

Tisinger IST 659 Homework 1

Questions

Answer these questions using the problem set submission template.

1. Use docker-compose to start the containers. What is the command you typed to do this?

docker-compose up -d



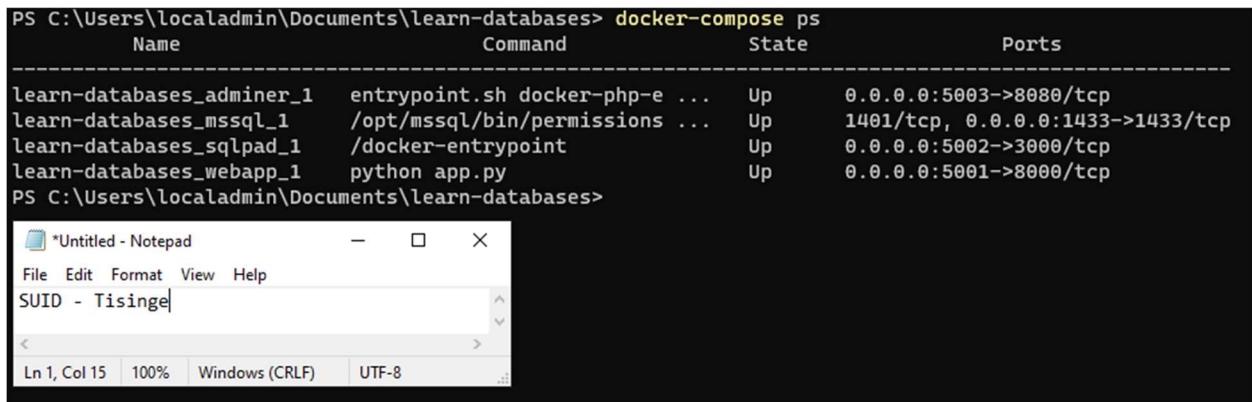
```
PS C:\Users\localadmin\Documents> cd .\learn-databases\  
PS C:\Users\localadmin\Documents\learn-databases> docker-compose up -d  
Starting learn-databases_mssql_1 ... done  
Starting learn-databases_sqlpad_1 ... done  
Starting learn-databases_adminer_1 ... done  
Starting learn-databases_webapp_1 ... done  
PS C:\Users\localadmin\Documents\learn-databases> docker-compose ps  
Name                                Command                                State                                Ports
```

The screenshot shows a terminal window with the command 'docker-compose up -d' being executed. The output shows four containers starting successfully. Below the terminal, a Notepad window is open with the text 'SUID - Tisinge'.

2. What is the command to show the running docker containers?

Docker-compose ps

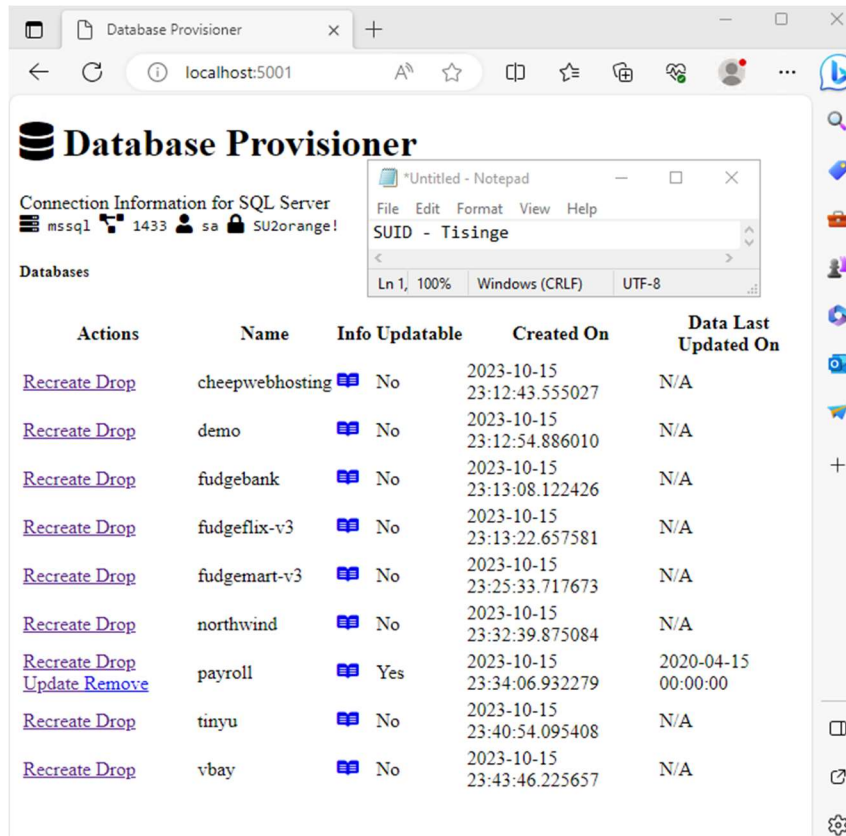
3. Provide a screenshot displaying evidence your containers are running (the output of the previous question should suffice).



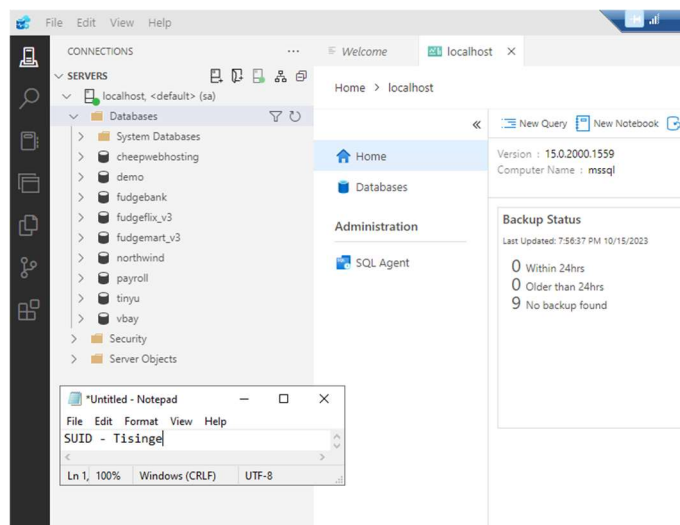
```
PS C:\Users\localadmin\Documents\learn-databases> docker-compose ps  
Name                                Command                                State                                Ports  
-----  
learn-databases_adminer_1          entrypoint.sh docker-php-e ...        Up                                0.0.0.0:5003->8080/tcp  
learn-databases_mssql_1            /opt/mssql/bin/permissions ...        Up                                1401/tcp, 0.0.0.0:1433->1433/tcp  
learn-databases_sqlpad_1           /docker-entrypoint                  Up                                0.0.0.0:5002->3000/tcp  
learn-databases_webapp_1           python app.py                        Up                                0.0.0.0:5001->8000/tcp  
PS C:\Users\localadmin\Documents\learn-databases>
```

The screenshot shows a terminal window with the command 'docker-compose ps' being executed. The output shows four containers running successfully. Below the terminal, a Notepad window is open with the text 'SUID - Tisinge'.

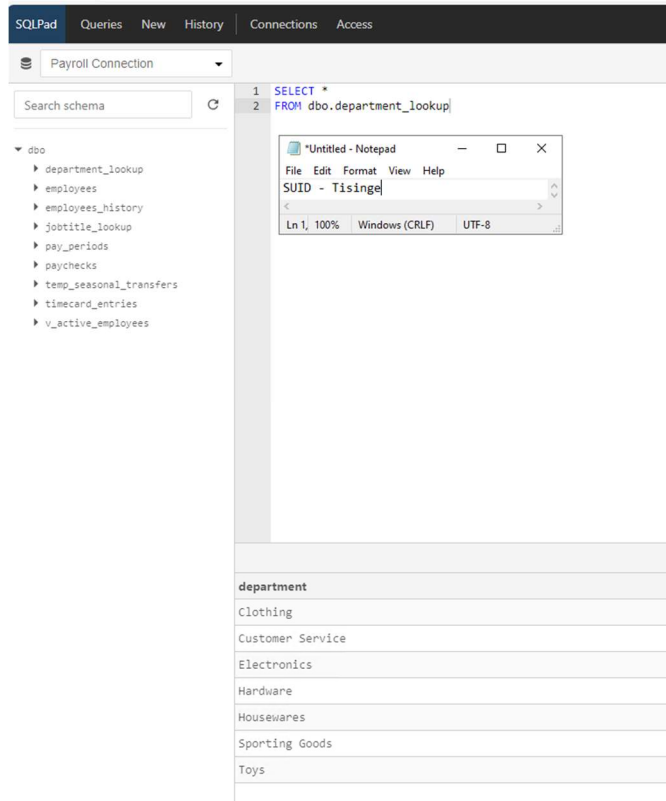
4. Provision all the databases included in the Database provisioner application. Provide a screenshot as evidence they have been provisioned. Note: This might take some time so be patient!



5. Connect to MS SQL Server using azure data studio and provide a screenshot of the databases under the connection. This will provide evidence your connection works and your databases were provisioned.



6. Connect to MS SQL server using SQL Pad. Specifically connect to the payroll database and then run this query: `select * from department_lookup`
Include a screenshot of the query and output.



7. Connect to MS SQL server using Adminer, again connect to the payroll database. Include a screenshot of the structure of the employees table.

Table: employees

Select data Show structure Alter table New item

Column	Type	Comment
employee_id	int	
employee_ssn	char(11)	
employee_firstname	varchar(100)	
employee_lastname	varchar(100)	
employee_hire_date	datetime	
employee_termination_date	datetime NULL	
employee_jobtitle	varchar(100)	
employee_department	varchar(100)	
employee_pay_rate	money	
employee_supervisor_employee_id	int NULL	
valid_from	datetime2	
valid_to	datetime2	

Indexes

PRIMARY	employee_id
UNIQUE	employee_ssn

Alter indexes

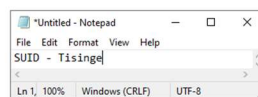
Foreign keys

Source	Target	ON DELETE	ON UPDATE
employee_department	payroll.department_lookup(department)		Alter
employee_supervisor_employee_id	payroll.employees(employee_id)		Alter
employee_jobtitle	payroll.jobtitle_lookup(jobtitle)		Alter

Add foreign key

Triggers

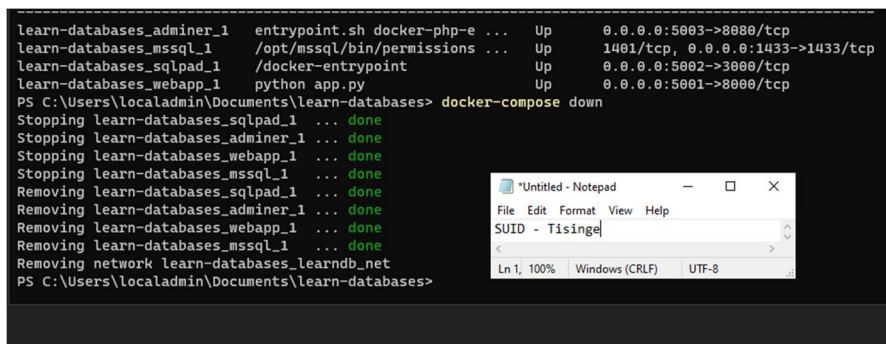
Add trigger



8. What is the command to shut down the running docker containers?

Docker-compose down

9. Provide a screenshot displaying evidence your containers are no longer running (the output of the previous question should suffice).



```
learn-databases_adminer_1  entrypoint.sh docker-php-e ... Up      0.0.0.0:5003->8080/tcp
learn-databases_mssql_1   /opt/mssql/bin/permissions ... Up      1401/tcp, 0.0.0.0:1433->1433/tcp
learn-databases_sqlpad_1  /docker-entrypoint           Up      0.0.0.0:5002->3000/tcp
learn-databases_webapp_1  python app.py                 Up      0.0.0.0:5001->8080/tcp
PS C:\Users\localadmin\Documents\learn-databases> docker-compose down
Stopping learn-databases_sqlpad_1 ... done
Stopping learn-databases_adminer_1 ... done
Stopping learn-databases_webapp_1 ... done
Stopping learn-databases_mssql_1 ... done
Removing learn-databases_sqlpad_1 ... done
Removing learn-databases_adminer_1 ... done
Removing learn-databases_webapp_1 ... done
Removing learn-databases_mssql_1 ... done
Removing network learn-databases_learndb_net
PS C:\Users\localadmin\Documents\learn-databases>
```

Reflection

Use this section to reflect on your learning. To achieve the highest grade on the assignment you must be as descriptive and personal as possible with your reflection.

1. What are the key things you learned through the process of completing this assignment?

I learned a lot of things from this assignment. I think the key thing I learned is to always just double check your work and make sure that you are in the right software and are executing the right commands to avoid issues.

2. What were the challenges or roadblocks (if any) you encountered on the way to completing it?

I was quite stuck for a while on question #7. I didn't understand that I had to change the top portion to SQL and select the BETA option for server type. I kept getting connection errors until I watched the YouTube video a couple of times.

3. Were you prepared for this assignment? What can you do to be better prepared?

I think I was. I watched all the content on the course site and followed along with the video. I think I could do with better time management and completing it a little bit earlier so I can review it before class again.

4. Now that you have completed the assignment rate your comfort level with this week's material. This

should be an honest assessment: (choose one)

4 ==> I understand this material and can explain it to others.

3 ==> I understand this material.

2 ==> I somewhat understand the material but sometimes need guidance from others.

1 ==> I understand very little of this material and need extra help