

# MySQL Workbench

Big Data Systems

Dr. Rubi Boim

# Important note

- Using MySQL Workbench is NOT needed for HW
- But you can use it instead of using CLI

# Installing MySQL Workbench

- <https://dev.mysql.com/downloads/workbench/>

# TAU's CS MySQL Server

- <https://www.cs.tau.ac.il/system/MySQL>
- **UPDATE**
  - sakila is on `mysqlsrv` and `mysqlsrv1`
  - Your own account (if created) is on `mysqlsrv1`  
not needed for the HW

# Sakila

- A sample database/schema
- **User:** sakila  
**Password:** sakila  
**Server:** mysqlsrv1.cs.tau.ac.il

Reminder - MySQL CLI (from nova):

```
mysql -h mysqlsrv1.cs.tau.ac.il -u sakila -p
```

# Using MySQL Workbench from home

- **VPN is NOT enough**  
unlike MySQL CLI
- **You need to create a tunnel (via nova).**
- You can choose either option:
  - A. Use the built in MySQL Workbench “TCP over SSH”
  - B. Manually create a tunnel  
Local port 3305 to `mysqlsrv1.cs.tau.ac.i:3306`

# Option A - Via “Workbench TCP over SSH”

Manage Server Connections

MySQL Connections  
TAU-MySQL-Tunnel  
TAU-MySQL

Connection Name: TAU-MySQL

Connection Remote Management System Profile

Connection Method: Standard TCP/IP over SSH Method to use to connect to the RDBMS

Parameters SSL Advanced

SSH Hostname: nova.cs.tau.ac.il SSH server hostname, with optional port

SSH Username: boim Name of the SSH user to connect with.

SSH Password: Store in Keychain ... Clear SSH user password to connect to the SSH

SSH Key File: ... Path to SSH private key file.

MySQL Hostname: mysqlsrv1.cs.tau.ac.il MySQL server host relative to the SSH se

MySQL Server Port: 3306 TCP/IP port of the MySQL server.

Username: sakila Name of the user to connect with.

Password: Store in Keychain ... Clear The MySQL user's password. Will be requ later if not set.

Default Schema: The schema to use as default schema. Le to select it later.

New Delete Duplicate Move Up Move Down Test Connection Close

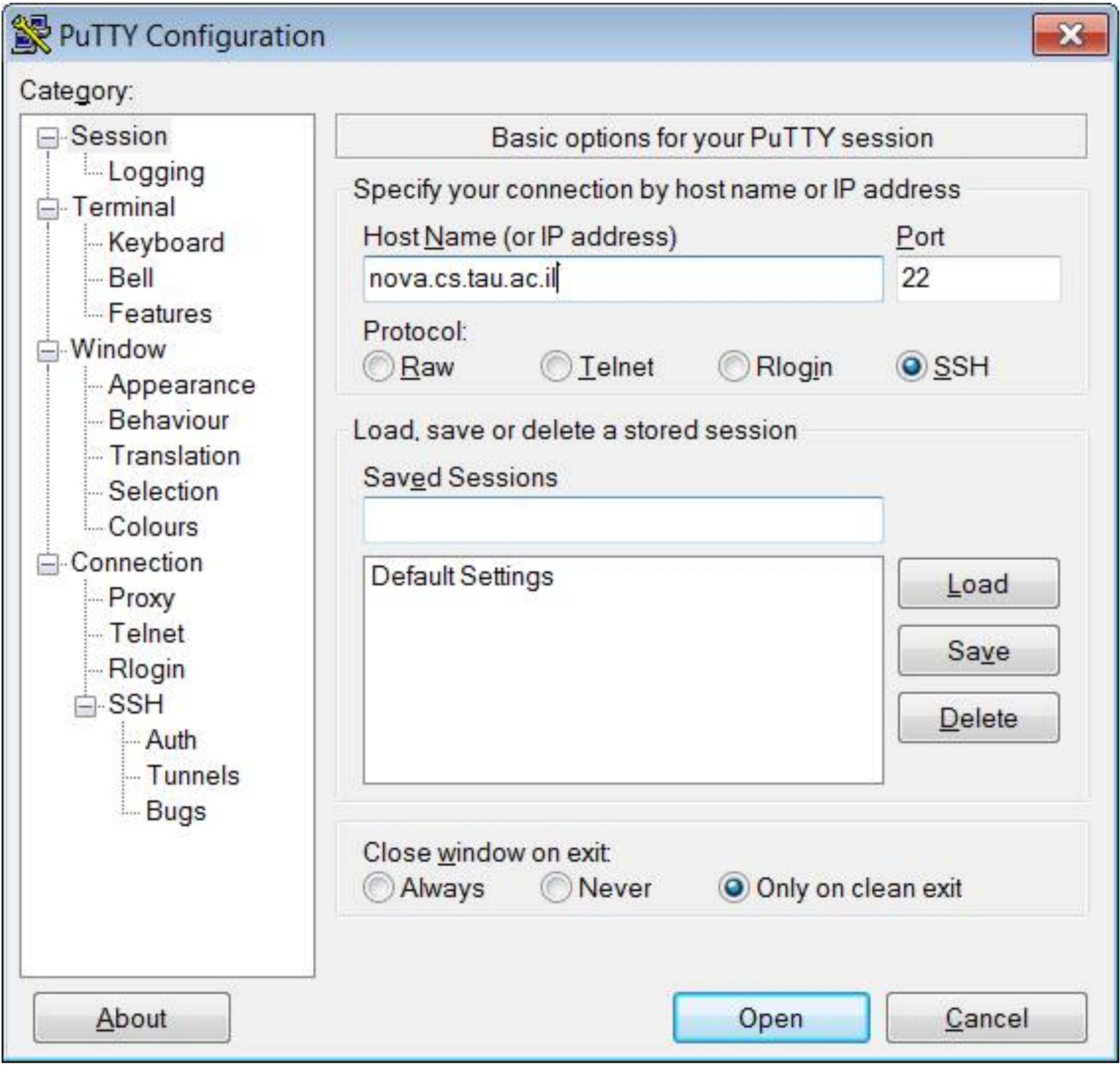
# Option B - Tunnel (Mac)

- Connect via VPN
- Then, terminal is all you need:  
`ssh -L 3305:mysqlsrv1.cs.tau.ac.il:3306 <user>@nova.cs.tau.ac.il`



# Option B - Tunnel (Windows)

- Connect via VPN
- Then, create a tunnel via putty and connect



PuTTY Configuration

Category:

- [-] Session
  - ... Logging
- [-] Terminal
  - ... Keyboard
  - ... Bell
  - ... Features
- [-] Window
  - ... Appearance
  - ... Behaviour
  - ... Translation
  - ... Selection
  - ... Colours
- [-] Connection
  - ... Proxy
  - ... Telnet
  - ... Rlogin
- [-] SSH
  - ... Auth
  - ... Tunnels
  - ... Bugs

Basic options for your PuTTY session

Specify your connection by host name or IP address

Host <u>N</u> ame (or IP address)	<u>P</u> ort
<input type="text" value="nova.cs.tau.ac.il"/>	<input type="text" value="22"/>

Protocol:

Raw     
  Telnet     
  Rlogin     
  SSH

Load, save or delete a stored session

Saved Sessions

<input type="text"/>	
Default Settings	<input type="button" value="L&lt;u&gt;o&lt;/u&gt;ad"/>
	<input type="button" value="S&lt;u&gt;a&lt;/u&gt;ve"/>
	<input type="button" value="D&lt;u&gt;e&lt;/u&gt;lete"/>

Close window on exit:

Always     
  Never     
  Only on clean exit

PuTTY Configuration

Category:

- Session
  - Logging
- Terminal
  - Keyboard
  - Bell
  - Features
- Window
  - Appearance
  - Behaviour
  - Translation
  - Selection
  - Colours
- Connection
  - Proxy
  - Telnet
  - Rlogin
- SSH
  - Auth
  - Tunnels
  - Bugs

Options controlling SSH tunnelling

X11 forwarding

Enable X11 forwarding

X display location

Remote X11 authentication protocol

MIT-Magic-Cookie-1  XDM-Authorization-1

Port forwarding

Local ports accept connections from other hosts

Remote ports do the same (SSH v2 only)

Forwarded ports:

Add new forwarded port:

Source port

Destination

Local  Remote  Dynamic

mysqlsrv1.cs.tau.ac.il

PuTTY Configuration

Category:

- Session
  - Logging
- Terminal
  - Keyboard
  - Bell
  - Features
- Window
  - Appearance
  - Behaviour
  - Translation
  - Selection
  - Colours
- Connection
  - Proxy
  - Telnet
  - Rlogin
  - SSH
    - Auth
    - Tunnels
    - Bugs

Options controlling SSH tunnelling

X11 forwarding

Enable X11 forwarding

X display location

Remote X11 authentication protocol

MIT-Magic-Cookie-1     XDM-Authorization-1

Port forwarding

Local ports accept connections from other hosts

Remote ports do the same (SSH v2 only)

Forwarded ports:

L3305	mysqlsrv.cs.tau.ac.il:3306
-------	----------------------------

Add new forwarded port:

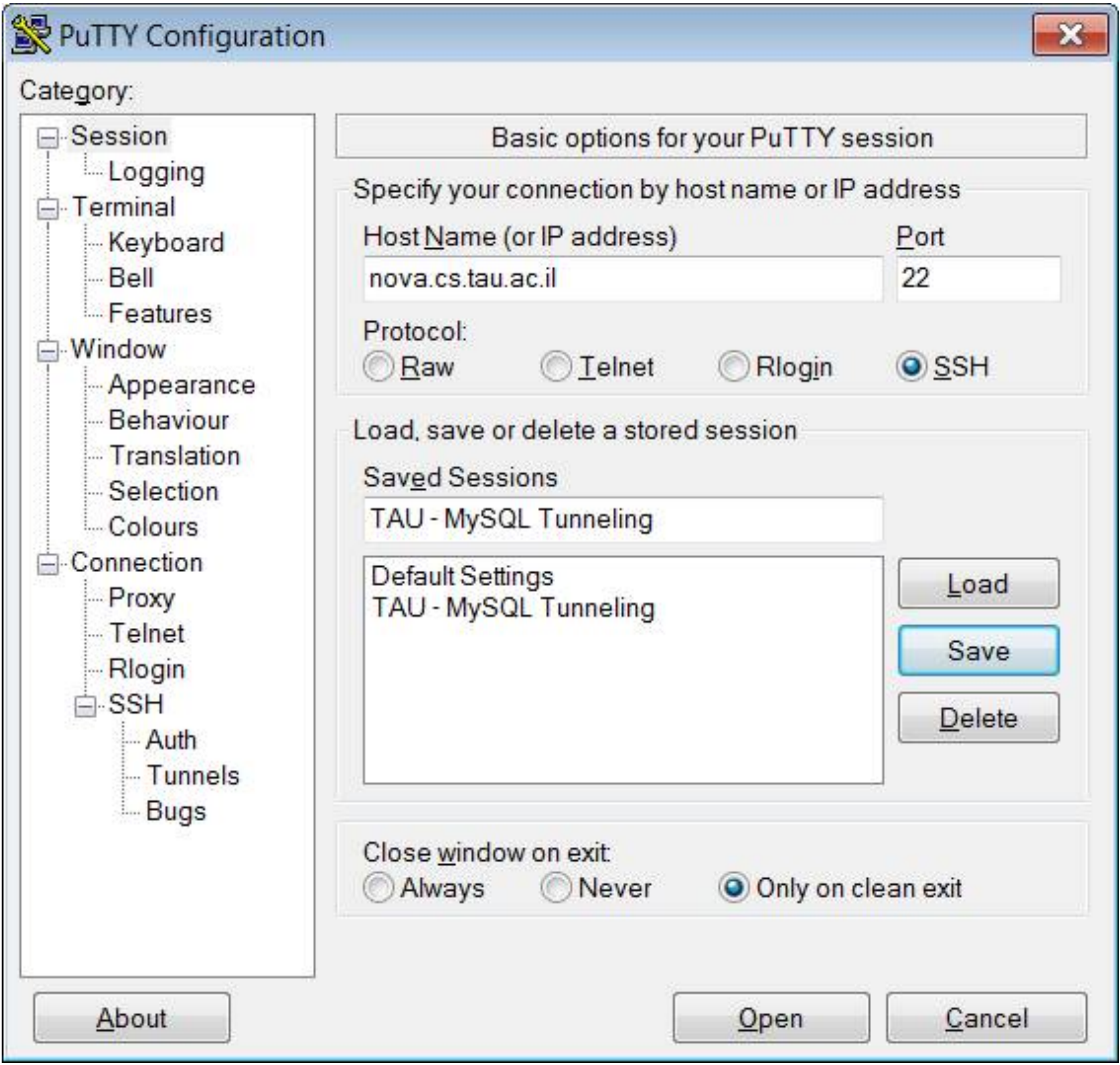
Source port

Destination

Local     Remote     Dynamic

mysqlsrv1.cs.tau.ac.il



PuTTY Configuration

- Category:
- Session
    - Logging
  - Terminal
    - Keyboard
    - Bell
    - Features
  - Window
    - Appearance
    - Behaviour
    - Translation
    - Selection
    - Colours
  - Connection
    - Proxy
    - Telnet
    - Rlogin
  - SSH
    - Auth
    - Tunnels
    - Bugs

Basic options for your PuTTY session

Specify your connection by host name or IP address

Host Name (or IP address)	Port
nova.cs.tau.ac.il	22

Protocol:

Raw     Telnet     Rlogin     SSH

Load, save or delete a stored session

Saved Sessions

TAU - MySQL Tunneling	Load
Default Settings TAU - MySQL Tunneling	

Save

Delete

Close window on exit:

Always     Never     Only on clean exit

About

Open

Cancel

nova.cs.tau.ac.il - PuTTY

login as: boim

Using keyboard-interactive authentication.

Password:

Last login: Sun Mar 6 13:46:16 2011 from lap-milo6.cs.tau.ac.il

nova 1% █

## Setup New Connection

Connection Name:  Type a name for the connection

Connection Method:  Method to use to connect to the RDBMS

Parameters | SSL | Advanced

Hostname:  Port:  Name or IP address of the server host - and TCP/IP port.

Username:  Name of the user to connect with.

Password:    The user's password. Will be requested later if it's not set.

Default Schema:  The schema to use as default schema. Leave blank to select it later.

Local host (3305) —> will use the tunnel

**We got it connected, what now?**



MySQL Workbench

TAU mysqlserv (via tunnel) - Warning - not supported

Administration Schemas actor

SCHEMAS

Filter objects

- sakila
  - Tables
    - actor
    - address
    - category
    - city
    - country
    - customer
    - film
    - film\_actor
    - film\_category
    - film\_text
    - inventory
    - language
    - payment
    - rental
    - staff
    - store
  - Views
  - Stored Procedures
  - Functions

Limit to 1000 rows

```
1 • SELECT * FROM sakila.actor;
```

100% 28:1

Result Grid Filter Rows: Search Edit: Export/Import:

actor_id	first_name	last_name	last_update
3	ED	CHASE	2006-02-15 04:34:33
4	JENNIFER	DAVIS	2006-02-15 04:34:33
5	JOHNNY	LOLLOBRIGIDA	2006-02-15 04:34:33
6	BETTE	NICHOLSON	2006-02-15 04:34:33
7	GRACE	MOSTEL	2006-02-15 04:34:33
8	MATTHEW	JOHANSSON	2006-02-15 04:34:33
9	JOE	SWANK	2006-02-15 04:34:33
10	CHRISTIAN	GABLE	2006-02-15 04:34:33
11	ZERO	CAGE	2006-02-15 04:34:33
12	KARL	BERRY	2006-02-15 04:34:33
13	UMA	WOOD	2006-02-15 04:34:33
14	VIVIEN	BERGEN	2006-02-15 04:34:33
15	CUBA	OLIVIER	2006-02-15 04:34:33

actor 1 Apply Revert

Action Output

	Time	Action	Response	Duration / Fetch Time
✓ 1	11:23:20	SELECT * FROM sakila.actor LIM...	200 row(s) returned	0.0048 sec / 0.0000...
✓ 2	11:23:29	SELECT * FROM sakila.actor LIM...	200 row(s) returned	0.0046 sec / 0.0000...
✓ 3	11:23:36	SELECT * FROM sakila.actor LIM...	200 row(s) returned	0.0043 sec / 0.00002...

Query Completed

MySQL Workbench

TAU mysqlserv (via tunnel) - Warning - not supported

Administration Schemas actor sakila.actor

SCHEMAS

Filter objects

- sakila
  - Tables
    - actor
    - address
    - category
    - city
    - country
    - customer
    - film
    - film\_actor
    - film\_category
    - film\_text
    - inventory
    - language
    - payment
    - rental
    - staff
    - store
  - Views
  - Stored Procedures
  - Functions

Info Columns Indexes Triggers Foreign keys Partitions Grants DDL

Column	Type	Default Value	Nullable	Character Set	Collation	Privileges
actor_id	smallint(5) unsig...		NO			select
first_name	varchar(45)		NO	utf8	utf8_general_ci	select
last_name	varchar(45)		NO	utf8	utf8_general_ci	select
last_update	timestamp	CURRENT_TIME...	NO			select

Count: 4 Refresh

Action Output

	Time	Action	Response	Duration / Fetch Time
✓ 1	11:23:20	SELECT * FROM sakila.actor LIM...	200 row(s) returned	0.0048 sec / 0.0000...
✓ 2	11:23:29	SELECT * FROM sakila.actor LIM...	200 row(s) returned	0.0046 sec / 0.0000...
✓ 3	11:23:36	SELECT * FROM sakila.actor LIM...	200 row(s) returned	0.0043 sec / 0.00002...

Query Completed

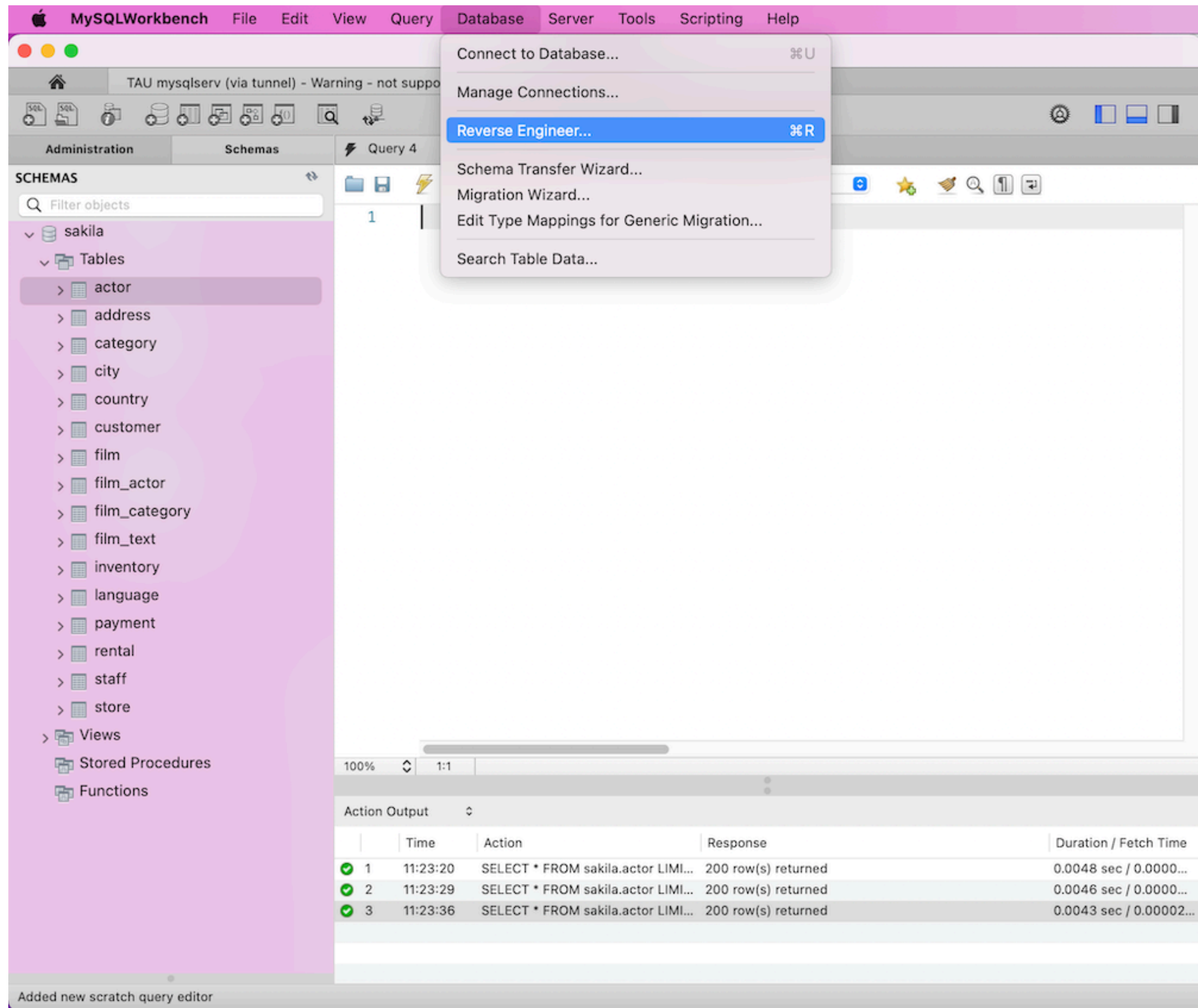
# Using the ER tools

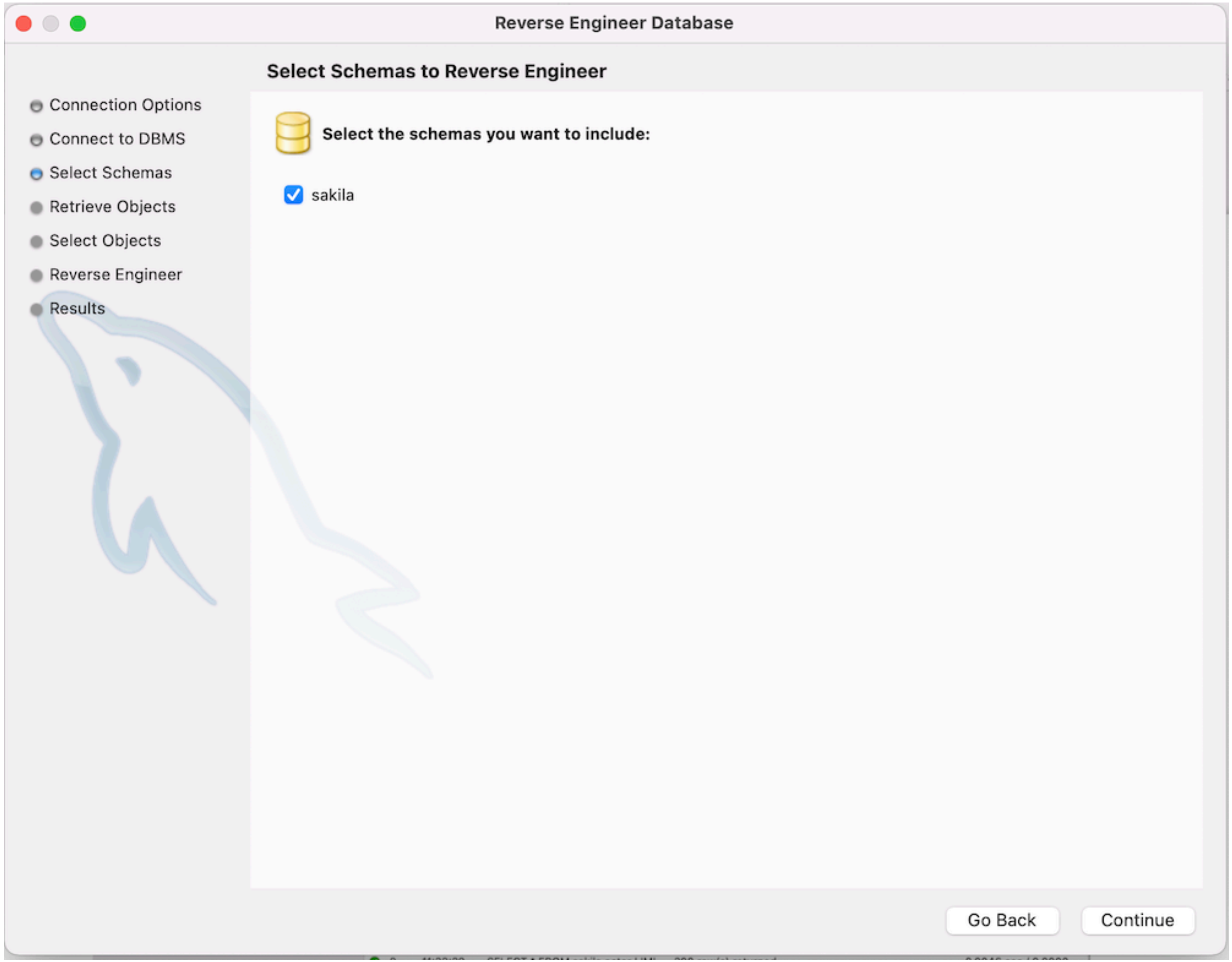
- Option 1: download it

<https://downloads.mysql.com/docs/sakila-db.zip>

Open `sakila.mwb` with MySQL Workbench

- Option 2: reverse engineer `sakila` at TAU





### Select Schemas to Reverse Engineer

- Connection Options
- Connect to DBMS
- Select Schemas
- Retrieve Objects
- Select Objects
- Reverse Engineer
- Results



Select the schemas you want to include:

sakila

Go Back

Continue

