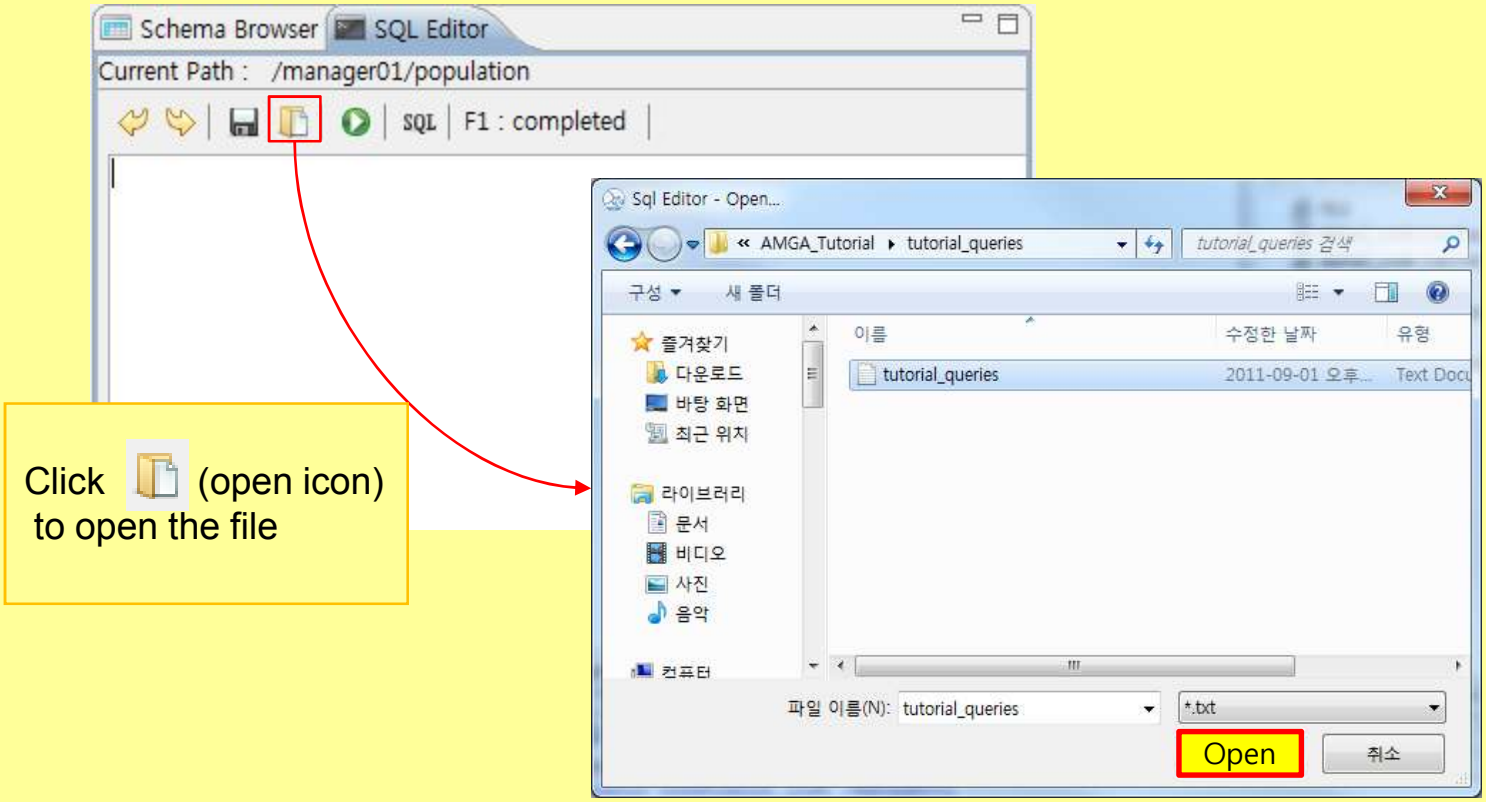
Click the radio button

After No. 4, guess the usage !!

Check the inserted data with pervious page

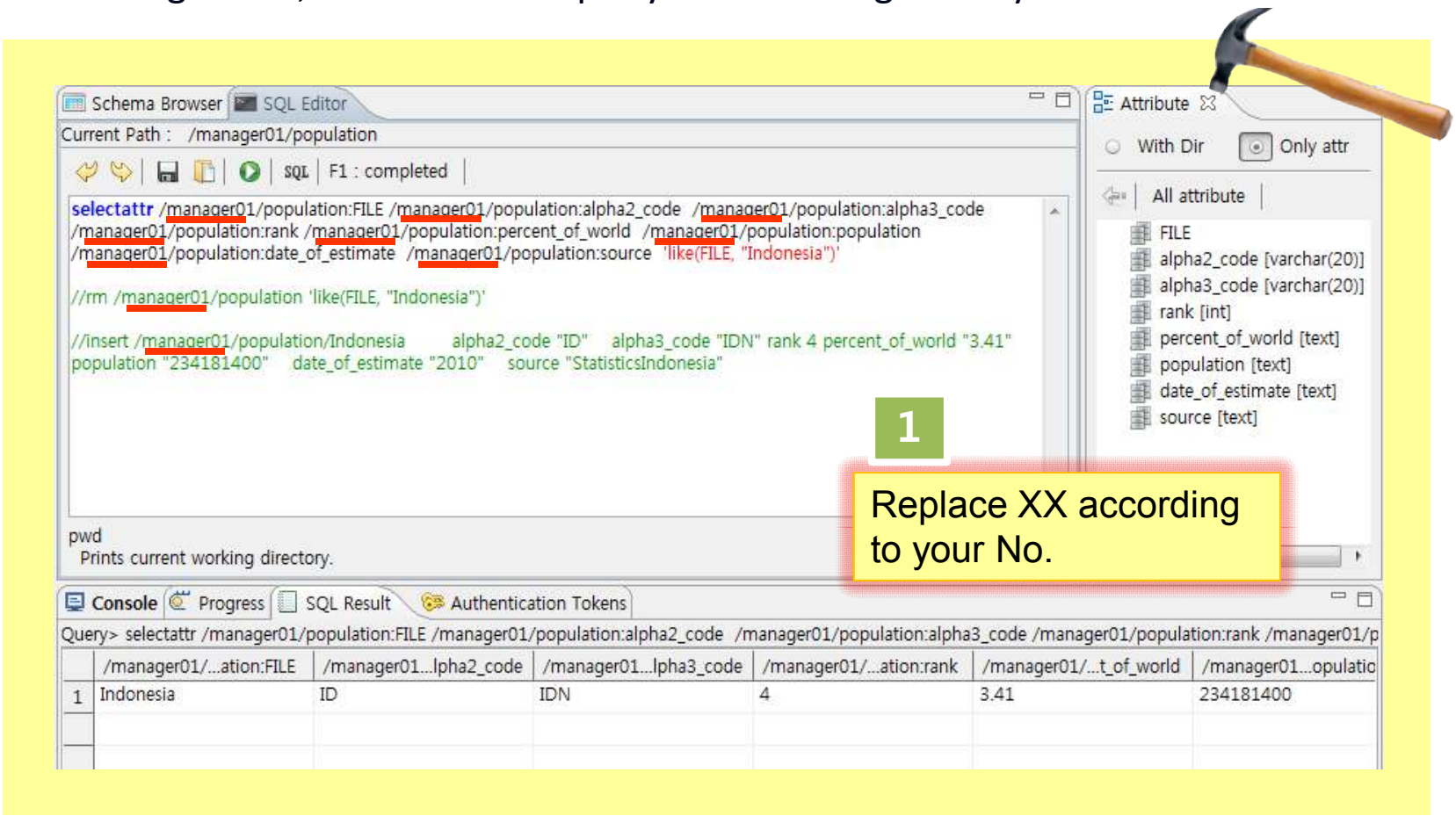
Insert(reuse stored and used queries)

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



Insert(reuse stored and used queries)

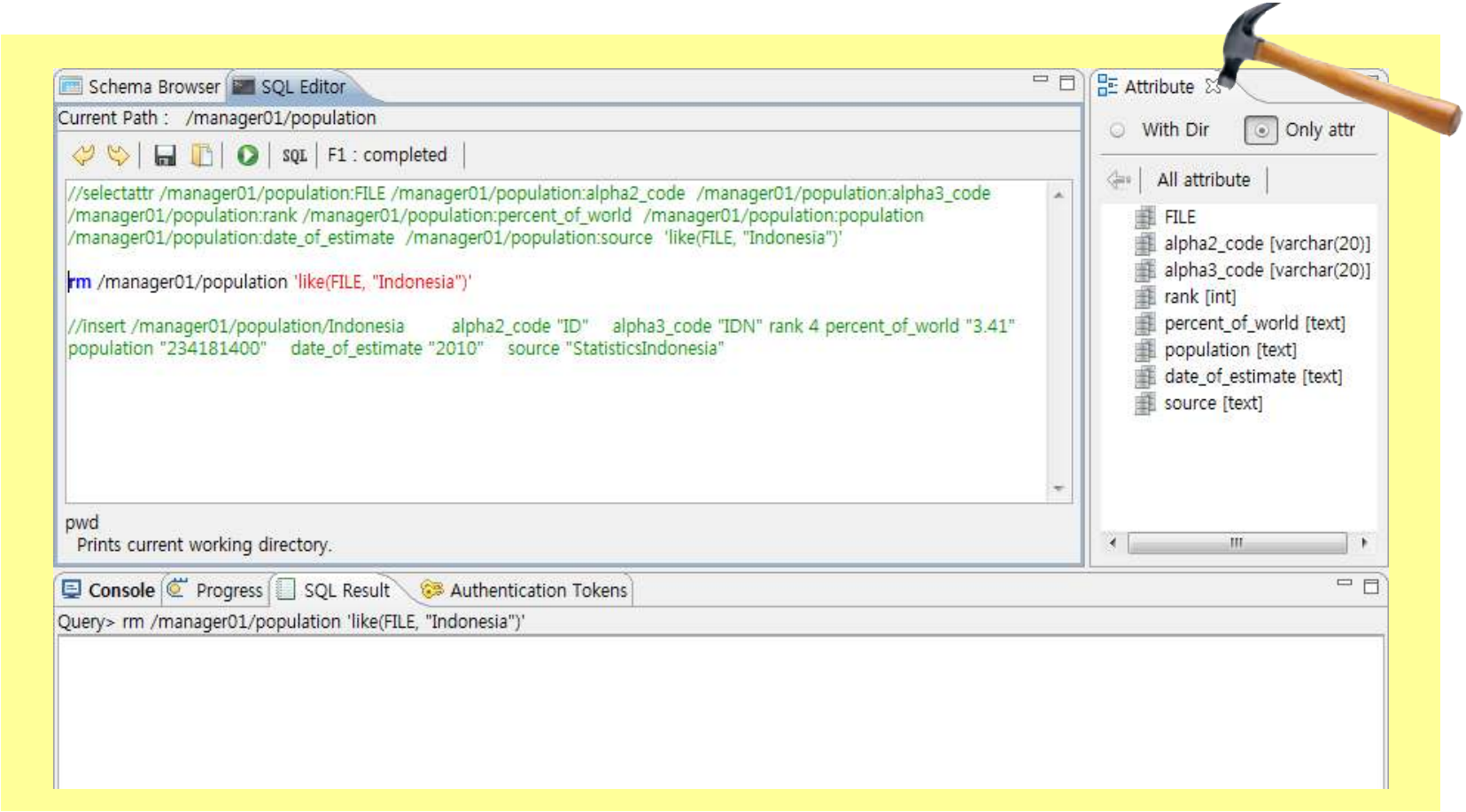
Following below, run the select query to check target entry which will be deleted.



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 .

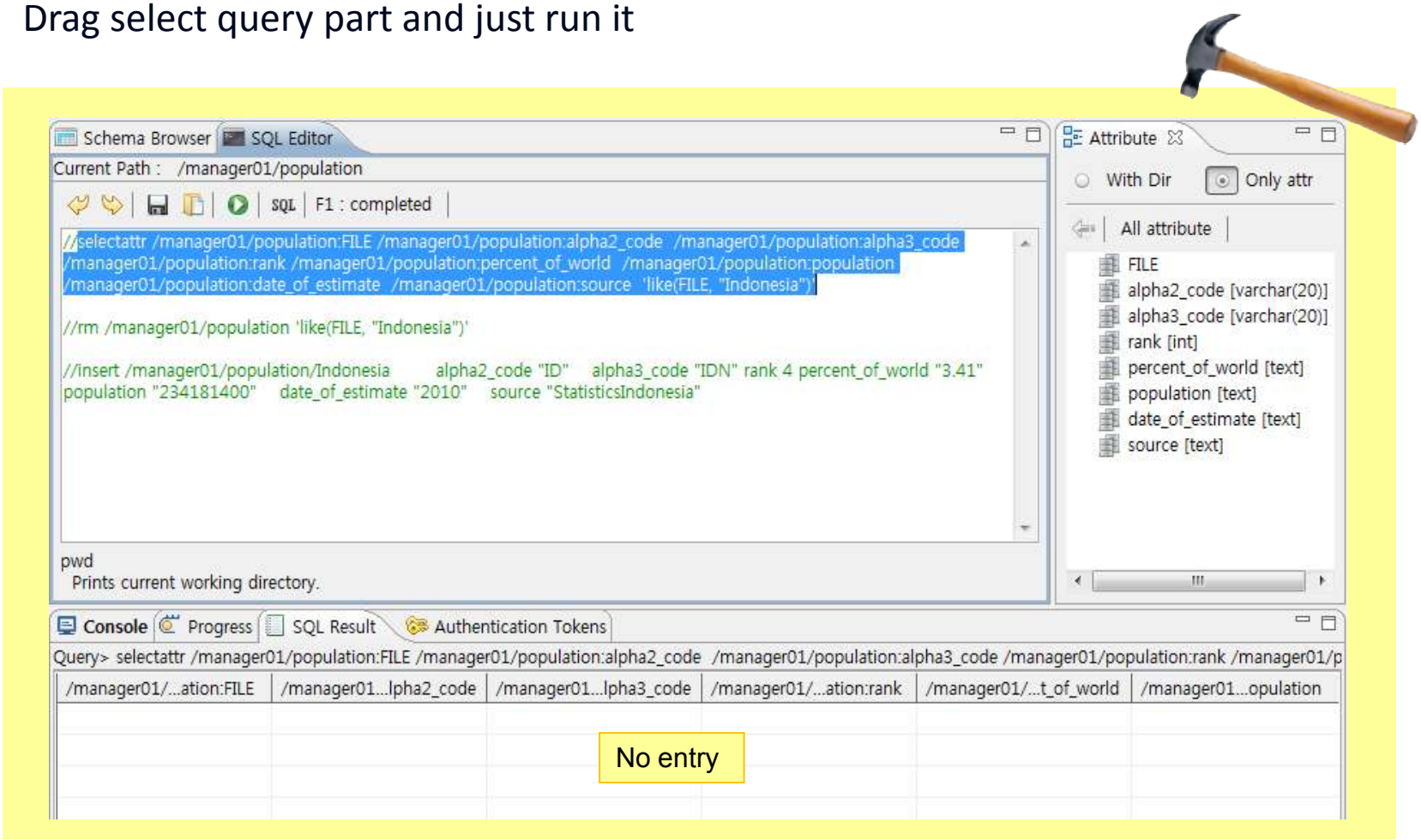


Deactivate used rm query with "//".

Insert(reuse stored and used queries)

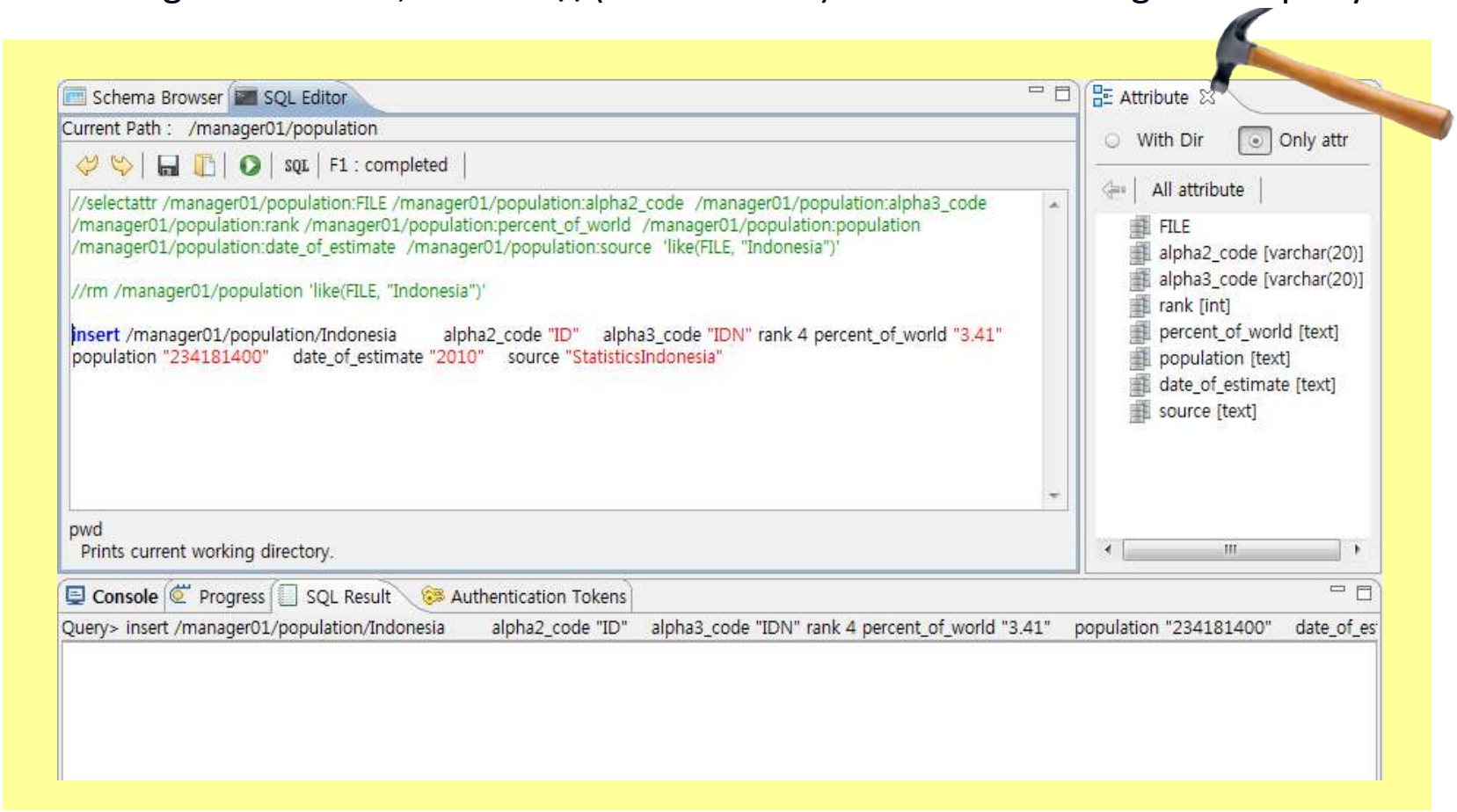
As the figure is shown, check no entry as a result of removing entry.

Drag select query part and just run it



Insert(reuse used and stored queries)

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



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>

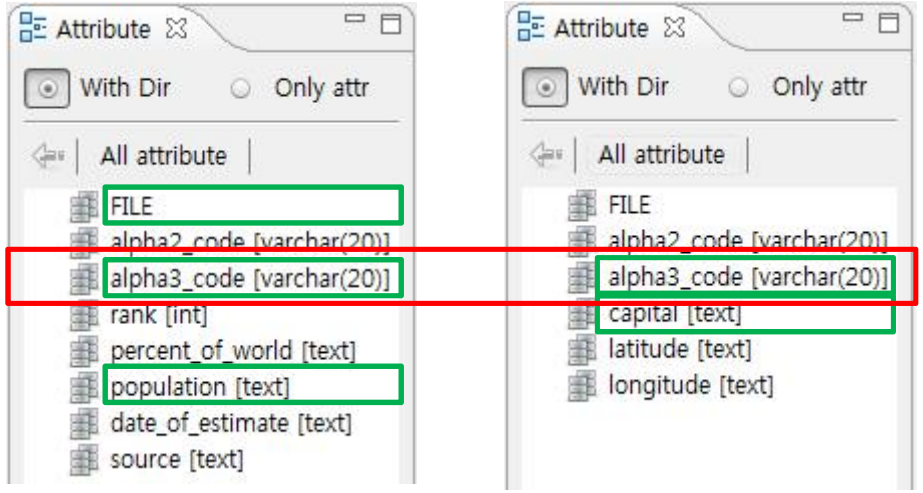
Show a data-set of countries which have population information, its capital and alpha3_code from two collections(population, position)

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'

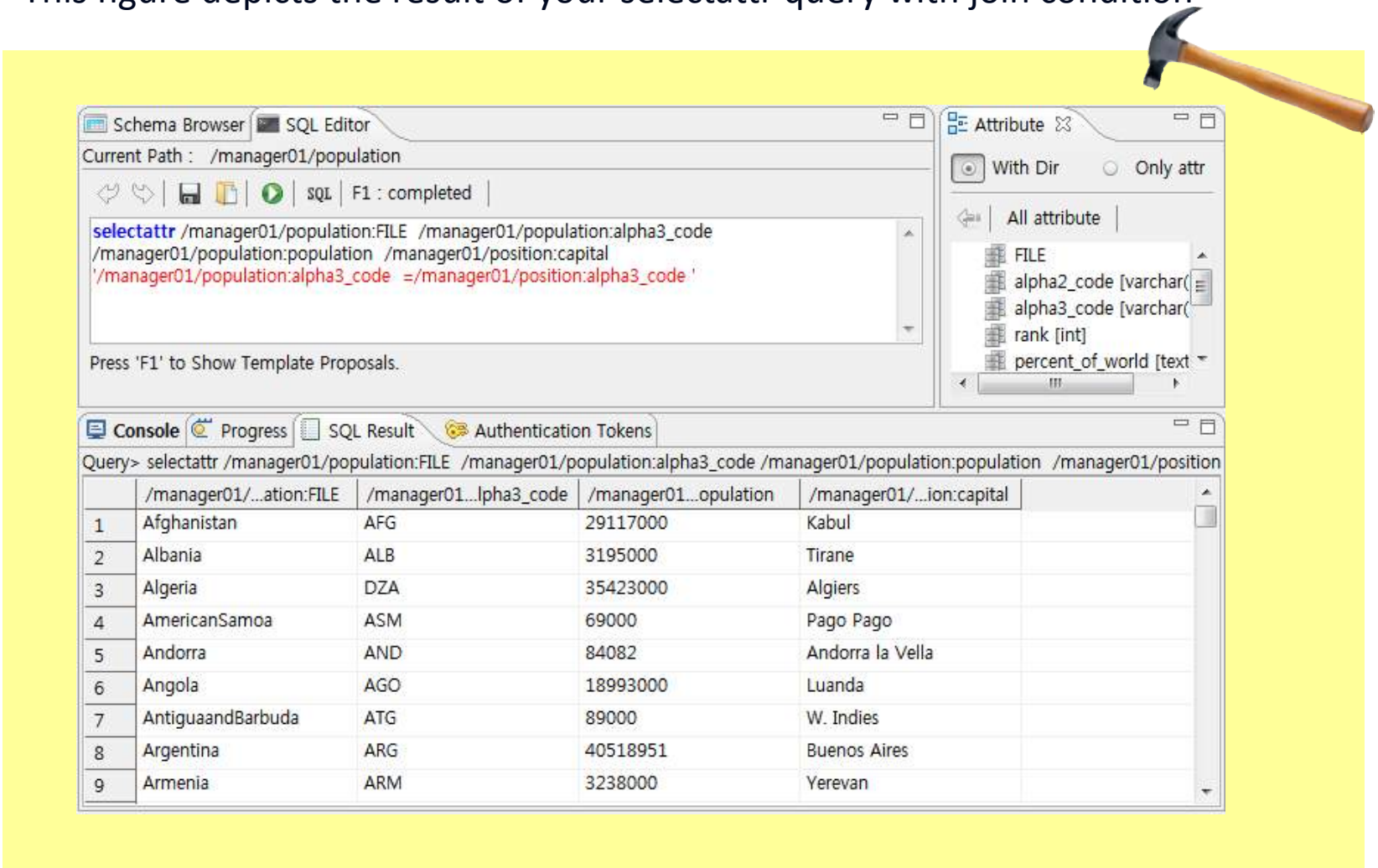
SQL Editor >

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



	/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 …

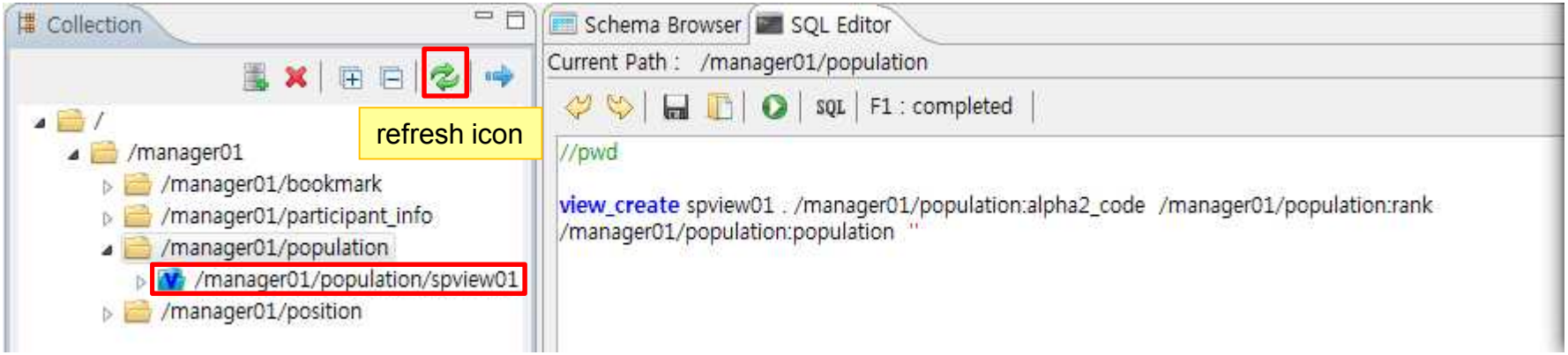
Checking the result

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

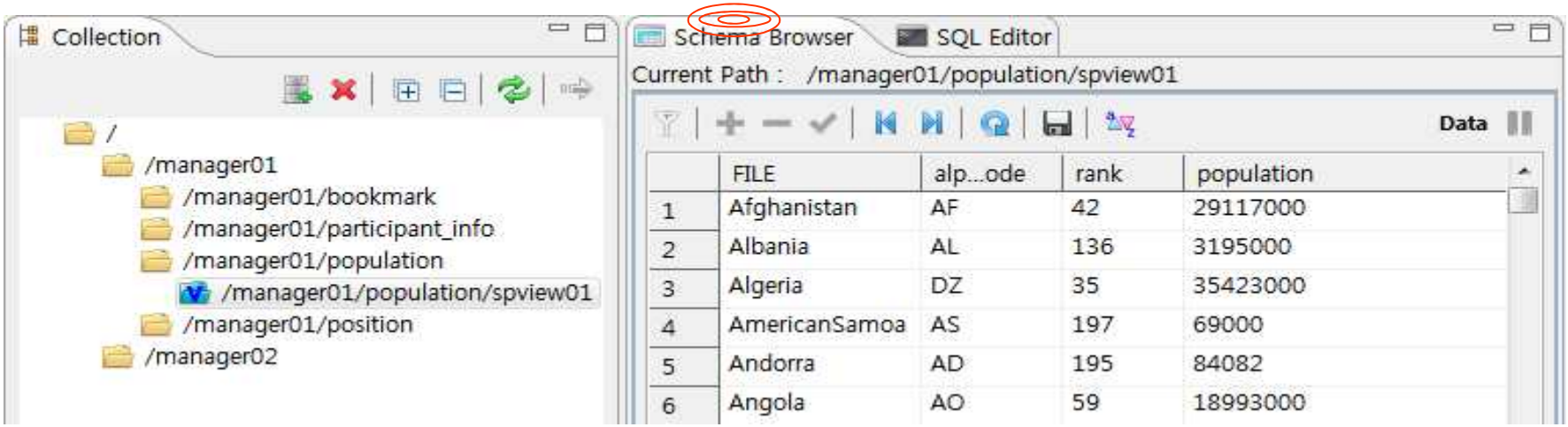
Tip : You always have to use current path which you want to mainly work at.
Please check current path during making view.

View(Warming up for Quiz)

1. Refresh collection view and find view made by you



2. Check Schema Browser(Data)



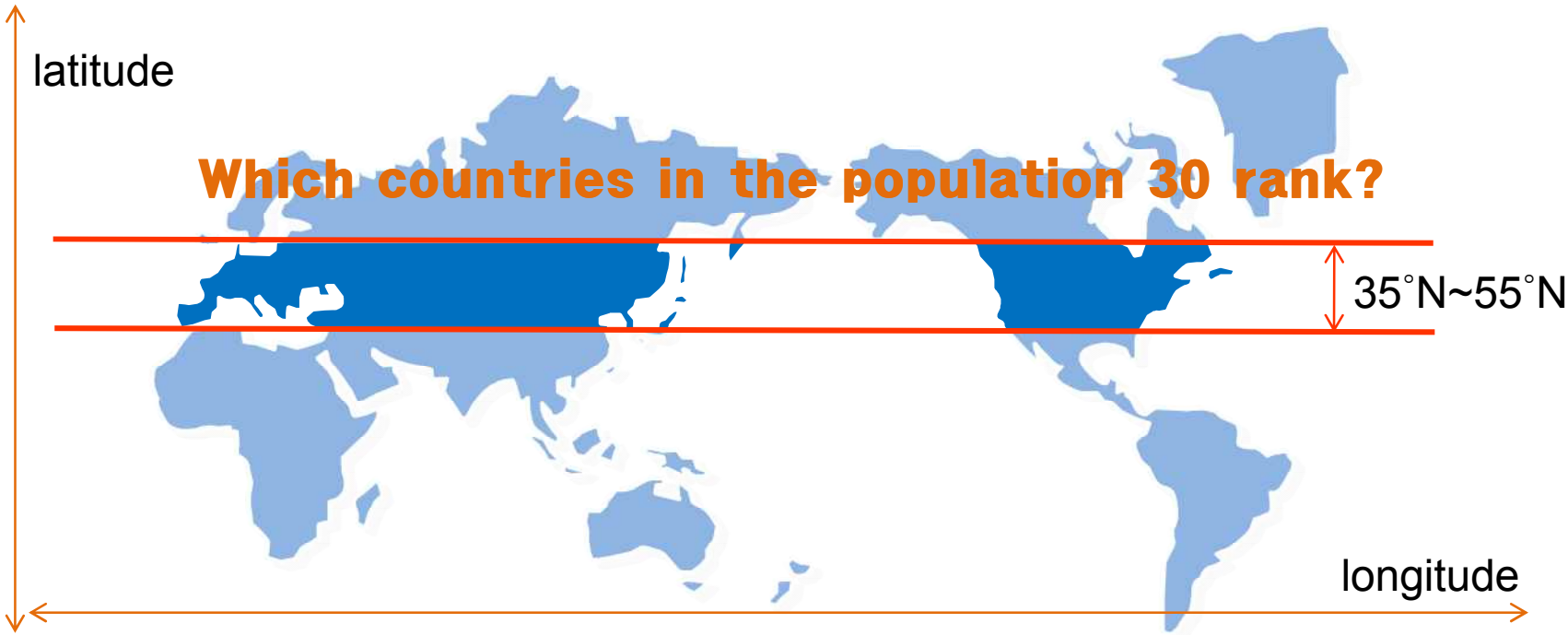
Quiz

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>

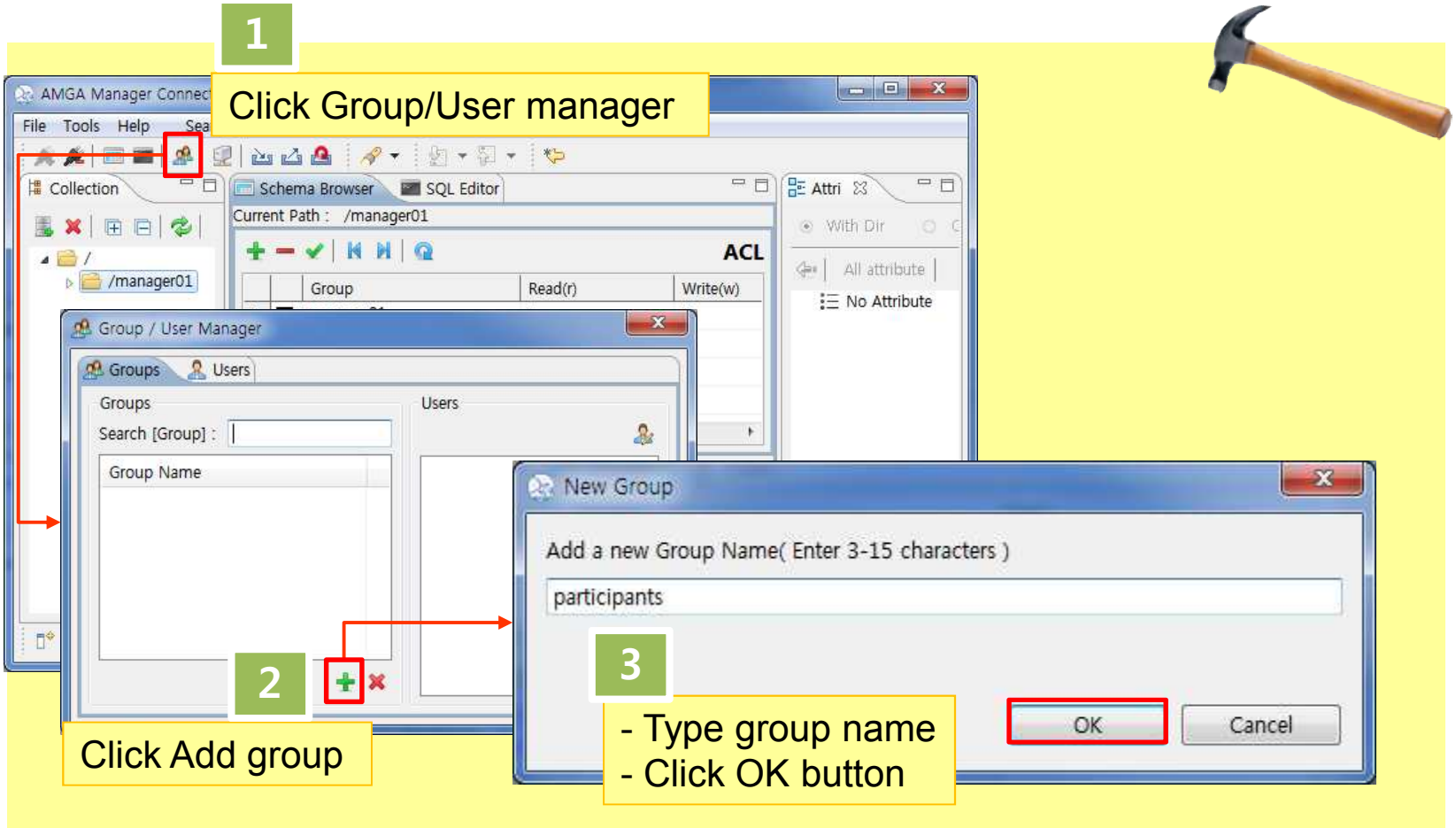
participants who took a look at the collection view

<Mission>

Provide other tutorial participants with the reading permission at ACL browser

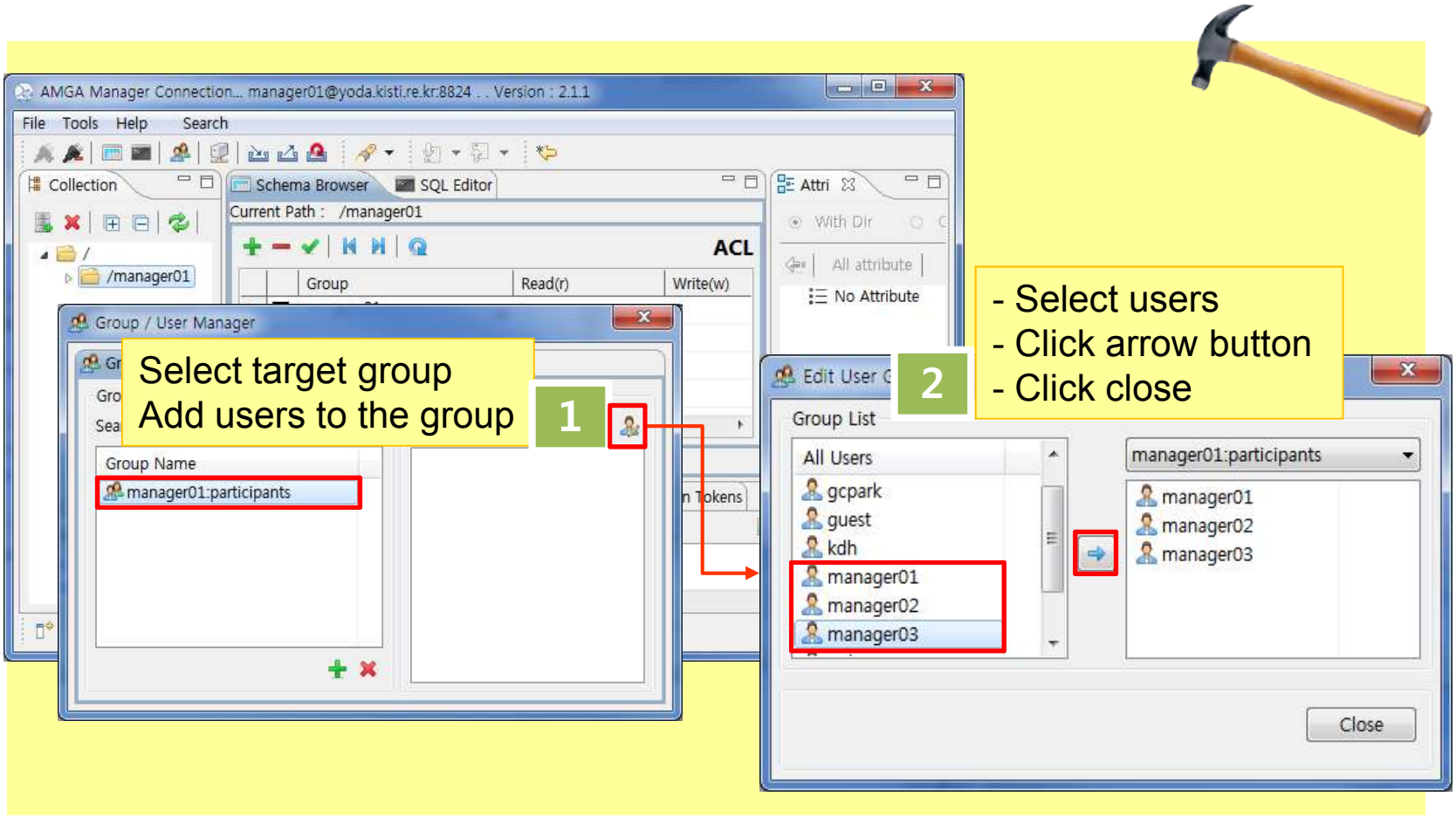
1. Change the permission at ACL browser

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



1. Change the permission at ACL browser

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

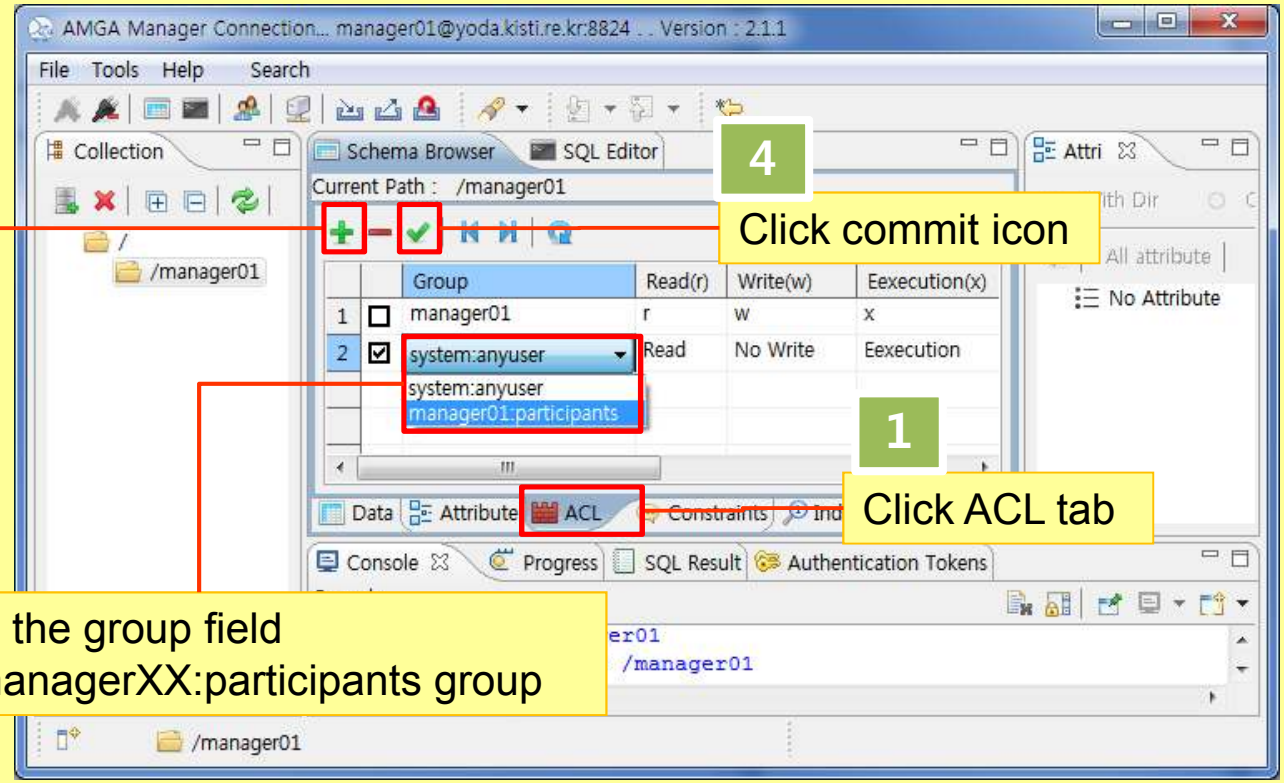


1. Change the permission at ACL browser

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

2

Click add icon



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

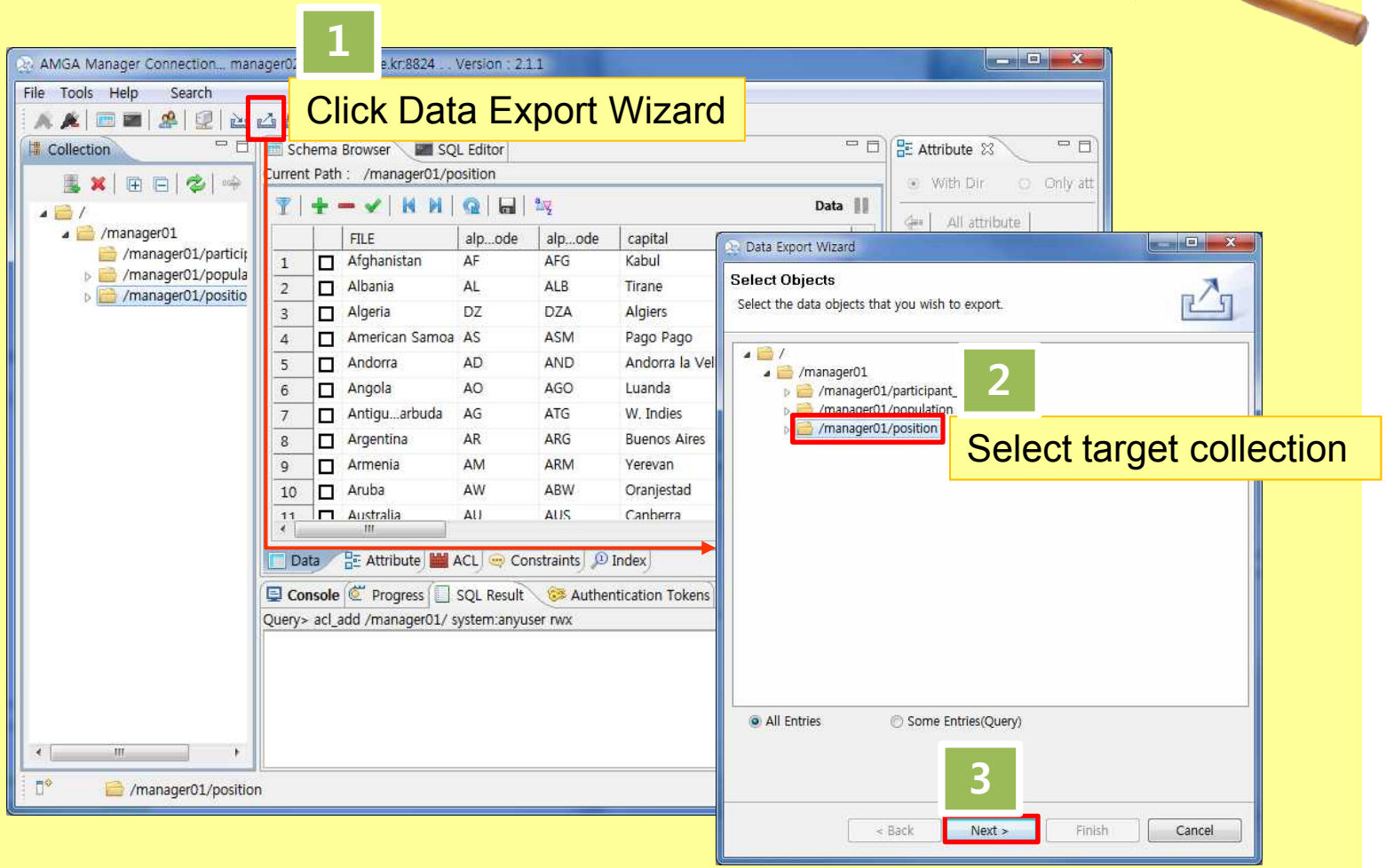
<Precondition>

participants who imported some data in the file into target collection

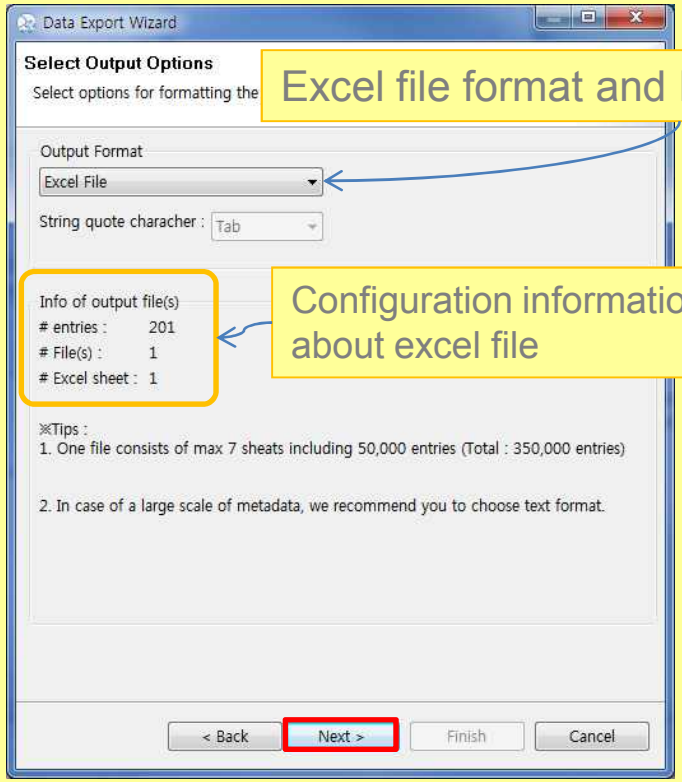
<Mission>

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

2. Data Export Wizard

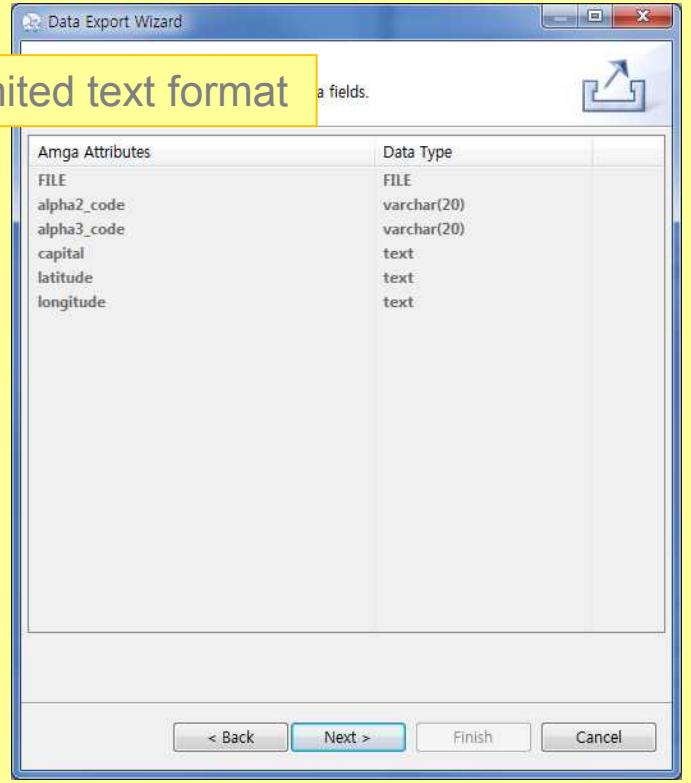


2. Data Export Wizard



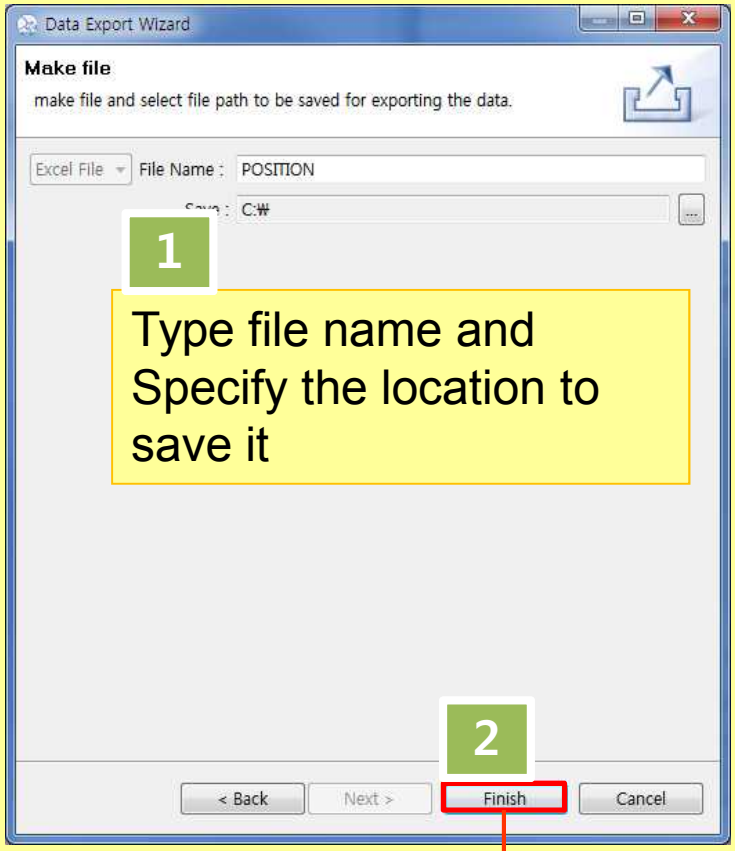
Excel file format and Delimited text format

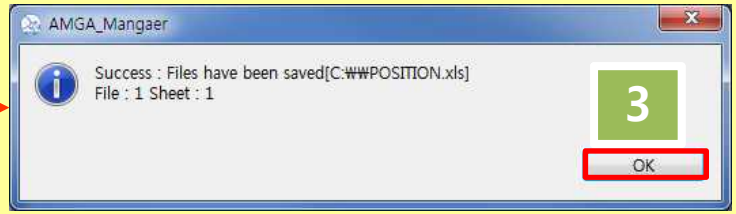
Configuration information about excel file



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)

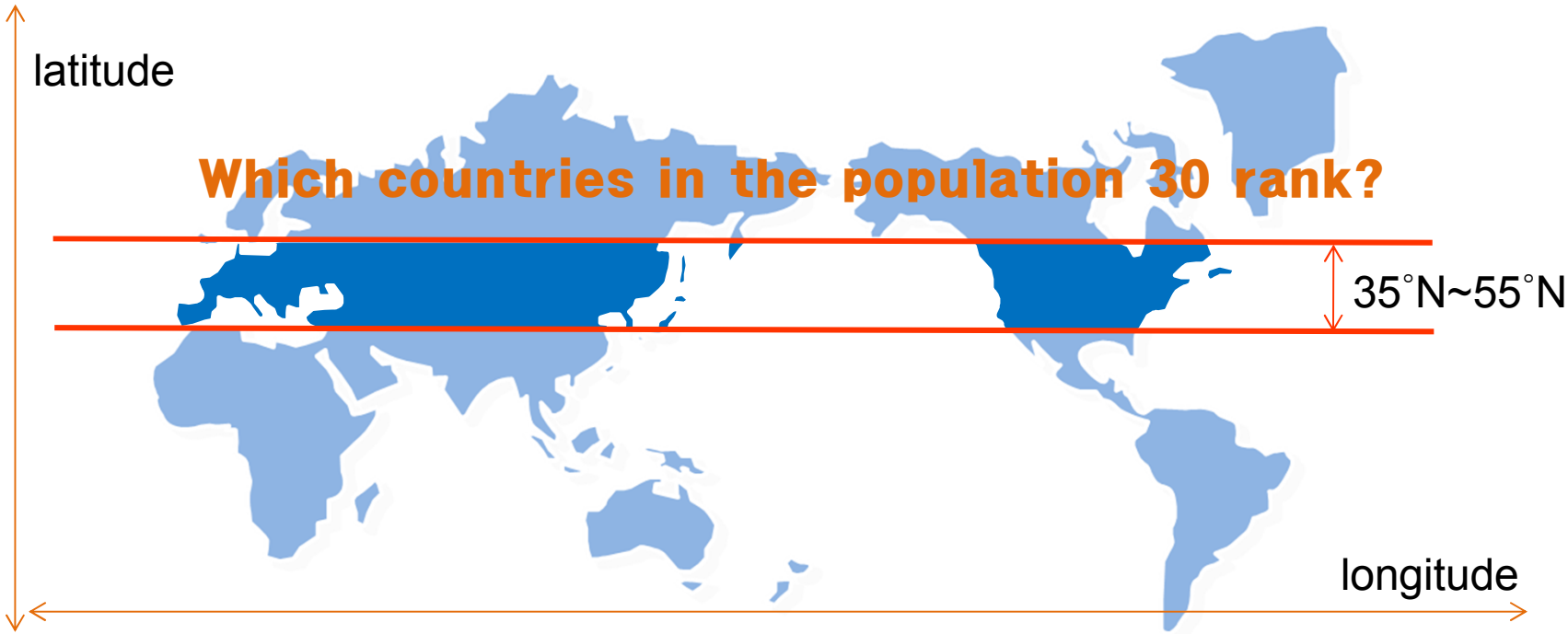
AMGA Tutorial

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'

Schema Browser | SQL Editor

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/pc

	/manager01/...ation:FILE	/manager01...lpha3_code	/manager01/...ation:rank	/manager01...opulation	/manager01/
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

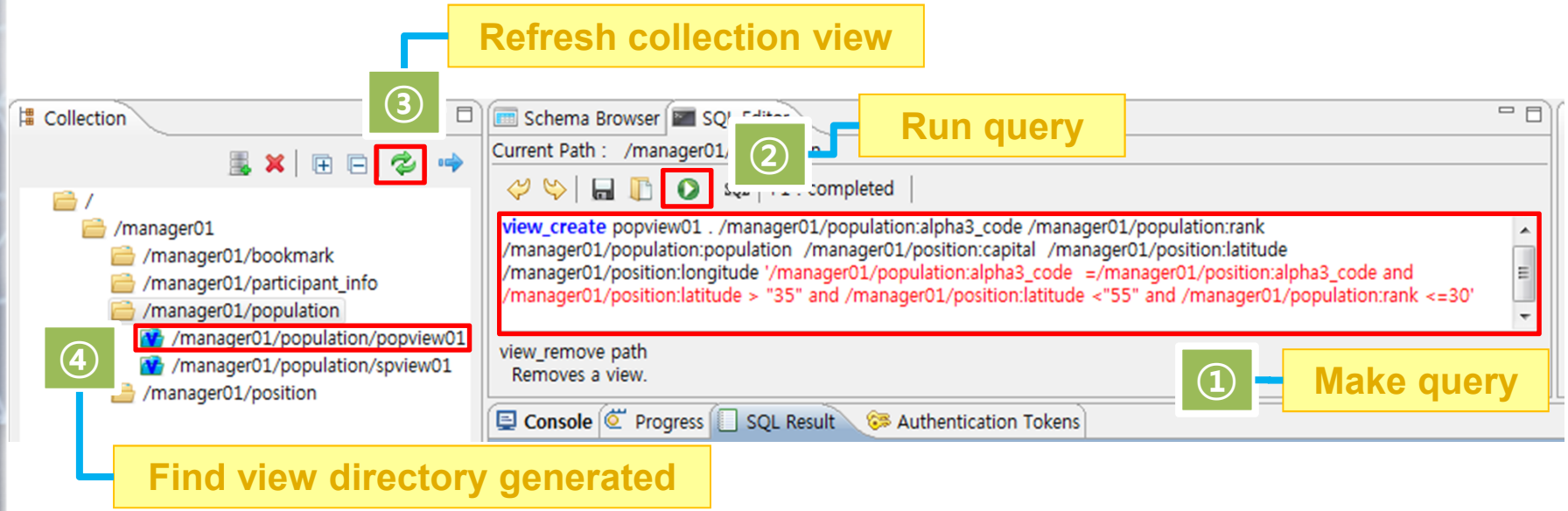
/managerXX/population/

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



EUROPEAN MIDDLEWARE INITIATIVE

Fill the Questonnaire form out, and bring it to us ^__^;

Thank you!

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