

NDBI040: PRACTICAL CLASS 8

SCIDB: SETUP

REQUIRED STEPS

- ▶ It takes 10 min if you already have downloaded image and you know what to do
- ▶ Download and Install (single) Virtualization platform of yours choice
 - ▶ VirtualBox 6.x (including Extension Pack)
 - ▶ VMWare Fusion Player 12.x
 - ▶ VMWare Workstation Player 16.x
- ▶ Download Image
- ▶ Import Image into Virtualization Platform
 - ▶ Check hardware setup of the image to match your hardware setup
- ▶ Run Image
 - ▶ Sign In
 - ▶ Start SciDB
- ▶ Use SSH (voluntary)

VIRTUALIZATION PLATFORM

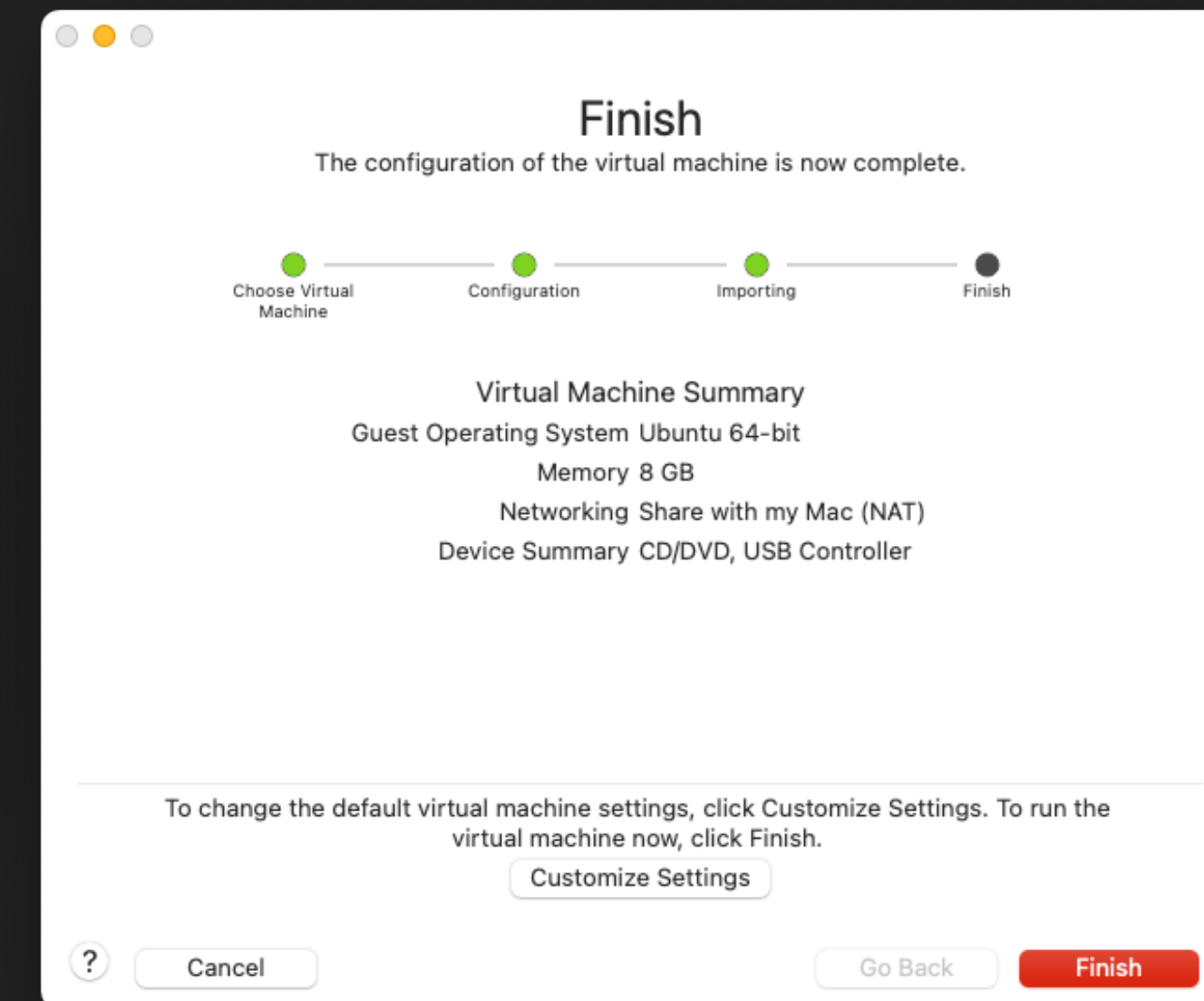
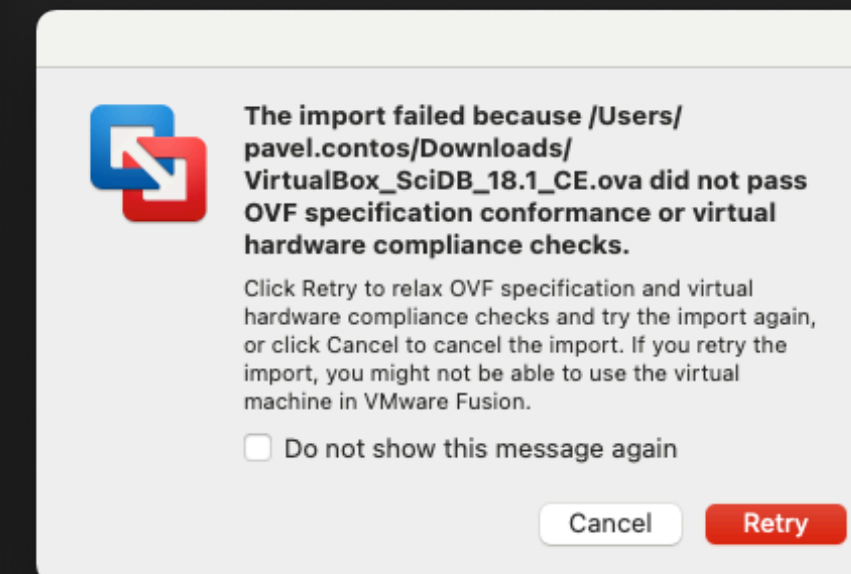
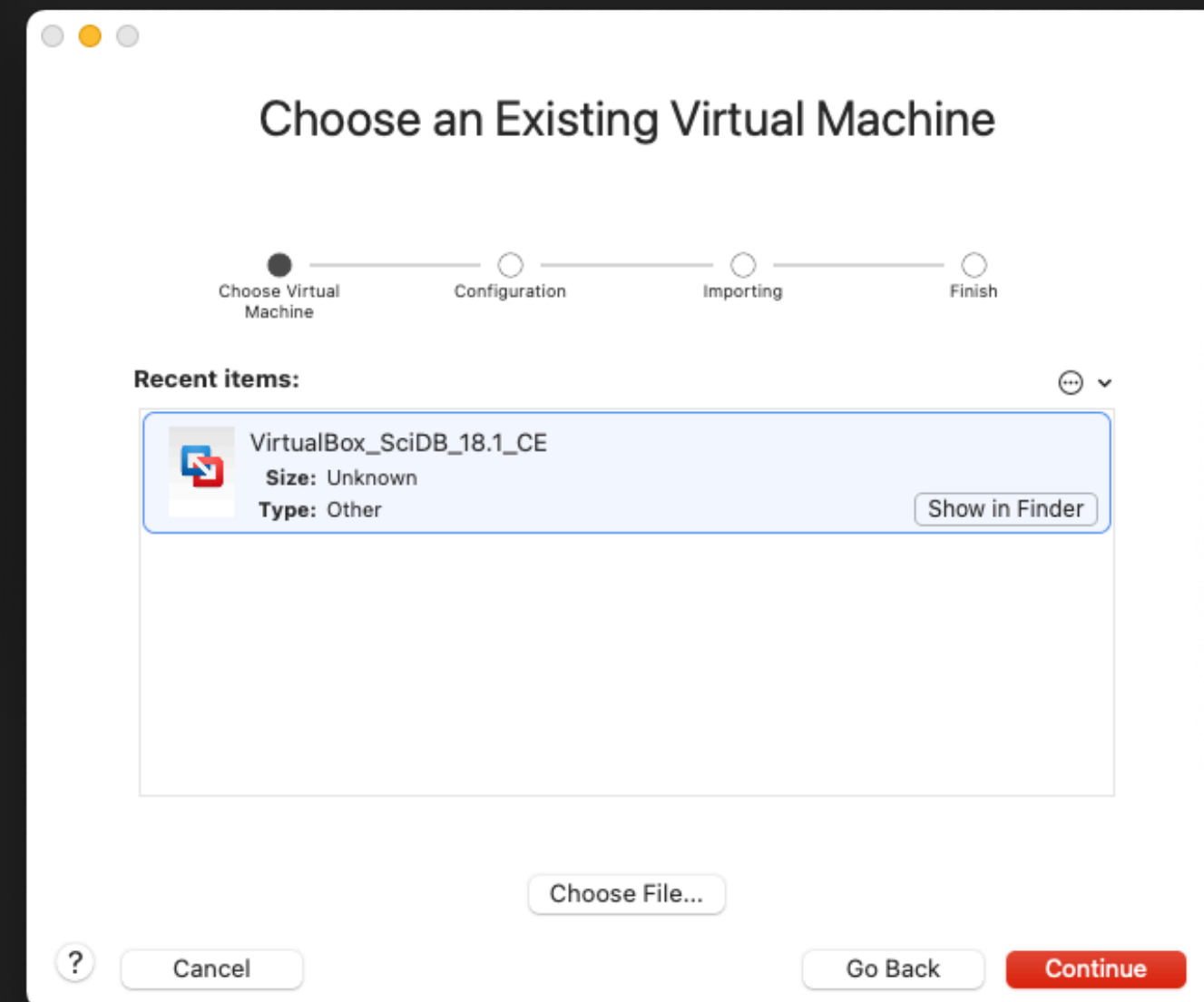
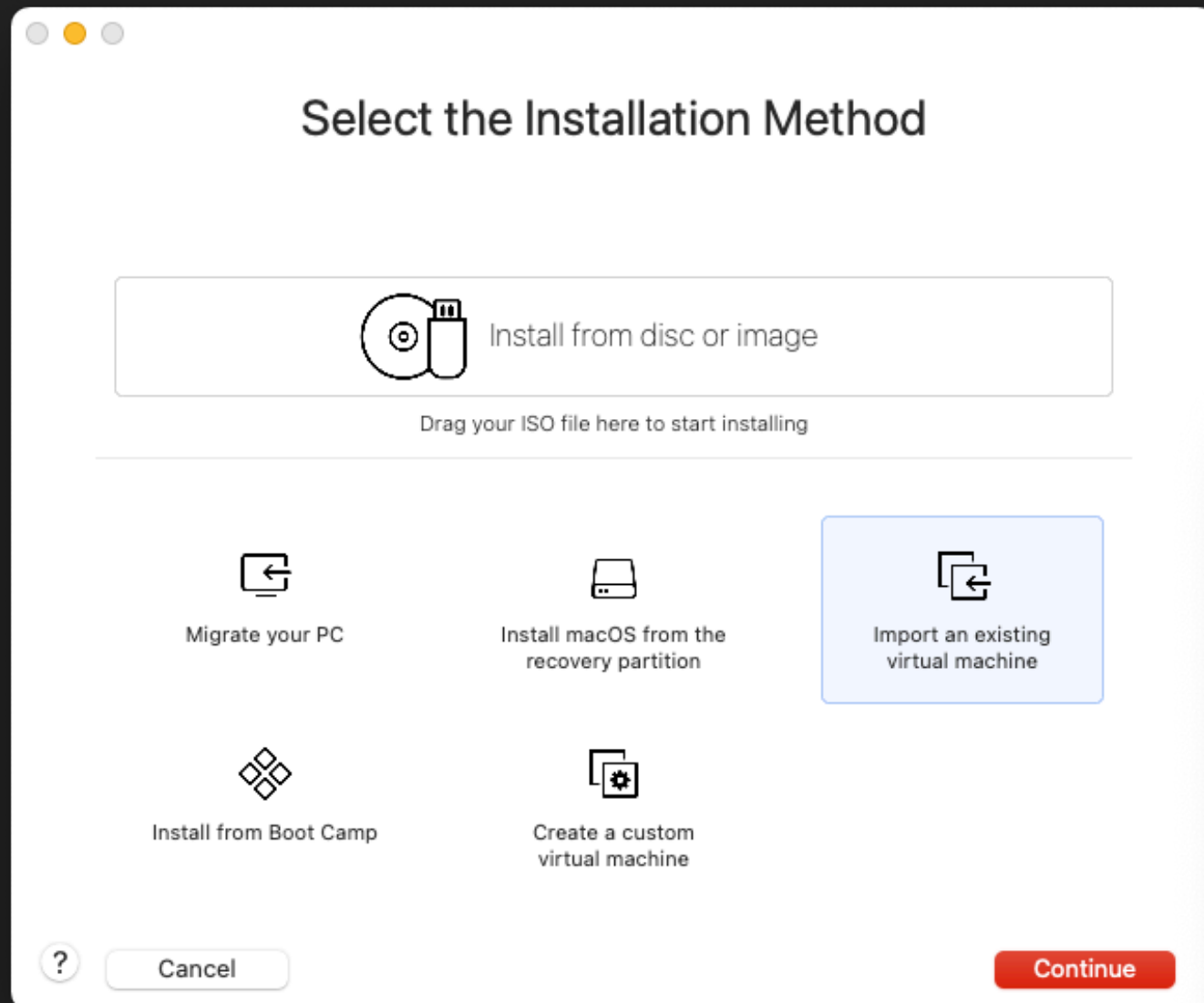
- ▶ Select, download and install single preferred virtualization platform
- ▶ VMWare Fusion Player 12.x (macOS only)
 - ▶ <https://www.vmware.com/products/fusion/fusion-evaluation.html>
- ▶ VMWare Workstation Player 16.x (Windows / Linux)
 - ▶ <https://www.vmware.com/products/workstation-player/workstation-player-evaluation.html>

DOWNLOAD IMAGE

- ▶ Download Ubuntu 14.04 + SciDB Image
 - ▶ VirtualBox_SciDB_18.1_CE.ova
 - ▶ Compatible with VirtualBox, VMWare
 - ▶ 6GB
 - ▶ <https://drive.google.com/drive/folders/1ns5l39SVS9OjJM8-ahHKgXOwguSFjjuo>

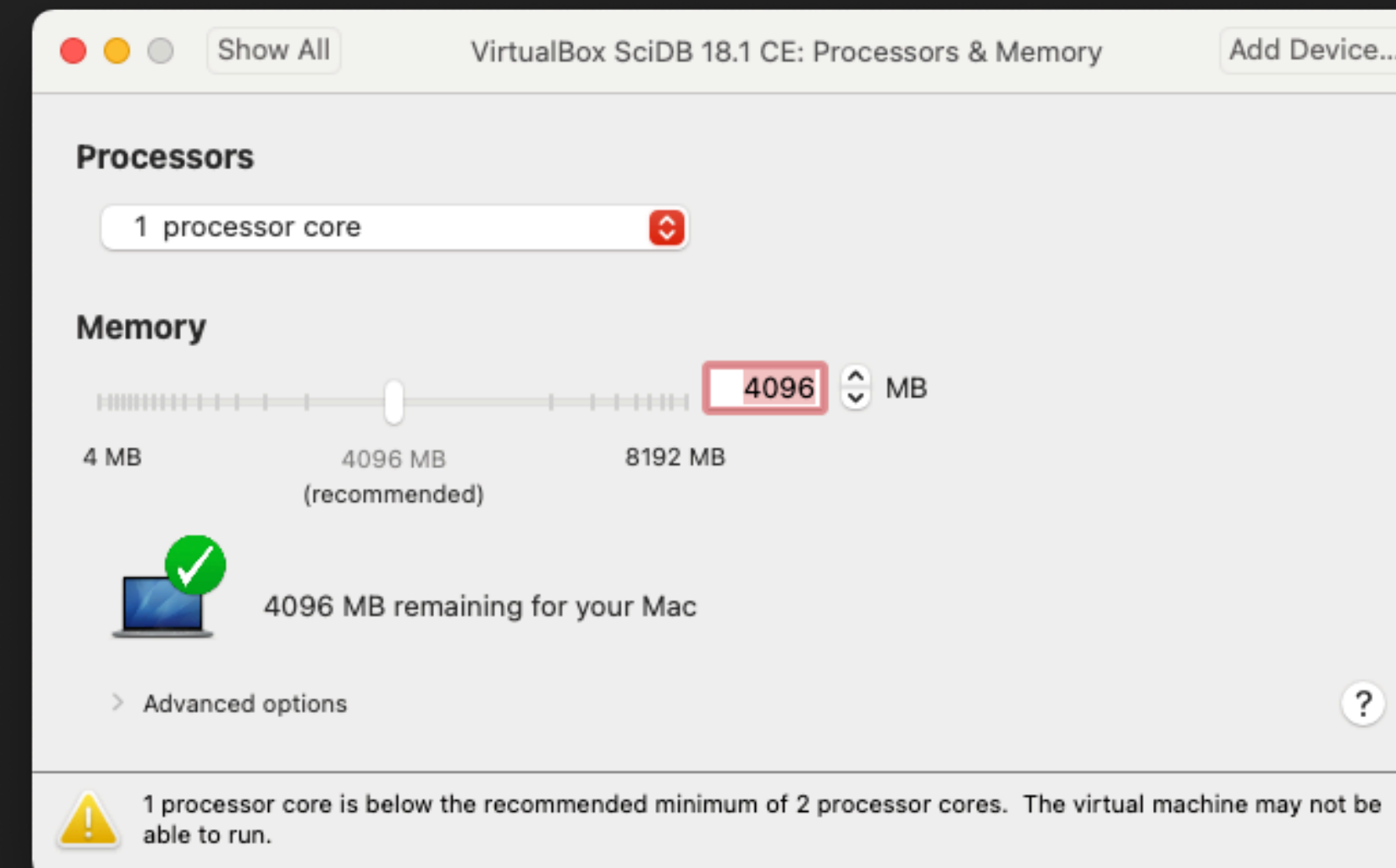
IMPORT IMAGE

► Import Image into VMWare



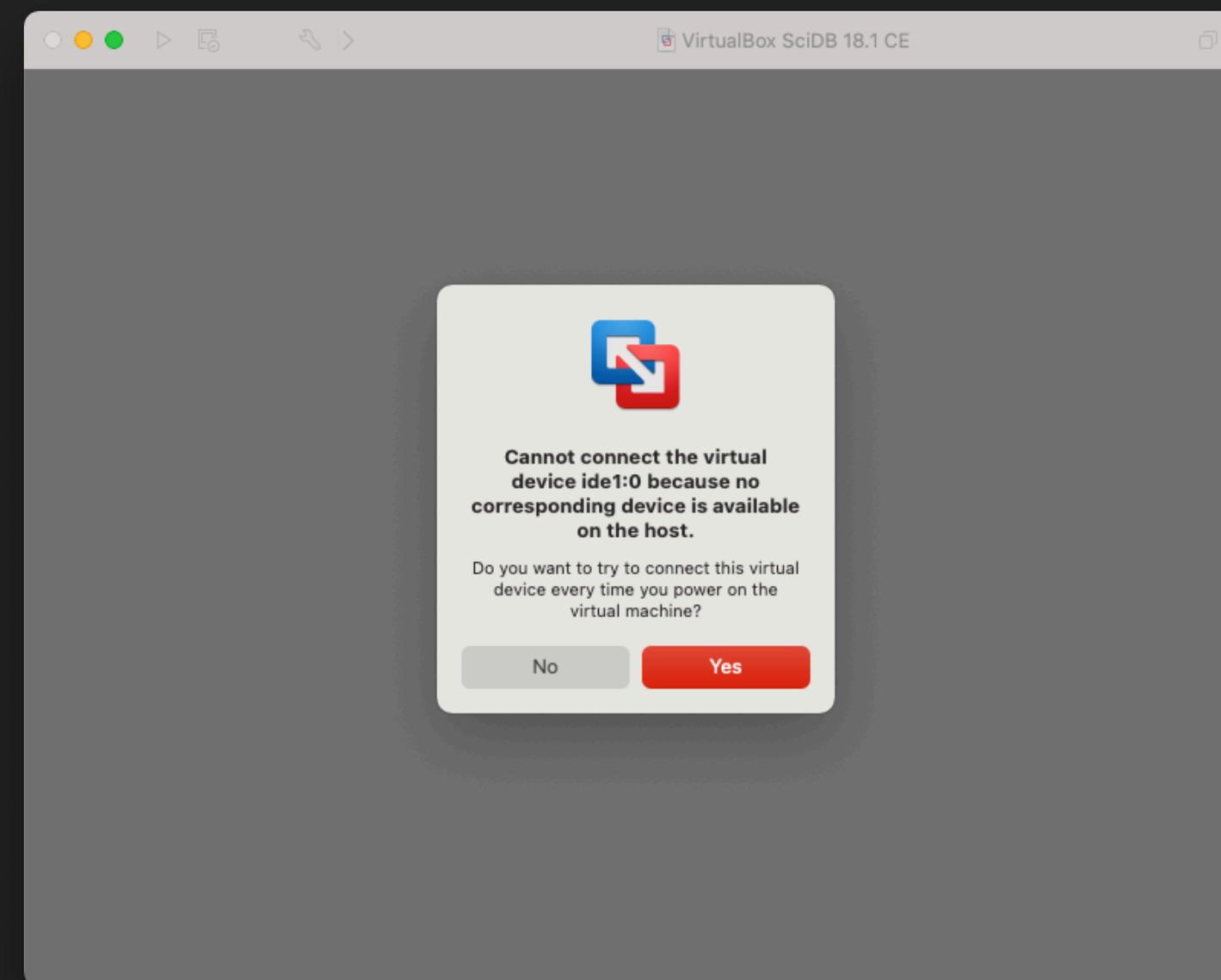
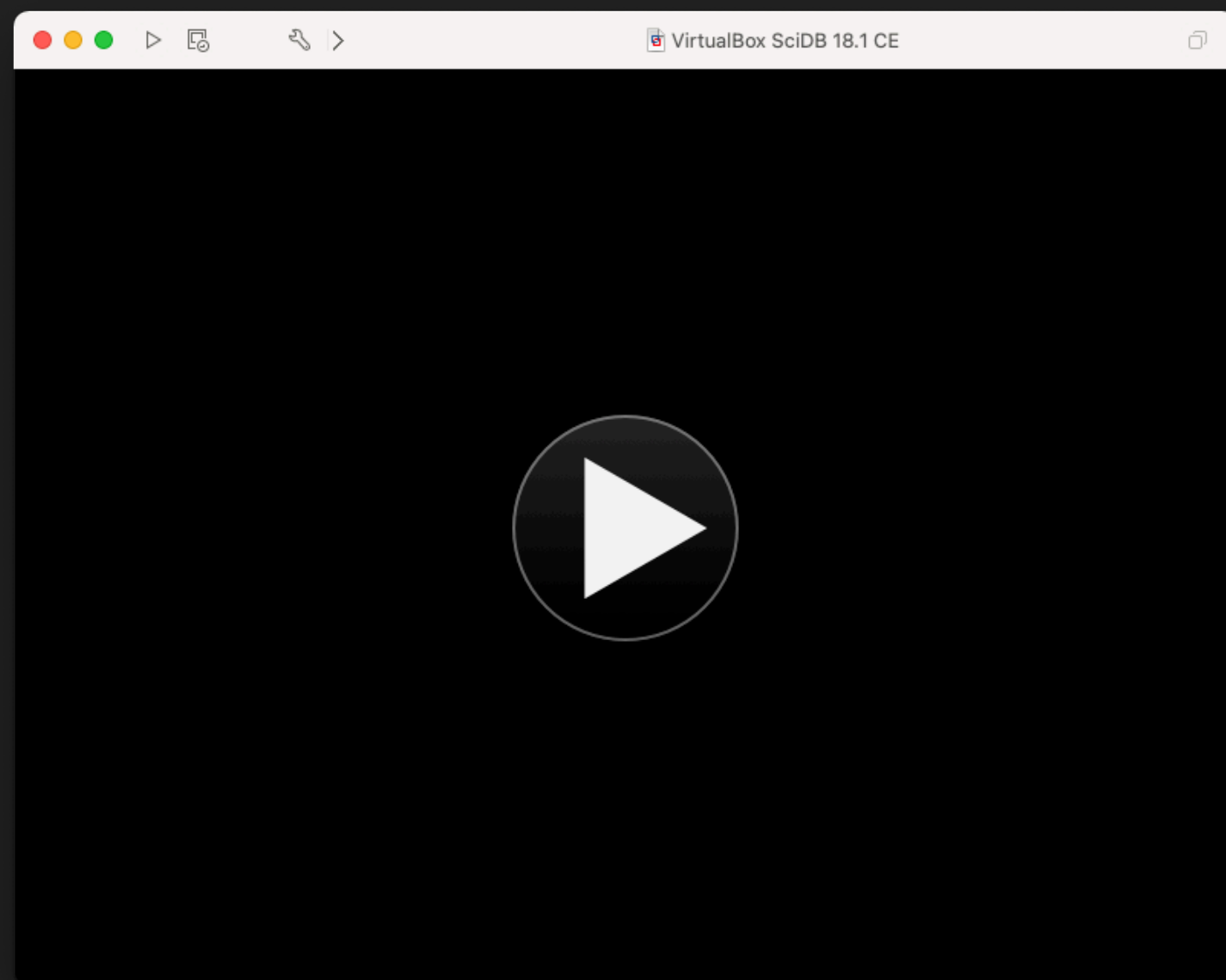
CHECK HARDWARE SETUP

- ▶ Check hardware setup of image to match your hardware setup
 - ▶ E.g. lower required RAM to 4 GB



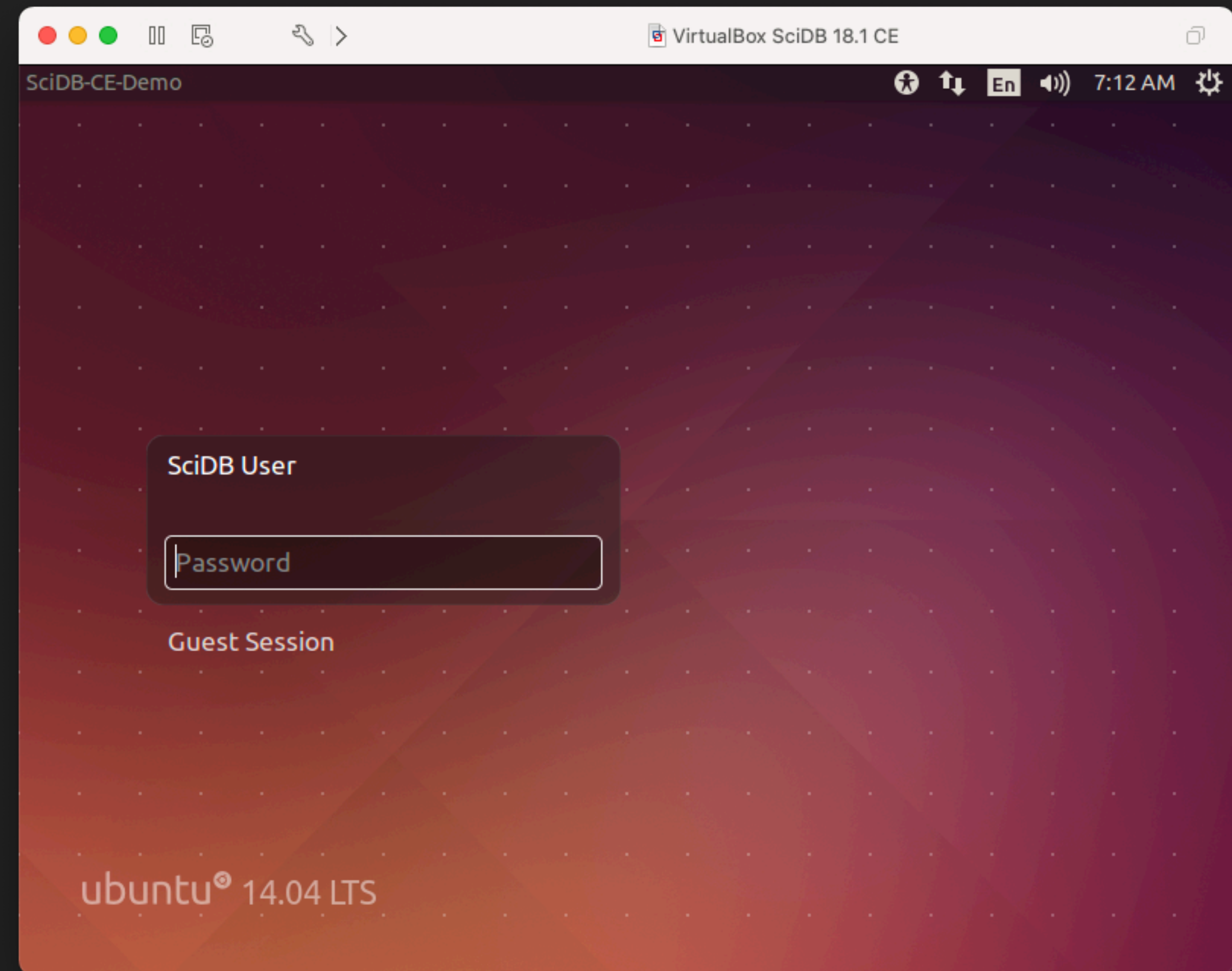
RUN IMAGE

- ▶ Run Image
 - ▶ If any warning appears, proceed



SIGN IN

- ▶ Sign In
 - ▶ login: scidb
 - ▶ password: paradigm4



START SCIDB

- ▶ `scidb.py initall mydb`
- ▶ `scidb.py startall mydb`
- ▶ `iquery`
- ▶ `set lang afl;`
- ▶ `list('arrays');`
- ▶ `exit;`

```

Terminal
scidb@SciDB-CE-Demo: ~
scidb@SciDB-CE-Demo:~$ scidb.py initall mydb
/usr/lib/python2.7/dist-packages/Crypto/Cipher/blockalgo.py:141: FutureWarning:
CTR mode needs counter parameter, not IV
  self._cipher = factory.new(key, *args, **kwargs)
scidb.py: INFO: Found 0 scidb processes
WARNING: This will delete all data and reinitialize storage [n]|y: y
scidb.py: INFO: Cleaning up old logs and storage files.
scidb.py: INFO: Removing data directory /home/scidb/scidb_data/0/0 on (server 0
(127.0.0.1) local instance 0)
scidb.py: INFO: init (server 0 (127.0.0.1) local instance 0)
scidb.py: INFO: Initializing local scidb instance/storage.

scidb.py: INFO: Cleaning up old logs and storage files.
scidb.py: INFO: Removing data directory /home/scidb/scidb_data/0/1 on (server 0
(127.0.0.1) local instance 1)
scidb.py: INFO: init (server 0 (127.0.0.1) local instance 1)
scidb.py: INFO: Initializing local scidb instance/storage.

scidb.py: INFO: Cleaning up old logs and storage files.
scidb.py: INFO: Removing data directory /home/scidb/scidb_data/0/2 on (server 0
(127.0.0.1) local instance 2)
scidb.py: INFO: init (server 0 (127.0.0.1) local instance 2)
scidb.py: INFO: Initializing local scidb instance/storage.

```

```

Terminal
scidb@SciDB-CE-Demo: ~
scidb.py: INFO: Removing data directory /home/scidb/scidb_data/0/0 on (server 0
(127.0.0.1) local instance 0)
scidb.py: INFO: init (server 0 (127.0.0.1) local instance 0)
scidb.py: INFO: Initializing local scidb instance/storage.

scidb.py: INFO: Cleaning up old logs and storage files.
scidb.py: INFO: Removing data directory /home/scidb/scidb_data/0/1 on (server 0
(127.0.0.1) local instance 1)
scidb.py: INFO: init (server 0 (127.0.0.1) local instance 1)
scidb.py: INFO: Initializing local scidb instance/storage.

scidb.py: INFO: Cleaning up old logs and storage files.
scidb.py: INFO: Removing data directory /home/scidb/scidb_data/0/2 on (server 0
(127.0.0.1) local instance 2)
scidb.py: INFO: init (server 0 (127.0.0.1) local instance 2)
scidb.py: INFO: Initializing local scidb instance/storage.

scidb.py: INFO: Cleaning up old logs and storage files.
scidb.py: INFO: Removing data directory /home/scidb/scidb_data/0/3 on (server 0
(127.0.0.1) local instance 3)
scidb.py: INFO: init (server 0 (127.0.0.1) local instance 3)
scidb.py: INFO: Initializing local scidb instance/storage.

scidb@SciDB-CE-Demo:~$ scidb.py startall mydb

```

```

Terminal
scidb@SciDB-CE-Demo: ~
(127.0.0.1) local instance 2)
scidb.py: INFO: init (server 0 (127.0.0.1) local instance 2)
scidb.py: INFO: Initializing local scidb instance/storage.

scidb.py: INFO: Cleaning up old logs and storage files.
scidb.py: INFO: Removing data directory /home/scidb/scidb_data/0/3 on (server 0
(127.0.0.1) local instance 3)
scidb.py: INFO: init (server 0 (127.0.0.1) local instance 3)
scidb.py: INFO: Initializing local scidb instance/storage.

scidb@SciDB-CE-Demo:~$ scidb.py startall mydb
/usr/lib/python2.7/dist-packages/Crypto/Cipher/blockalgo.py:141: FutureWarning:
CTR mode needs counter parameter, not IV
  self._cipher = factory.new(key, *args, **kwargs)
scidb.py: INFO: Found 0 scidb processes
scidb.py: INFO: start((server 0 (127.0.0.1) local instance 0))
scidb.py: INFO: Starting SciDB server.
scidb.py: INFO: start((server 0 (127.0.0.1) local instance 1))
scidb.py: INFO: Starting SciDB server.
scidb.py: INFO: start((server 0 (127.0.0.1) local instance 2))
scidb.py: INFO: Starting SciDB server.
scidb.py: INFO: start((server 0 (127.0.0.1) local instance 3))
scidb.py: INFO: Starting SciDB server.
scidb@SciDB-CE-Demo:~$ iquery

```

```

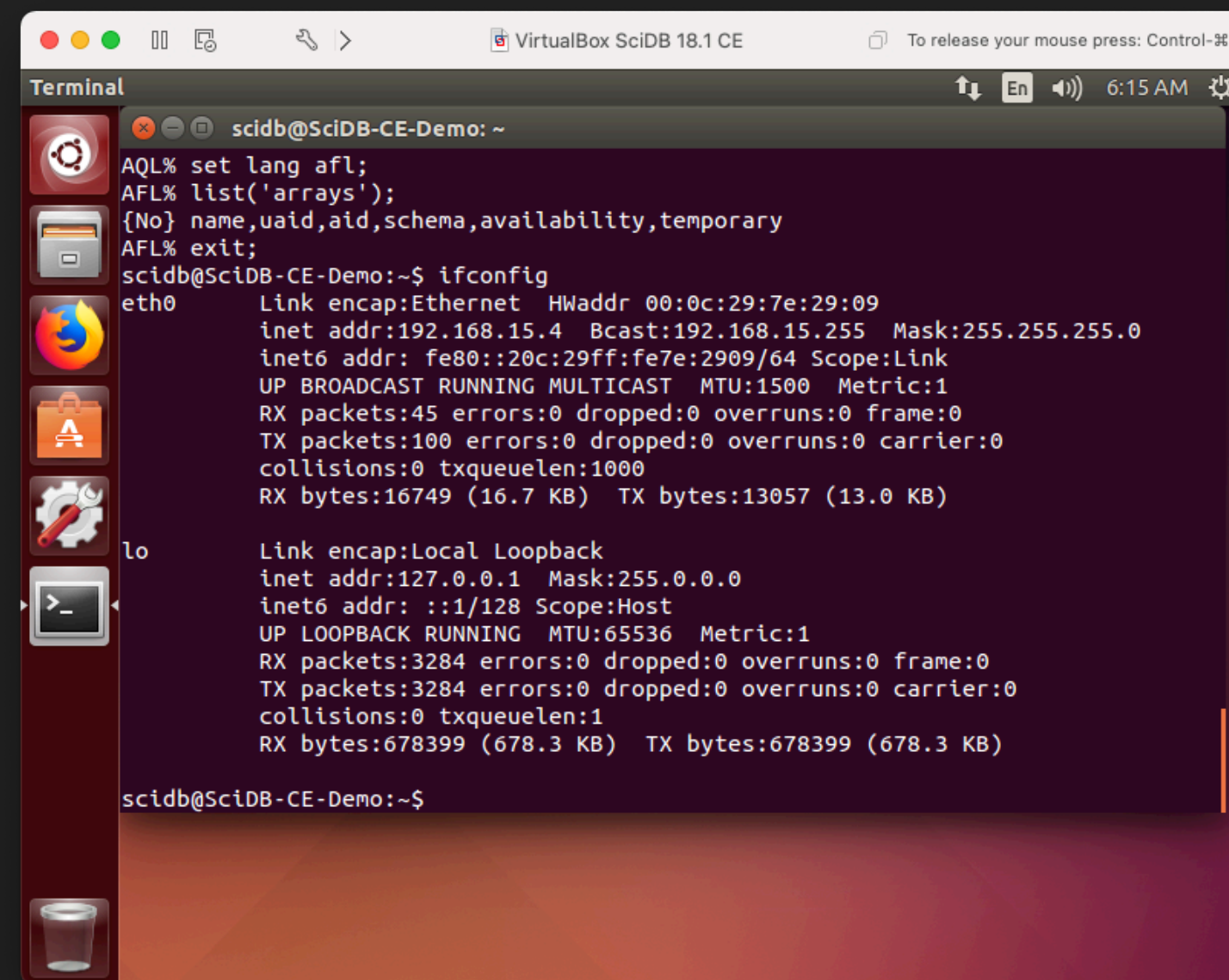
Terminal
scidb@SciDB-CE-Demo: ~
scidb.py: INFO: Cleaning up old logs and storage files.
scidb.py: INFO: Removing data directory /home/scidb/scidb_data/0/3 on (server 0
(127.0.0.1) local instance 3)
scidb.py: INFO: init (server 0 (127.0.0.1) local instance 3)
scidb.py: INFO: Initializing local scidb instance/storage.

scidb@SciDB-CE-Demo:~$ scidb.py startall mydb
/usr/lib/python2.7/dist-packages/Crypto/Cipher/blockalgo.py:141: FutureWarning:
CTR mode needs counter parameter, not IV
  self._cipher = factory.new(key, *args, **kwargs)
scidb.py: INFO: Found 0 scidb processes
scidb.py: INFO: start((server 0 (127.0.0.1) local instance 0))
scidb.py: INFO: Starting SciDB server.
scidb.py: INFO: start((server 0 (127.0.0.1) local instance 1))
scidb.py: INFO: Starting SciDB server.
scidb.py: INFO: start((server 0 (127.0.0.1) local instance 2))
scidb.py: INFO: Starting SciDB server.
scidb.py: INFO: start((server 0 (127.0.0.1) local instance 3))
scidb.py: INFO: Starting SciDB server.
scidb@SciDB-CE-Demo:~$ iquery
AQL% set lang afl;
AFL% list('arrays');
{No} name,uaid,aid,schema,availability,temporary
AFL% exit;

```


USE SSH

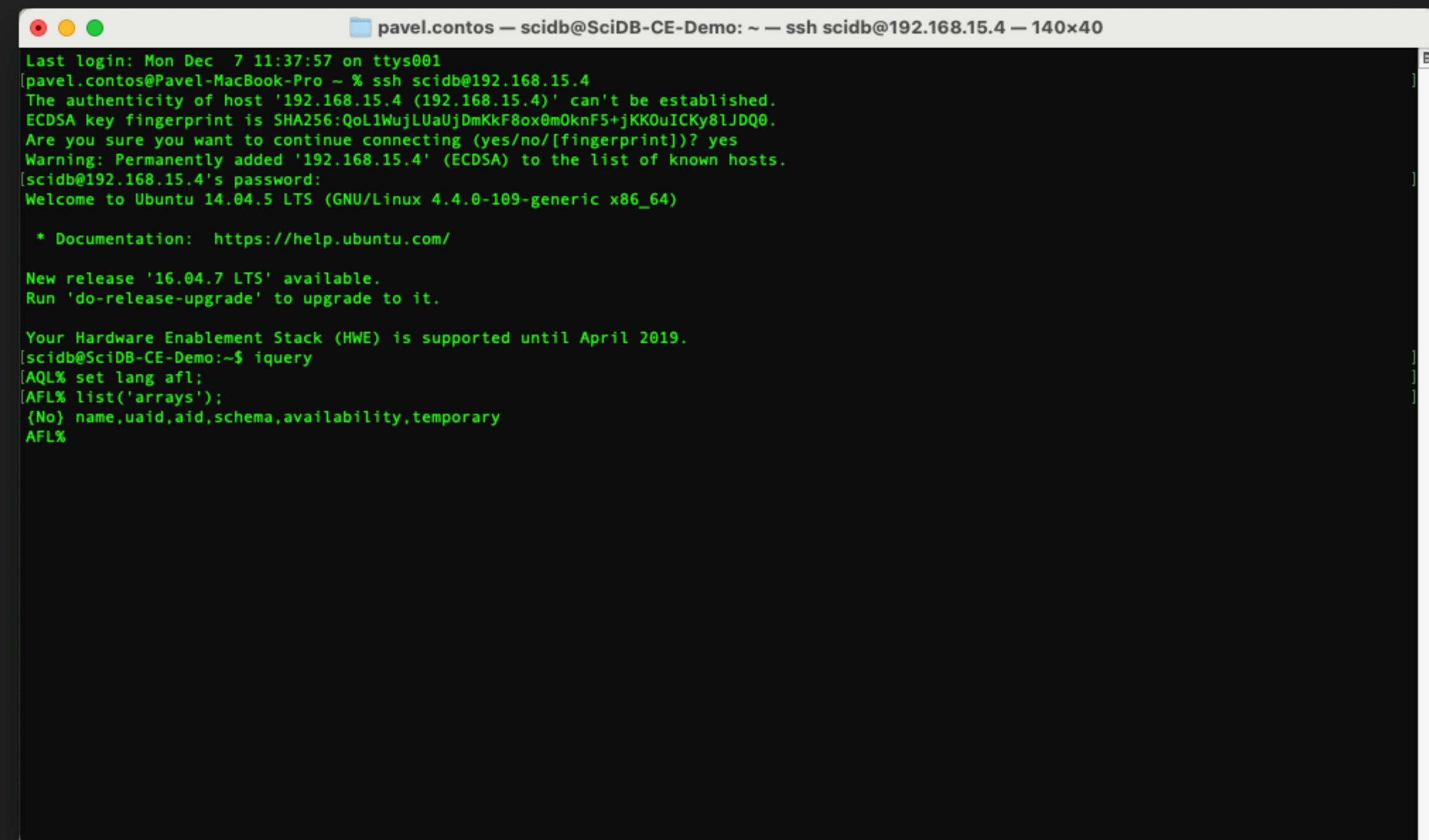
- ▶ Use ifconfig to find ip address of VMWare guest
- ▶ Use ssh/scp on host to remote access



```
VirtualBox SciDB 18.1 CE
Terminal
scidb@SciDB-CE-Demo: ~
AQL% set lang afl;
AFL% list('arrays');
{No} name,uaid,aid,schema,availability,temporary
AFL% exit;
scidb@SciDB-CE-Demo:~$ ifconfig
eth0      Link encap:Ethernet  HWaddr 00:0c:29:7e:29:09
          inet addr:192.168.15.4  Bcast:192.168.15.255  Mask:255.255.255.0
          inet6 addr: fe80::20c:29ff:fe7e:2909/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:45 errors:0 dropped:0 overruns:0 frame:0
          TX packets:100 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:16749 (16.7 KB)  TX bytes:13057 (13.0 KB)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:3284 errors:0 dropped:0 overruns:0 frame:0
          TX packets:3284 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1
          RX bytes:678399 (678.3 KB)  TX bytes:678399 (678.3 KB)

scidb@SciDB-CE-Demo:~$
```



```
pavel.contos — scidb@SciDB-CE-Demo: ~ — ssh scidb@192.168.15.4 — 140x40
Last login: Mon Dec  7 11:37:57 on ttys001
[pavel.contos@Pavel-MacBook-Pro ~ % ssh scidb@192.168.15.4
The authenticity of host '192.168.15.4 (192.168.15.4)' can't be established.
ECDSA key fingerprint is SHA256:QoL1WujLUaUjDmKkF8ox0m0knF5+jKKOuICKy81JDQ0.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '192.168.15.4' (ECDSA) to the list of known hosts.
[scidb@192.168.15.4's password:
Welcome to Ubuntu 14.04.5 LTS (GNU/Linux 4.4.0-109-generic x86_64)

 * Documentation:  https://help.ubuntu.com/

New release '16.04.7 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

Your Hardware Enablement Stack (HWE) is supported until April 2019.
[scidb@SciDB-CE-Demo:~$ iquery
[AQL% set lang afl;
[AFL% list('arrays');
{No} name,uaid,aid,schema,availability,temporary
AFL%
```

REFERENCES

- ▶ VirtualBox Manual
 - ▶ <https://www.virtualbox.org/manual/>
- ▶ VMWare Fusion Player Manual
 - ▶ <https://docs.vmware.com/en/VMware-Fusion/index.html>
- ▶ VMWare Workstation Player Manual
 - ▶ https://www.vmware.com/pdf/ws7_manual.pdf
- ▶ SciDB Reference Manual
 - ▶ <https://paradigm4.atlassian.net/wiki/spaces/scidb/overview>
- ▶ SciDB Repository
 - ▶ <https://github.com/Paradigm4/SciDB>