

Team Project

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Team Project

“ 코레일 기차 승차권 예매 ” 오라클을 활용하여 데이터베이스를 설계하고
Python Django 웹 애플리케이션 만들기

Design database **“Korail Train booking system”** using **Oracle** and
Implement simple web application using Python Django

Team Member : 3 (Total 25 team)

Project Setting

0. Execution Environment

- Develop only in **Virtual Box Oracle VM**
- Use provided sample code

Project Setting

1. Preparation

password : oracle

1-1) Oracle Linux yum repository setting

0. open terminal
1. **sudo vim /etc/yum.repos.d/public-yum-ol7.repo**
2. Modify [o17_optional_latest] & [o17_software_collections]
“enabled=0” => “**enabled=1**”

```
[o17_optional_latest]
name=Oracle Linux $releasever Optional Latest ($basearch)
baseurl=http://yum.oracle.com/repo/OracleLinux/OL7/optional/latest/$basearch/
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-oracle
gpgcheck=1
enabled=1

[o17_software_collections]
name=Software Collection Library release 2.1 packages for Oracle Linux 7 (x86_64)
baseurl=http://yum.oracle.com/repo/OracleLinux/OL7/SoftwareCollections/x86_64/
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-oracle
gpgcheck=1
enabled=1
```

Project Setting

1. Preparation

1-2) Install git

```
sudo yum install git
```

```
git clone https://github.com/JonghyeokPark/SWE3003.git
```

Project Setting

```

[oracle@vbgeneric PROJECT]$ sudo yum install git
[sudo] password for oracle:
Loaded plugins: langpacks, ulninfo
ol7_UCKR4                                | 1.2 kB  00:00:00
ol7_latest                              | 1.4 kB  00:00:00
ol7_optional_latest                     | 1.2 kB  00:00:00
ol7_software_collections                 | 1.2 kB  00:00:00
Resolving Dependencies
--> Running transaction check
--> Package git.x86_64 0:1.8.3.1-12.el7_4 will be installed
--> Processing Dependency: perl-Git = 1.8.3.1-12.el7_4 for package: git-1.8.3.1-12.el7_4.x86_64
--> Processing Dependency: perl(Error) for package: git-1.8.3.1-12.el7_4.x86_64
--> Processing Dependency: perl(Git) for package: git-1.8.3.1-12.el7_4.x86_64
--> Processing Dependency: perl(Term::ReadKey) for package: git-1.8.3.1-12.el7_4.x86_64
--> Running transaction check
--> Package perl-Error.noarch 1:0.17020-2.el7 will be installed
--> Package perl-Git.noarch 0:1.8.3.1-12.el7_4 will be installed
--> Package perl-TermReadKey.x86_64 0:2.30-20.el7 will be installed
--> Finished Dependency Resolution

```

Dependencies Resolved

Package	Arch	Version	Repository	Size
Installing:				
git	x86_64	1.8.3.1-12.el7_4	ol7_latest	4.4 M
Installing for dependencies:				
perl-Error	noarch	1:0.17020-2.el7	ol7_latest	31 k
perl-Git	noarch	1.8.3.1-12.el7_4	ol7_latest	53 k
perl-TermReadKey	x86_64	2.30-20.el7	ol7_latest	30 k

Transaction Summary

Install 1 Package (+3 Dependent packages)

Total download size: 4.5 M

Installed size: 2.1 M

Is this ok [y/d/N]: **y**

Project Setting

1. Preparation

1-3) Install python3

```
sudo yum install gcc scl-utils rh-python35
```

```
scl enable rh-python35 -- bash
```



항상 수행할 때마다 이 명령어를 실행해야
python3 을 쓸 수 있습니다.

Must execute this command every time !

Project Setting

1. Preparation

1-3) Install python3

```
python --version
```

```
777;notify;Command completed;ls(myvenv) [oracle@vbgeneric PROJECT]$ python --version  
Python 3.5.1
```

Project Setting

1. Preparation

1-4) Install Django

항상 수행할 때마다 이 명령어를 실행해야
python3 을 쓸 수 있습니다.

Must execute this command every time !



```
python -m venv myvenv  
source myvenv /bin/activate
```

```
pip install --upgrade pip  
pip install django ~=1.11.0  
pip install cx_Oracle
```

```
[oracle@vbgeneric PROJECT]$ source myvenv/bin/activate  
urce myvenv/bin/activate(myvenv) [oracle@vbgeneric PROJECT]$
```

Project Setting

1. Preparation

1-5) run server

Current Directory : /home/oracle/SWE3003

```
TJ$ ls
dbapp  dbproject  manage.py  myenv
```

```
python manage.py runserver 0.0.0.0:8000
```

Success !

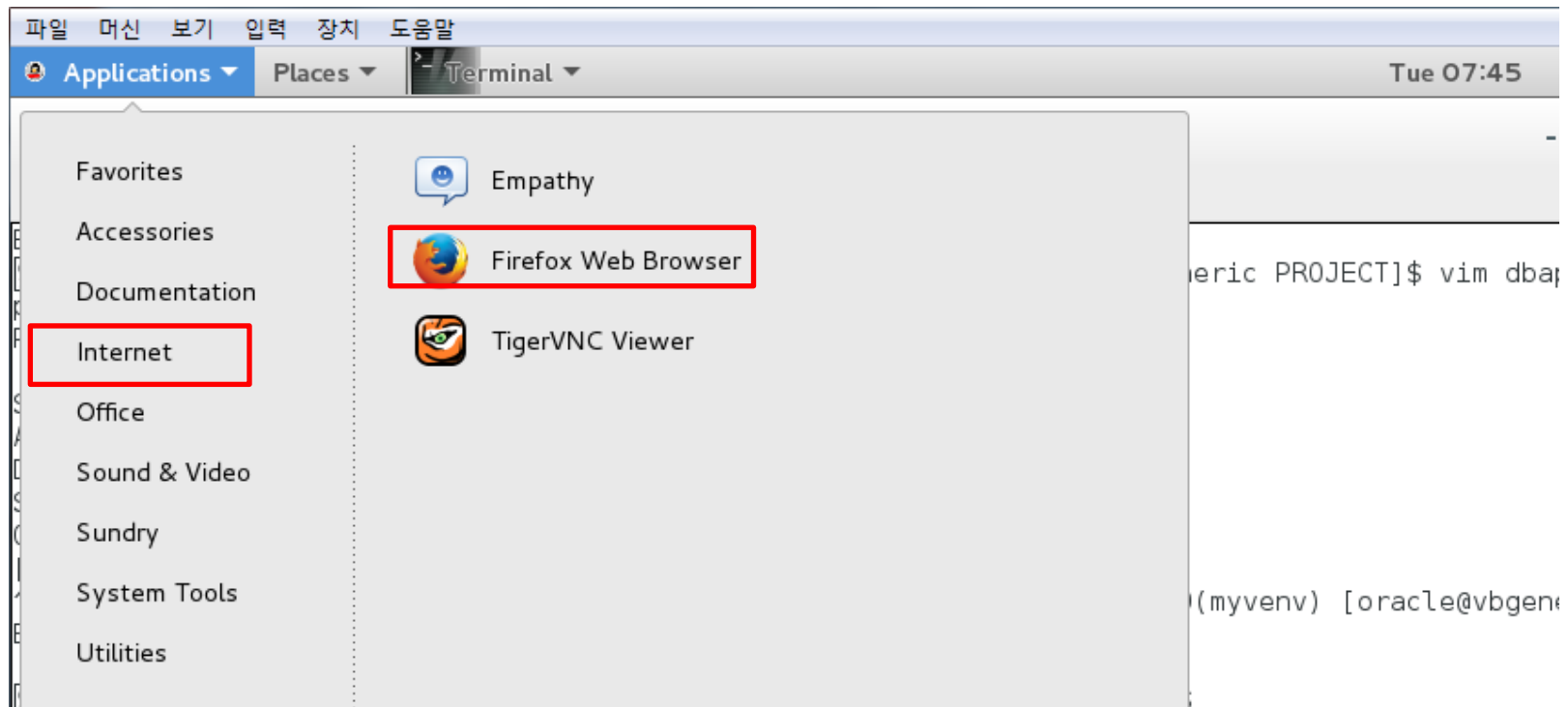
```
python manage.py runserver 0.0.0.0:8000
Performing system checks...
```

```
System check identified no issues (0 silenced).
April 03, 2018 - 20:32:24
Django version 1.11.12, using settings 'dbproject.settings'
Starting development server at http://0.0.0.0:8000/
Quit the server with CONTROL-C.
```

Project Setting

1. Preparation

1-5) run server



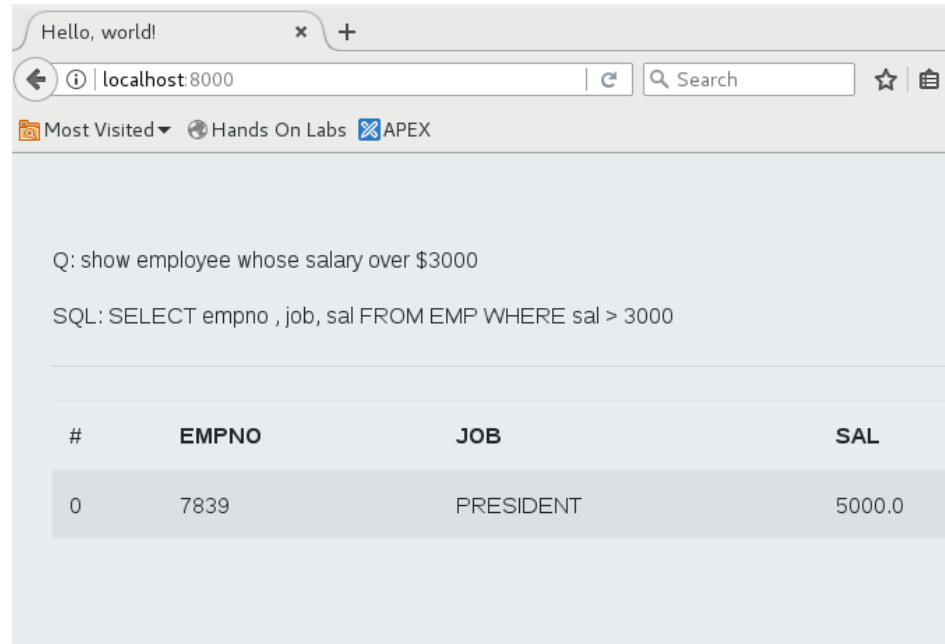
Project Setting

1. Preparation

1-5) run server

1. open web browser (Firefox)

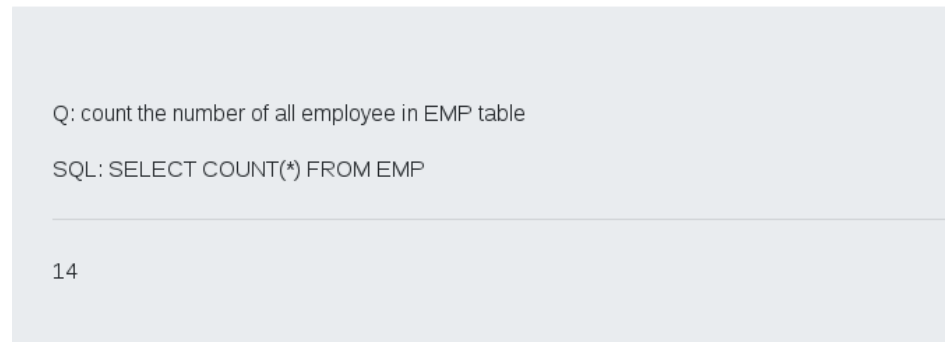
2. type **localhost:8000**



Q: show employee whose salary over \$3000

SQL: SELECT empno , job, sal FROM EMP WHERE sal > 3000

#	EMPNO	JOB	SAL
0	7839	PRESIDENT	5000.0



Q: count the number of all employee in EMP table

SQL: SELECT COUNT(*) FROM EMP

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Code Instruction

1. Oracle database connection

PATH : SWE3003/dbapp/views.py

```
# oracle database connection
conn = cx_Oracle.connect('scott', 'tiger', 'localhost:1521/orcl')
cur = conn.cursor()
```

cx_Oracle.connect(USER_NAME, USER_PASSWORD, DSN)

If you use 'scott' then ...

create your own table using scott account

e.g.

sqlplus scott/tiger

create table xxx ~~

Code Instruction

2. SQL EXECUTION

PATH : SWE3003/dbapp/views.py

```
def executeSQL_V1(prob, sql):  
    cur.execute(sql)  
    rows = cur.fetchall()  
    length = len(cur.description)  
    count = 0
```

Execute SQL

```
    result = '<div class="jumbotron">  
    result = result + makeHtml("Q: " + prob, 'p','h2')  
    result = result + makeHtml("SQL: " + sql, 'p','h3') + ' <hr class="my-4">  
  
    content = '<table class="table table-striped"><thead><tr><th scope="col">#</th>  
    for i in range(0,length):  
        content = content + '<th scope="col">' + str(cur.description[i][0]) + '</th>  
    content = content + '</tr><thead><tbody>
```

```
    if len(rows) == 0:  
        result = "RESULT NOT FOUND\n"  
    else:
```

```
        for r in rows:  
            content = content + '<tr>  
            content = content + '<td>' + str(count) + '</td>  
            count = count + 1  
            for idx in range(length):  
                content = content + '<td>' + str(r[idx]) + '</td>  
            content = content + '</tr>  
        content = content + '</tbody></table>
```

Fetch all rows item

```
    result = result + content + '</div>  
    return result;
```

Code Instruction

3. WHERE YOU MUST MODIFY

PATH : SWE3003/dbapp/views.py

```
## MODIFY HERE ! ##
#####

# EX1
prob1 = "show employee whose salary over $3000"
sql1 = "SELECT empno , job, sal FROM EMP WHERE sal > 3000"
result1 = executeSQL_V1(prob1, sql1)

#EX2
prob2 = "count the number of all employee in EMP table"
sql2 = "SELECT COUNT(*) FROM EMP";
result2 = executeSQL_V2(prob2, sql2);

html_body = result1 + result2

#####
```

prob : explain problem

sql : SQL statement

html_body is final result

if you add result3 then ***html_body = result + result2 + result3***

Output

1. Table Format

e.g. Select employee whose salary over \$3000

code in views.py

```
# EX1
probl = "show employee whose salary over $3000"
sql1 = "SELECT empno , job, sal FROM EMP WHERE sal > 3000"
result1 = executeSQL_V1(probl, sql1)
```

output in
web browser

Q: show employee whose salary over \$3000

SQL: SELECT empno , job, sal FROM EMP WHERE sal > 3000

#	EMPNO	JOB	SAL
0	7839	PRESIDENT	5000.0

Output

2. Single value type

e.g. Count the number of all employee in EMP table ?

code in views.py

```
#EX2
prob2 = "count the number of all employee in EMP table"
sql2 = "SELECT COUNT(*) FROM EMP";
result2 = executeSQL_V2(prob2, sql2);
```

output in
web browser

Q: count the number of all employee in EMP table

SQL: SELECT COUNT(*) FROM EMP

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Output

- Source code (SWE3003/dbapp/**views.py**)
- Report
 - Database schema
(e.g. Explain why you add index 'this' column?)
 - Describe relationship between tables
 - suppose your problem and SQL statements
- your own database dump file

How to dump ?

1. open terminal
2. type below command

exp user_id/user_password **tables**=emp, dept **file**=./mydb.dump

For example ...

exp scott/tiger **tables**=train_info, user_info, station_info **file** = ./mydb.dump

Problem Criteria

1. Use **JOIN** function
2. Use **SORT** with **GROUP BY** function
3. Use **Aggregate function** (e.g. SUM, COUNT ..etc)
4. Use **Sub-Query**
5. **Handling duplicates** in your table
 - There are duplicate values in your table **do not allow** duplicates.
6. Your own problem ! (Bonus)

Summary

1. Design train ticket booking system
2. Create table and Insert dummy data
3. Suggest your own problem and make SQL statement
 - **Refer to page 21**
4. Implement web application

NOTE !!!

every time you start the server type below command

(1) `scl enable rh-python35 -- bash`

(2) `source myvenv/bin/activate`

Q&A

Create issue in Github

<https://github.com/JonghyeokPark/SWE3003/issues>

Q&A


JonghyeokPark / SWE3003

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ProTip! Updated in the last three days: [updated:>2018-03-31](#).

Q&A



Title

Write Preview

AA B i “ < > ☰ ☷ ☹ ↶ @ ★

**** 샘플테스트입니다. ****

안녕하세요 TA입니다.

사진은 아래 하단의 파란색 글씨인 "selecting them" 을 누르면 사진을 첨부할 수 있습니다.
제목에 카테고리를 넣어주세요.

예:

- 실험환경 셋팅
- 컴파일 오류
- 오라클 연결 오류
- ... 등등

![default](https://user-images.githubusercontent.com/7540698/38257690-a50612bc-379b-11e8-94da-d2b1cf137612.jpg)

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☐ ⓘ [실험 환경 셋팅] 셋팅이 안되요

#1 opened 5 minutes ago by JonghyeokPark

💡 ProTip! Add `no:assignee` to see everything that's not assigned.

Thank You !