MySQL Workbench

Big Data Systems

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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):

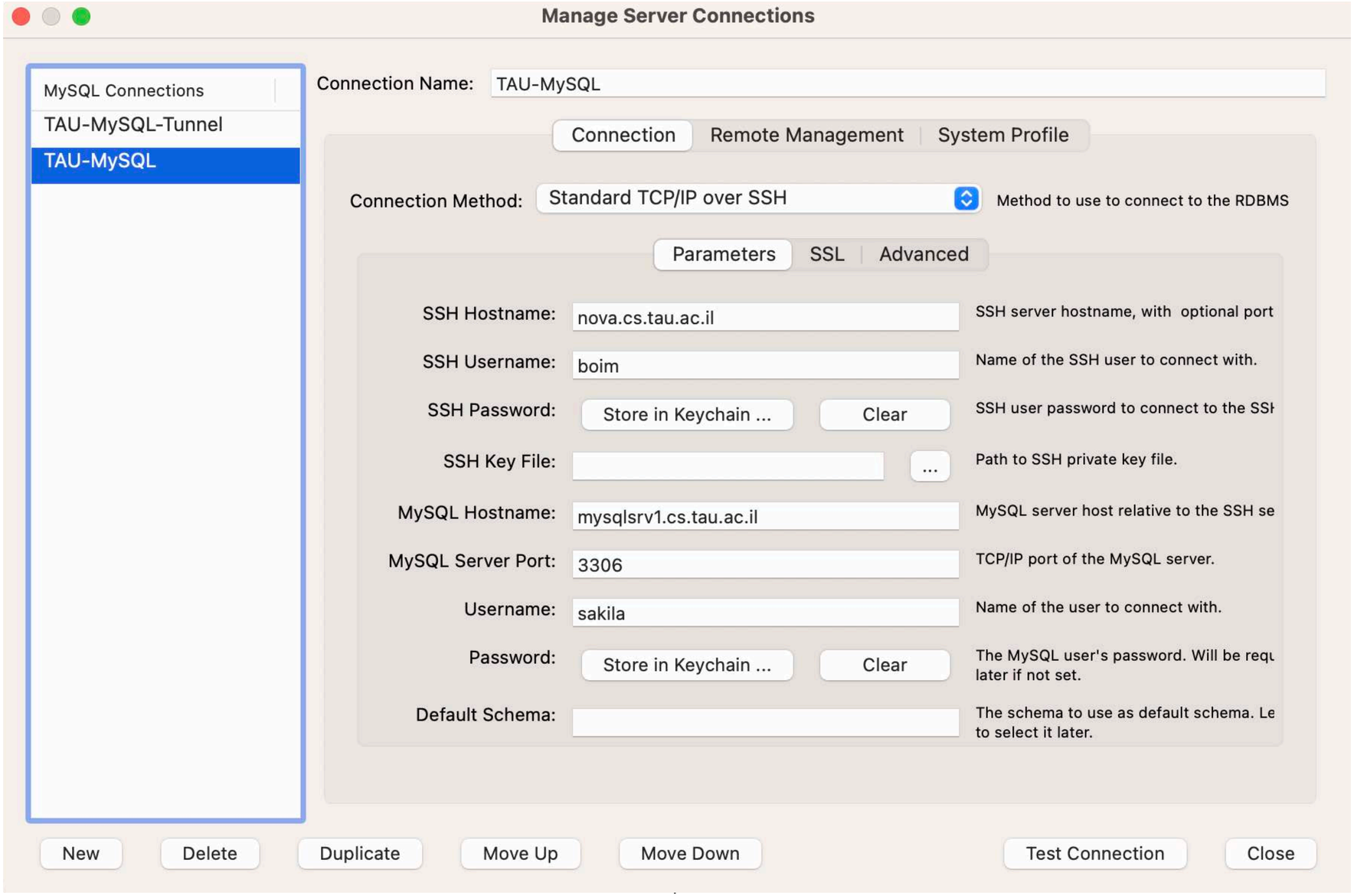
```
mysql -h mysqlsrv1.cs.tau.ac.il -u sakila -p
```

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”



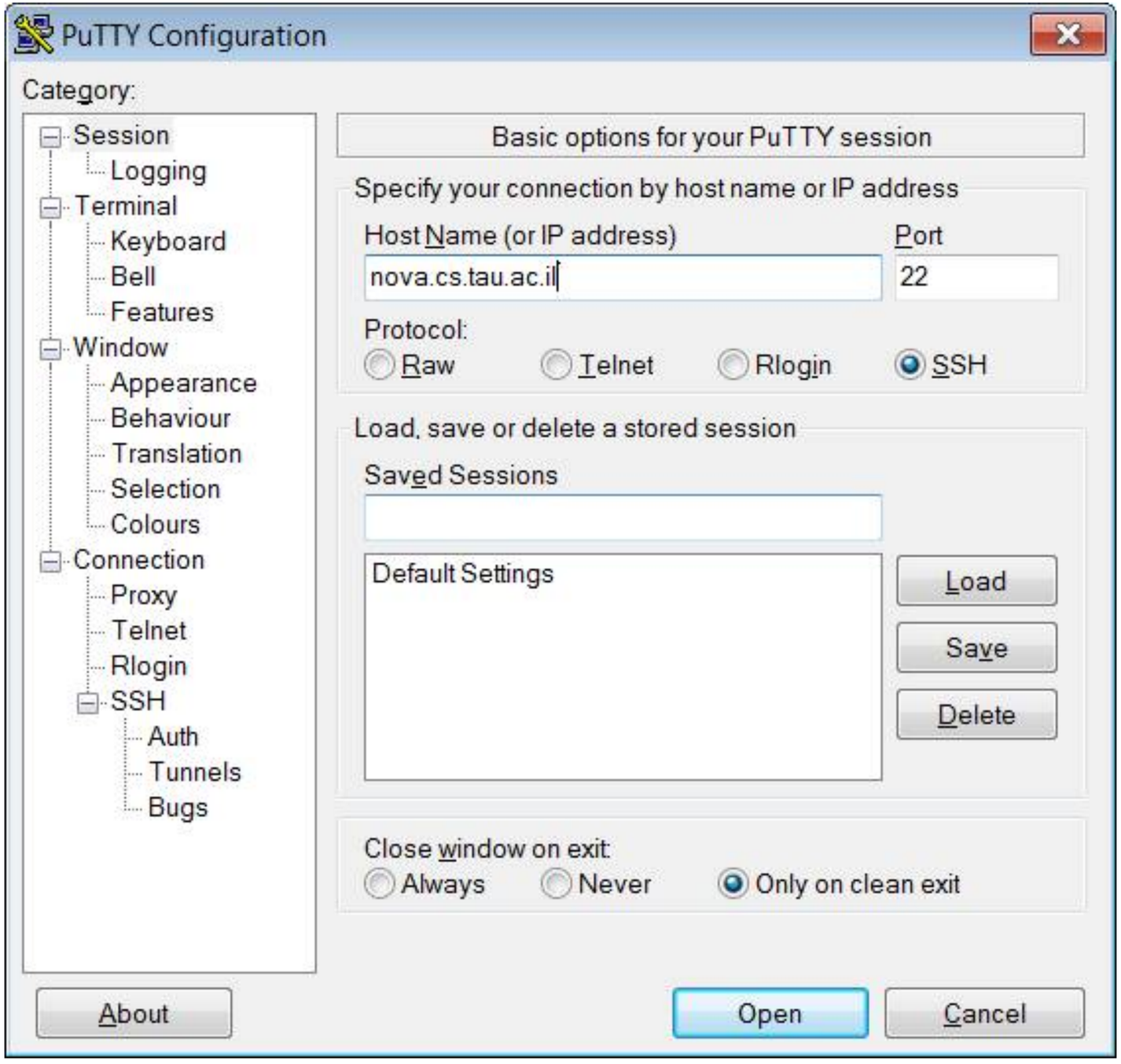
Option B - Tunnel (Mac)

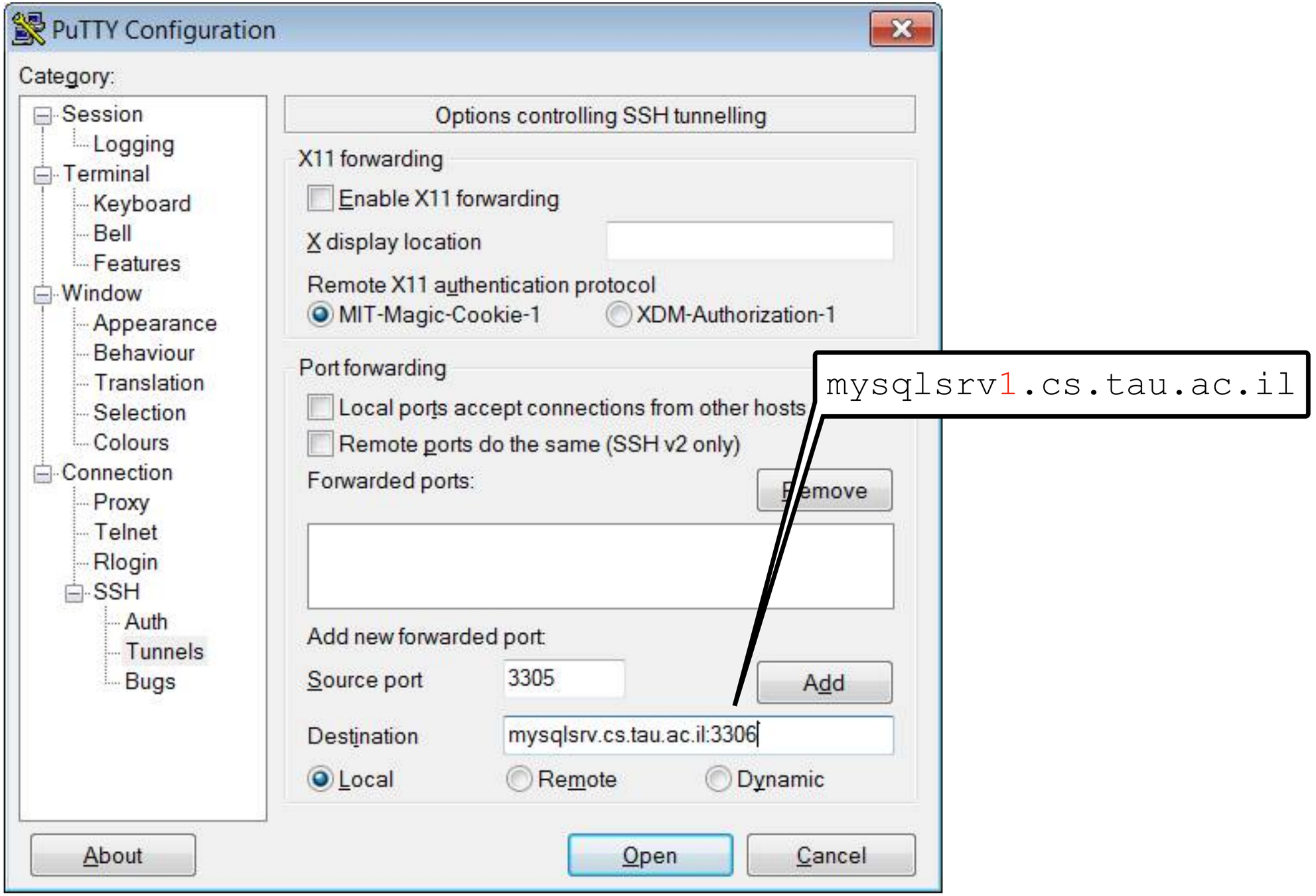
- Connect via VPN
- Then, terminal is all you need:

```
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 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
Default Settings
Load
Save
Delete
Close window on exit:
Always
Never
Only on clean exit
About
Open
Cancel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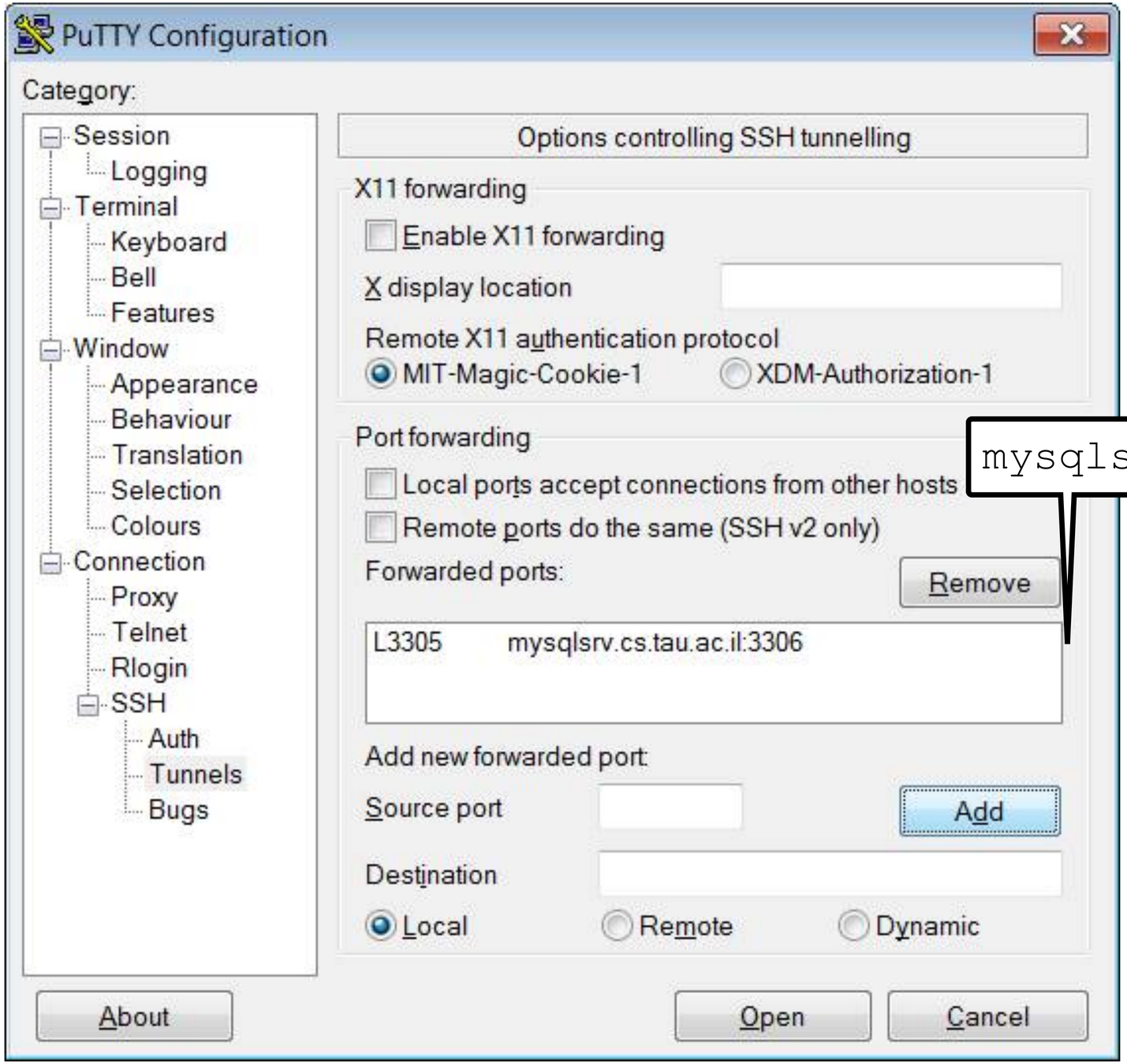
Tunnels
Bugs
Options controlling SSH tunnelling
X11 forwarding
Enable X11 forwarding
X display location
Remote X11 authentication protocol
MIT-Magic-Cookie-1
XDM-Authorization-1
Port forwarding
Local ports accept connections from other hosts
Remote ports do the same (SSH v2 only)
Forwarded ports:
Remove
Add new forwarded port:
Source port
3305
Add
Destination
mysqlsrv.cs.tau.ac.il:3306
Local
Remote
Dynamic
About
Open
Cancel
mysqlsrv1.cs.tau.ac.il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L3305 mysqlsrv.cs.tau.ac.il:3306
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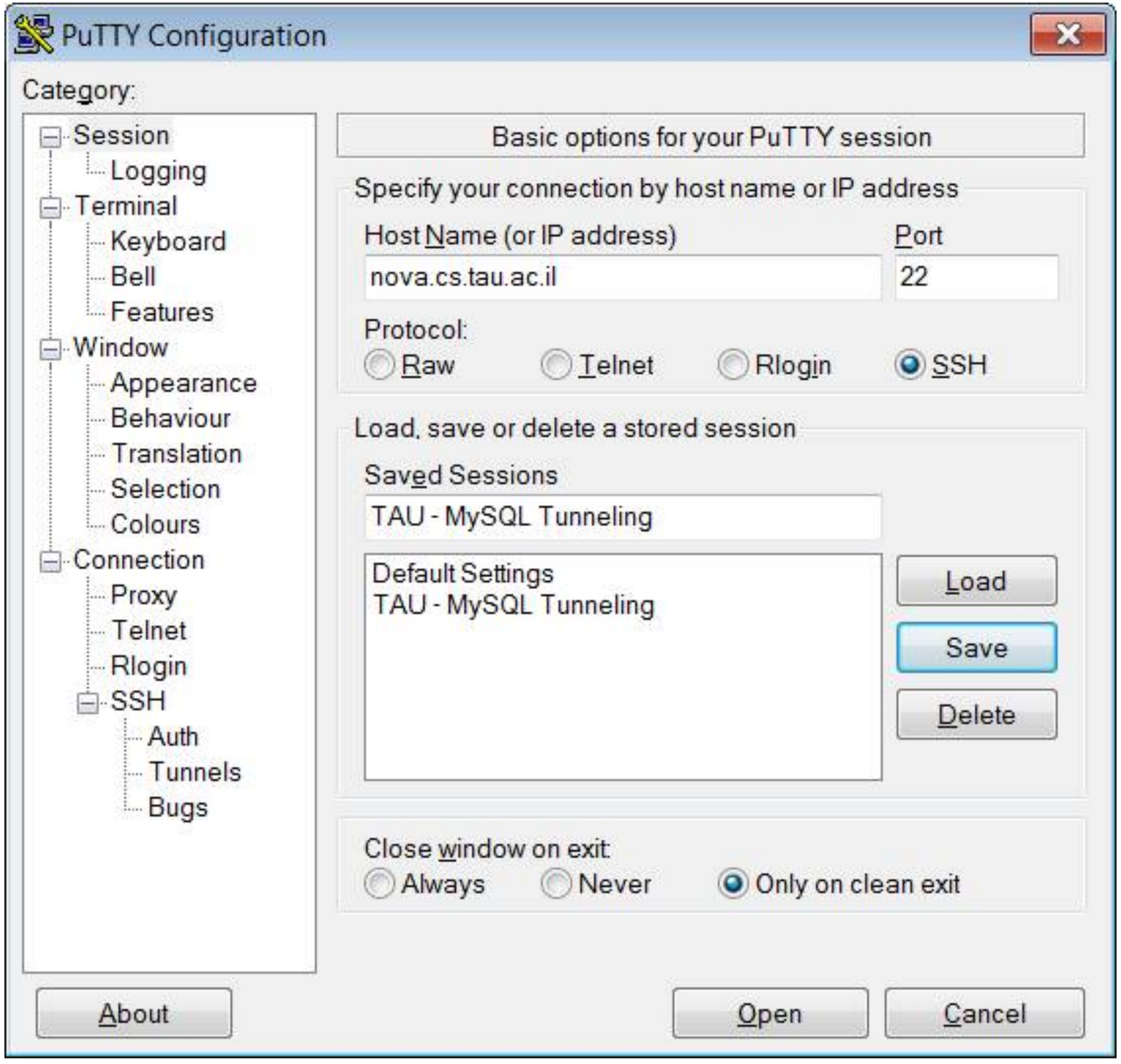
Remote
Dynamic
About
Open
Cancel
mysqlsrv1.cs.tau.ac.il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Session
Logging
Terminal
Keyboard
Bell
Features
Window
Appearance
Behaviour
Translation
Selection
Colours
Connection
Proxy
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SSH
Auth
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nova.cs.tau.ac.il
22
Protocol:
Raw
Telnet
Rlogin
SSH
Load, save or delete a stored session
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TAU - MySQL Tunneling
Default Settings
TAU - MySQL Tunneling
Load
Save
Delete
Close window on exit:
Always
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Only on clean exit
About
Open
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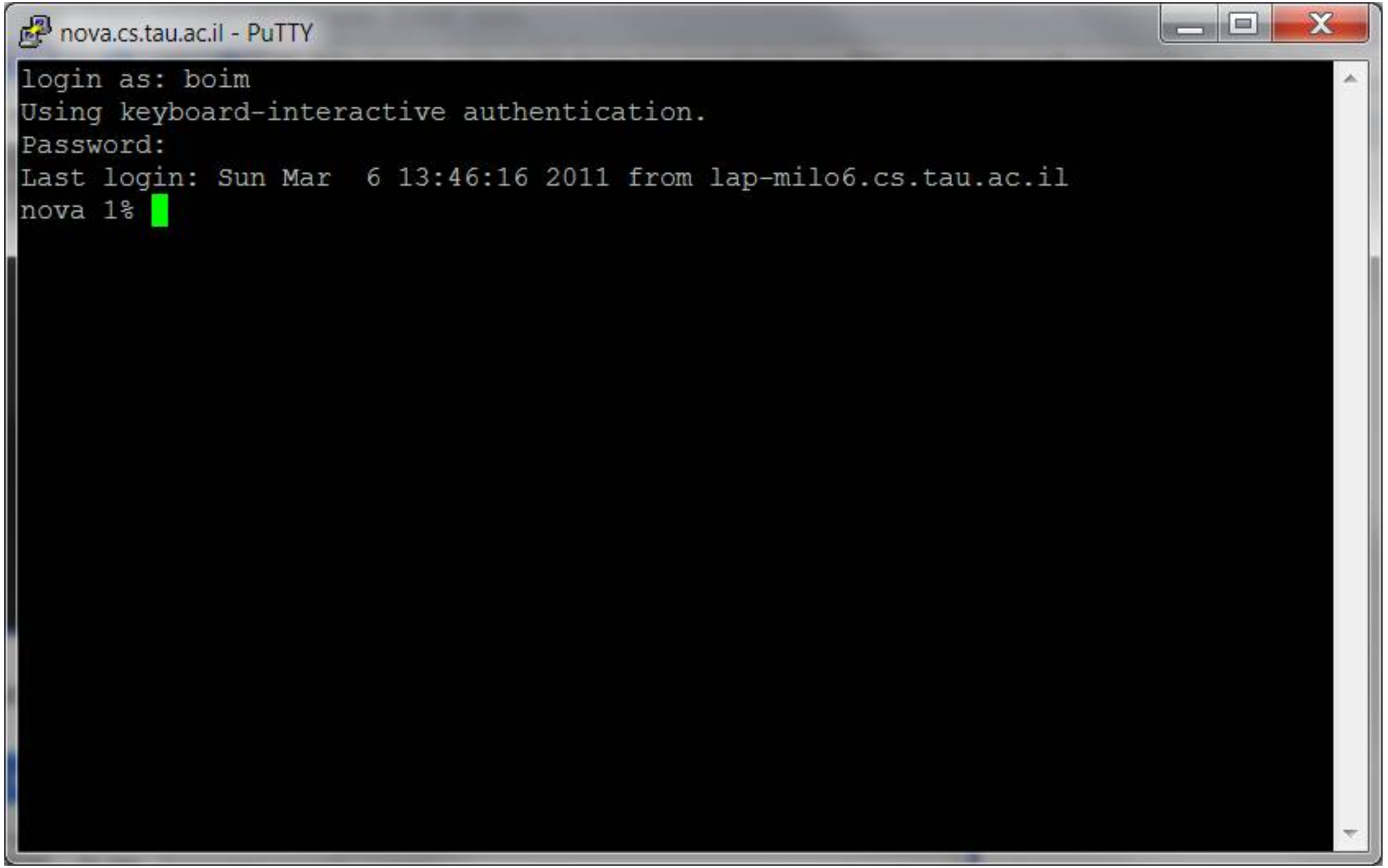
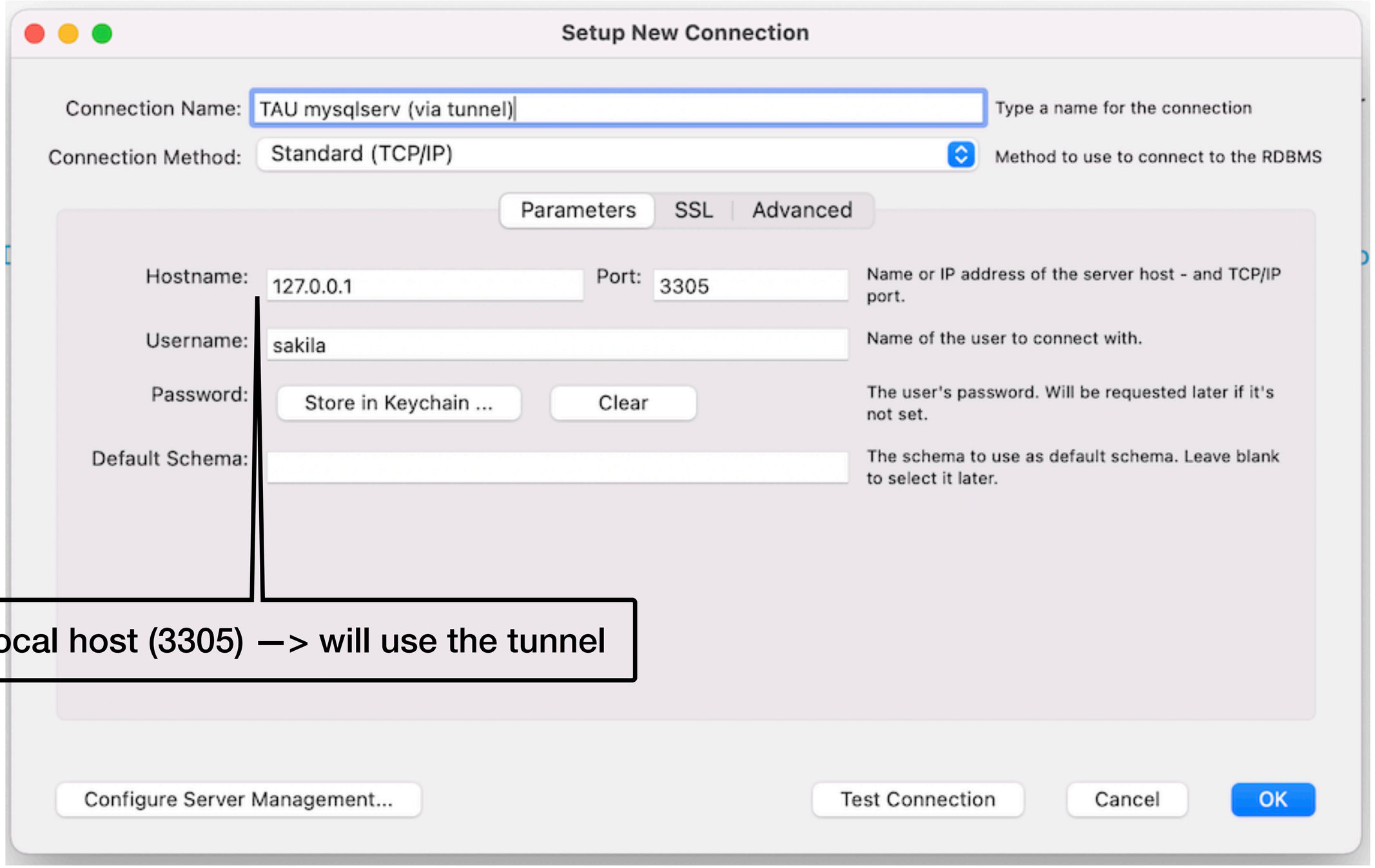
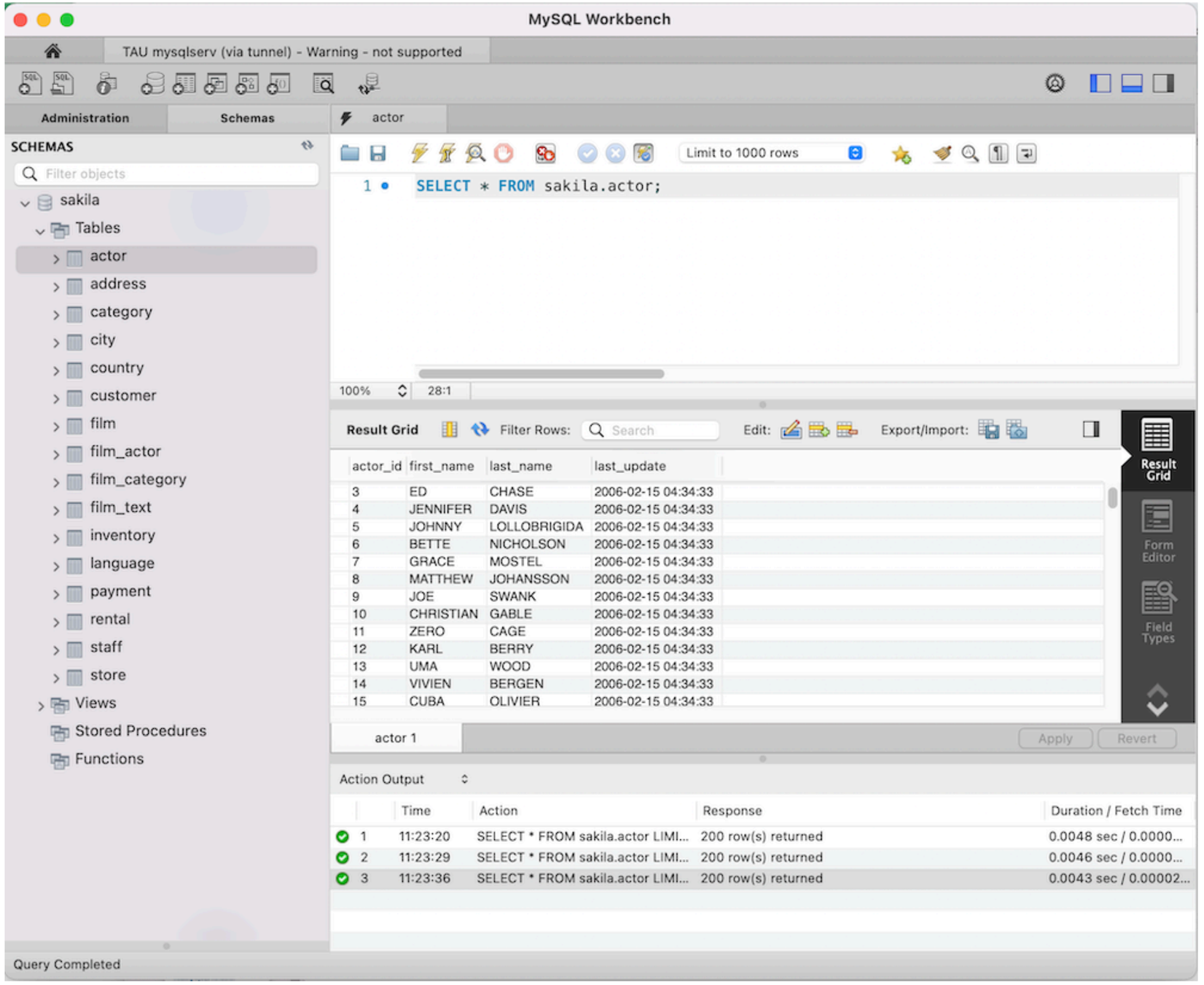
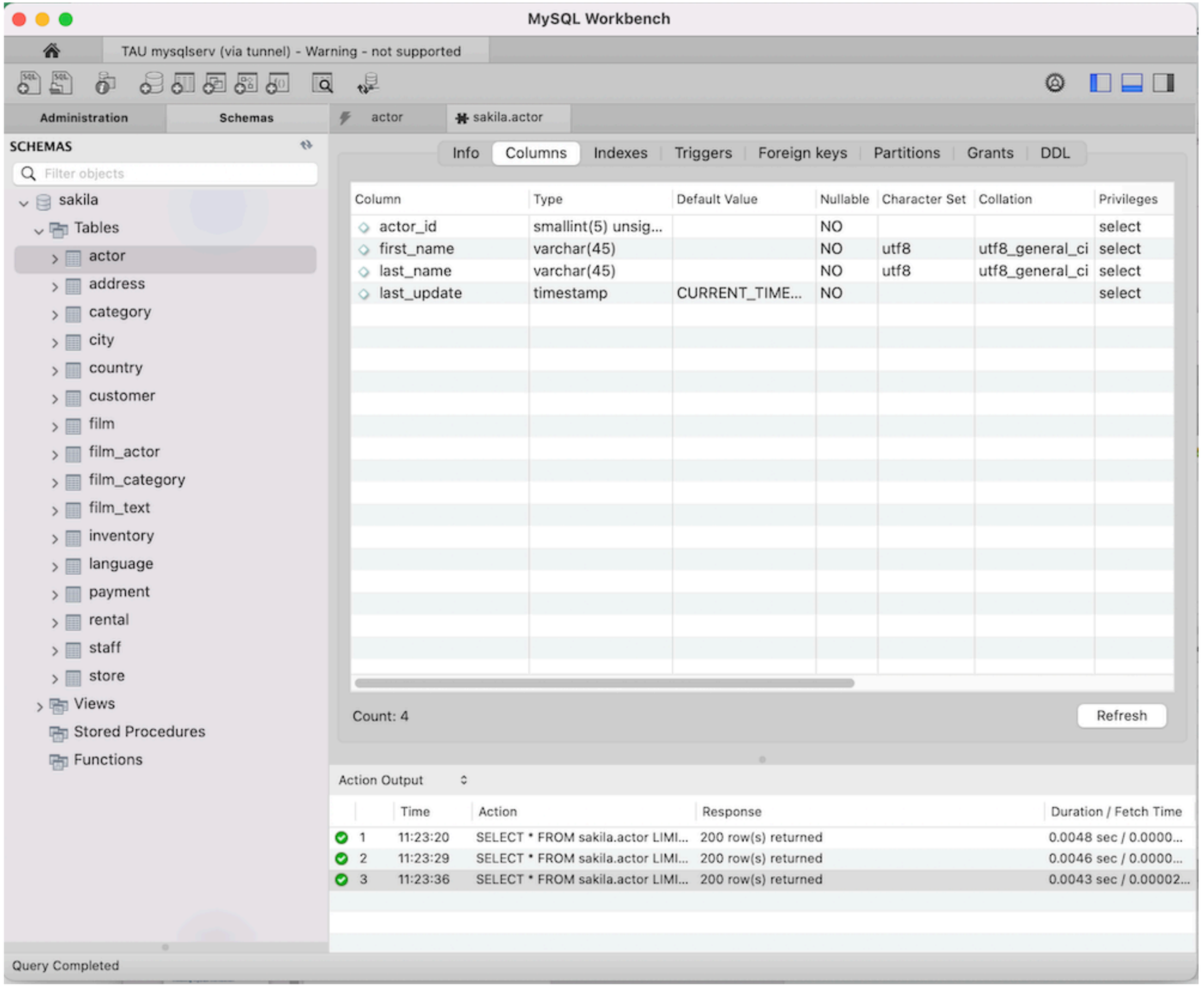

nova.cs.tau.ac.il - PuTTY
login as: boim
Using keyboard-interactive authentication.
Password:
Last login: Sun Mar 6 13:46:16 2011 from lap-milo6.cs.tau.ac.il
nova 1%


Setup New Connection
Connection Name:
TAU mysqlserv (via tunnel)
Type a name for the connection
Connection Method:
Standard (TCP/IP)
Method to use to connect to the RDBMS
Parameters
SSL
Advanced
Hostname:
127.0.0.1
Port:
3305
Name or IP address of the server host - and TCP/IP port.
Username:
sakila
Name of the user to connect with.
Password:
Store in Keychain ...
Clear
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
Configure Server Management...
Test Connection
Cancel
OK

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
Result Grid
Form Editor
Field Types
actor 1
Apply
Revert
Action Output
Time Action Response Duration / Fetch Time
1 11:23:20 SELECT * FROM sakila.actor LIMI... 200 row(s) returned 0.0048 sec / 0.0000...
2 11:23:29 SELECT * FROM sakila.actor LIMI... 200 row(s) returned 0.0046 sec / 0.0000...
3 11:23:36 SELECT * FROM sakila.actor LIMI... 200 row(s) returned 0.0043 sec / 0.00002...
Query Completed

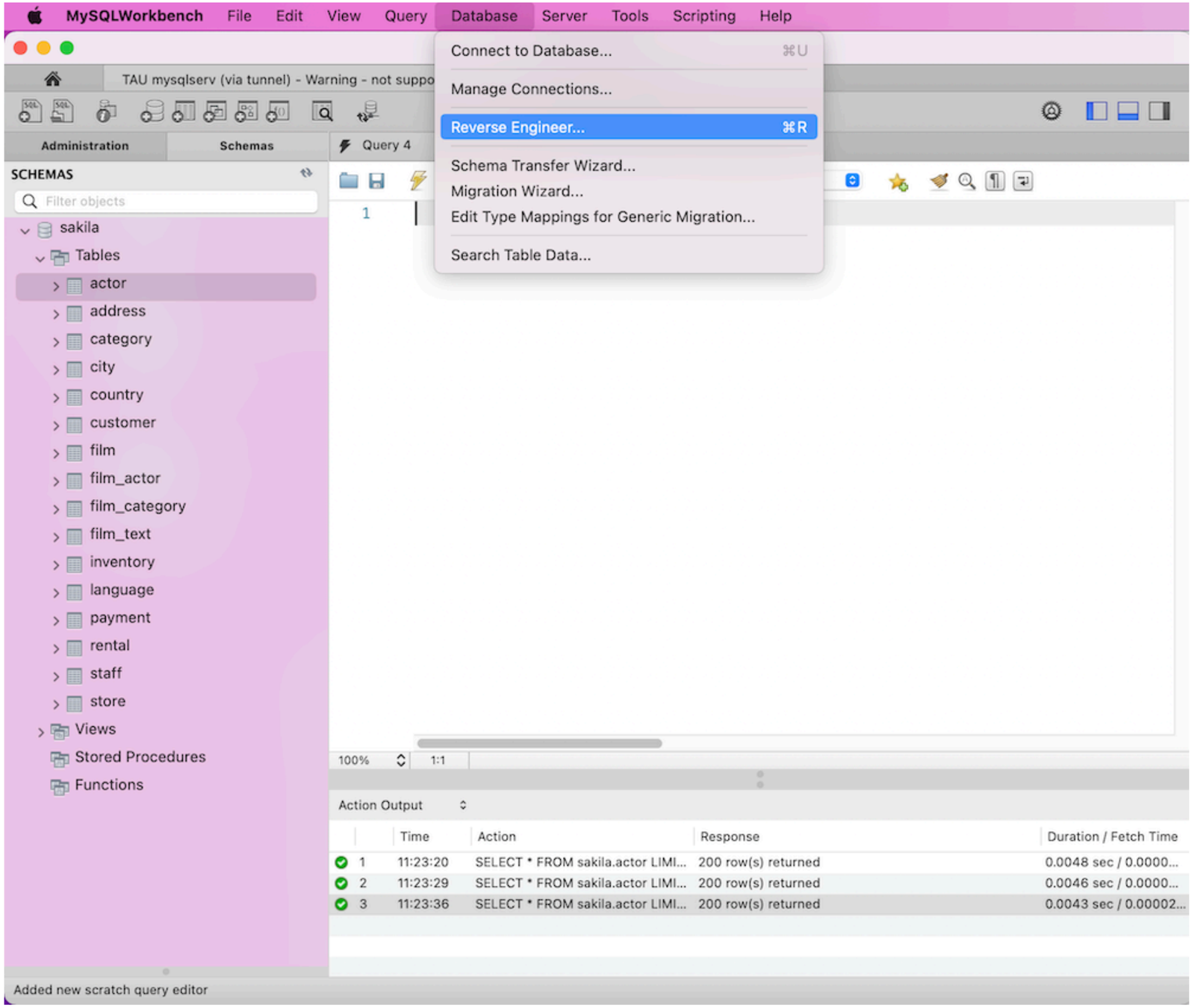

MySQL Workbench
TAU mysqlserv (via tunnel) - Warning - not supported
Administration
Schemas
actor
sakila.actor
SCHEMAS
Filter objects
sakila
Tables
actor
address
category
city
country
customer
film
film_actor
film_category
film_text
inventory
language
payment
rental
staff
store
Views
Stored Procedures
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 LIMI...
200 row(s) returned
0.0048 sec / 0.0000...
2
11:23:29
SELECT * FROM sakila.actor LIMI...
200 row(s) returned
0.0046 sec / 0.0000...
3
11:23:36
SELECT * FROM sakila.actor LIMI...
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


MySQLWorkbench
File
Edit
View
Query
Database
Server
Tools
Scripting
Help
Connect to Database... ⌘U
Manage Connections...
Reverse Engineer... ⌘R
Schema Transfer Wizard...
Migration Wizard...
Edit Type Mappings for Generic Migration...
Search Table Data...
TAU mysqlserv (via tunnel) - Warning - not suppo
Administration
Schemas
Query 4
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
1
100%
1:1
Action Output
Time
Action
Response
Duration / Fetch Time
1 11:23:20 SELECT * FROM sakila.actor LIMI... 200 row(s) returned 0.0048 sec / 0.0000...
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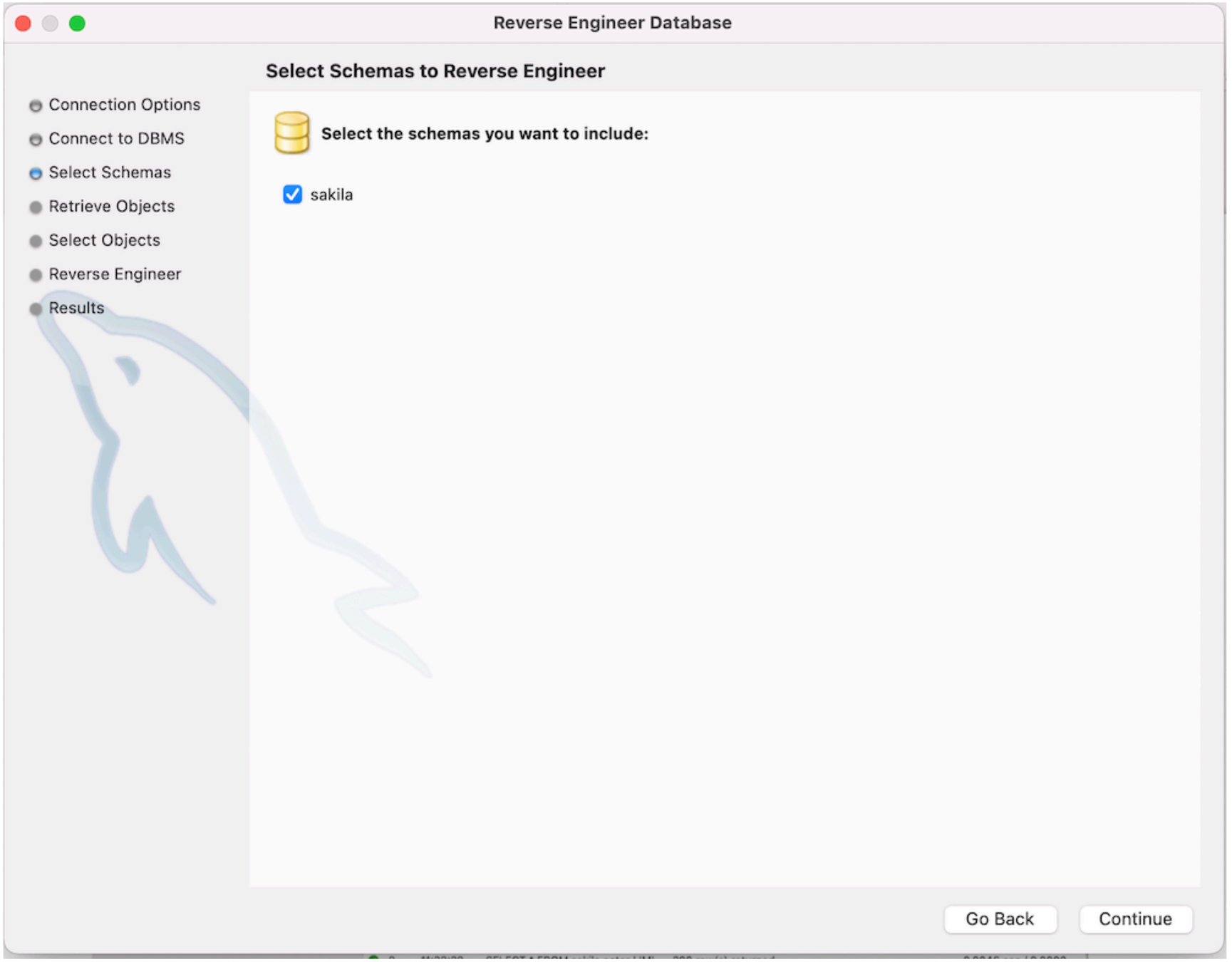
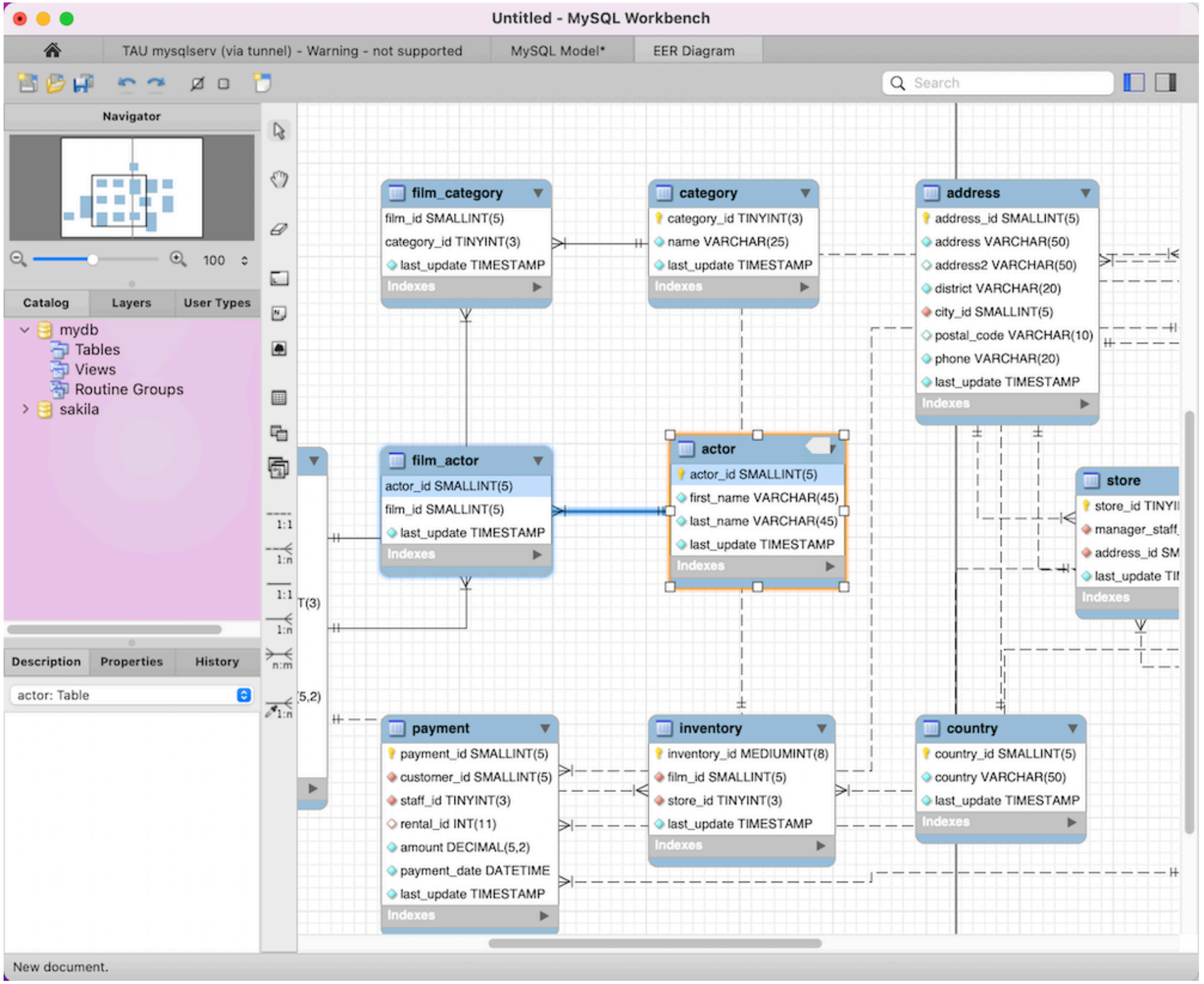
Added new scratch query editor


Reverse Engineer Database
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


Untitled - MySQL Workbench
TAU mysqlserv (via tunnel) - Warning - not supported
MySQL Model*
EER Diagram
Search
Navigator
100
Catalog
Layers
User Types
mydb
Tables
Views
Routine Groups
sakila
Description
Properties
History
actor: Table
film_category
film_id SMALLINT(5)
category_id TINYINT(3)
last_update TIMESTAMP
Indexes
category
category_id TINYINT(3)
name VARCHAR(25)
last_update TIMESTAMP
Indexes
address
address_id SMALLINT(5)
address VARCHAR(50)
address2 VARCHAR(50)
district VARCHAR(20)
city_id SMALLINT(5)
postal_code VARCHAR(10)
phone VARCHAR(20)
last_update TIMESTAMP
Indexes
film_actor
actor_id SMALLINT(5)
film_id SMALLINT(5)
last_update TIMESTAMP
Indexes
actor
actor_id SMALLINT(5)
first_name VARCHAR(45)
last_name VARCHAR(45)
last_update TIMESTAMP
Indexes
store
Indexes
payment
payment_id SMALLINT(5)
customer_id SMALLINT(5)
staff_id TINYINT(3)
rental_id INT(11)
amount DECIMAL(5,2)
payment_date DATETIME
last_update TIMESTAMP
Indexes
inventory
inventory_id MEDIUMINT(8)
film_id SMALLINT(5)
store_id TINYINT(3)
last_update TIMESTAMP
Indexes
country
country_id SMALLINT(5)
country VARCHAR(50)
last_update TIMESTAMP
Indexes
1:1
1:n
n:m
New document.