You have a captain's log due before 2024-04-21 (in 1 day)! Log it now!
(/captain_logs/5596018/edit)

0x00. AirBnB clone - The console

Group project **Python** **OOP**

Weight: 5

Project to be done in teams of 2 people (your team: Mohamed Madian, Deiaa Elzyat)

Project over - took place from Dec 4, 2023 6:00 AM to Dec 11, 2023 6:00 AM

Manual QA review was done by Robert Adede on Dec 12, 2023 12:30 PM

An auto review will be launched at the deadline

In a nutshell…

- **Contribution:** 100.0%
- **Manual QA review:** 48.0/48 mandatory
- **Auto QA review:** 293.0/302 mandatory & 9.0/233 optional
- **Altogether: 101.19%**
  - Mandatory: 97.43%
  - Optional: 3.86%
  - Contribution: 100.0%
  - Calculation: 100.0% * (97.43% + (97.43% * 3.86%)) == **101.19%**

Overall comment:
Congratulations on your great achievement.

(/)

Background Context

Welcome to the AirBnB clone project!

Before starting, please read the **AirBnB** concept page.

First step: Write a command interpreter to manage your AirBnB objects.

This is the first step towards building your first full web application: the **AirBnB clone**. This first step is very important because you will use what you build during this project with all other following projects: HTML/CSS templating, database storage, API, front-end integration…

Each task is linked and will help you to:

- put in place a parent class (called `BaseModel`) to take care of the initialization, serialization and deserialization of your future instances
- create a simple flow of serialization/deserialization: Instance <-> Dictionary <-> JSON string <-> file
- create all classes used for AirBnB (`User`, `State`, `City`, `Place` …) that inherit from `BaseModel`
- create the first abstracted storage engine of the project: File storage.
- create all unittests to validate all our classes and storage engine

What's a command interpreter?

Do you remember the Shell? It's exactly the same but limited to a specific use-case. In our case, we want to be able to manage the objects of our project:

- Create a new object (ex: a new User or a new Place)
- Retrieve an object from a file, a database etc…
- Do operations on objects (count, compute stats, etc…)
- Update attributes of an object
- Destroy an object

Resources

Read or watch:

- cmd module (/rltoken/8ecCwE6veBmm3Nppw4hz5A)
- cmd module in depth (/rltoken/uEy4RftSdKypoig9NFTvCg)
- **packages** concept page
- uuid module (/rltoken/KfL9TqwdI69W6ttG6gTPPQ)
- datetime (/rltoken/1d8I3jSKgnYAtA1IZfEDpA)
- unittest module (/rltoken/IlFiMB8UmqBG2CxA0AD3jA)
- args/kwargs (/rltoken/C_a0EKbtvKdMcwIAuSIZng)
- Python test cheatsheet (/rltoken/tgNVrKKzlWgS4dfI3mQklw)
- cmd module wiki page (/rltoken/EvcaH9uTLlauxuw03WnkOQ)
- python unittest (/rltoken/begh14KQA-3ov29KvD_HvA)

Learning Objectives

At the end of this project, you are expected to be able to explain to anyone (/rltoken/uV5eZkRZ_XEqYbgPd-0CWw), **without the help of Google**:

General

- How to create a Python package
- How to create a command interpreter in Python using the `cmd` module
- What is Unit testing and how to implement it in a large project
- How to serialize and deserialize a Class
- How to write and read a JSON file
- How to manage `datetime`
- What is an `UUID`
- What is `*args` and how to use it
- What is `**kwargs` and how to use it
- How to handle named arguments in a function

Copyright - Plagiarism

- You are tasked to come up with solutions for the tasks below yourself to meet with the above learning objectives.
- You will not be able to meet the objectives of this or any following project by copying and pasting someone else's work.
- You are not allowed to publish any content of this project.
- Any form of plagiarism is strictly forbidden and will result in removal from the program.

Requirements

Python Scripts

- Allowed editors: `vi`, `vim`, `emacs`
- All your files will be interpreted/compiled on Ubuntu 20.04 LTS using python3 (version 3.8.5)
- All your files should end with a new line
- The first line of all your files should be exactly `#!/usr/bin/python3`
- A `README.md` file, at the root of the folder of the project, is mandatory
- Your code should use the pycodestyle (version `2.8.*`)

- All your files must be executable
- The length of your files will be tested using `wc`
- All your modules should have a documentation (`python3 -c 'print(__import__("my_module").__doc__)'`)
- All your classes should have a documentation (`python3 -c 'print(__import__("my_module").MyClass.__doc__)'`)
- All your functions (inside and outside a class) should have a documentation (`python3 -c 'print(__import__("my_module").my_function.__doc__)'` and `python3 -c 'print(__import__("my_module").MyClass.my_function.__doc__)'`)
- A documentation is not a simple word, it's a real sentence explaining what's the purpose of the module, class or method (the length of it will be verified)

Python Unit Tests

- Allowed editors: `vi` , `vim` , `emacs`
- All your files should end with a new line
- All your test files should be inside a folder `tests`
- You have to use the unittest module (/rltoken/op1-rQGlw0wwwqNBsn1yaw)
- All your test files should be python files (extension: `.py`)
- All your test files and folders should start by `test_`
- Your file organization in the tests folder should be the same as your project
- e.g., For `models/base_model.py` , unit tests must be in: `tests/test_models/test_base_model.py`
- e.g., For `models/user.py` , unit tests must be in: `tests/test_models/test_user.py`
- All your tests should be executed by using this command: `python3 -m unittest discover tests`
- You can also test file by file by using this command: `python3 -m unittest tests/test_models/test_base_model.py`
- All your modules should have a documentation (`python3 -c 'print(__import__("my_module").__doc__)'`)
- All your classes should have a documentation (`python3 -c 'print(__import__("my_module").MyClass.__doc__)'`)
- All your functions (inside and outside a class) should have a documentation (`python3 -c 'print(__import__("my_module").my_function.__doc__)'` and `python3 -c 'print(__import__("my_module").MyClass.my_function.__doc__)'`)
- We strongly encourage you to work together on test cases, so that you don't miss any edge case

GitHub

There should be one project repository per group. If you clone/fork/whatever a project repository with the same name before the second deadline, you risk a 0% score.

More Info

Execution

Your shell should work like this in interactive mode:

```
$ ./console.py
(hbnb) help

Documented commands (type help <topic>):
========================================
EOF  help  quit

(hbnb)
(hbnb)
(hbnb) quit
$
```

But also in non-interactive mode: (like the Shell project in C)

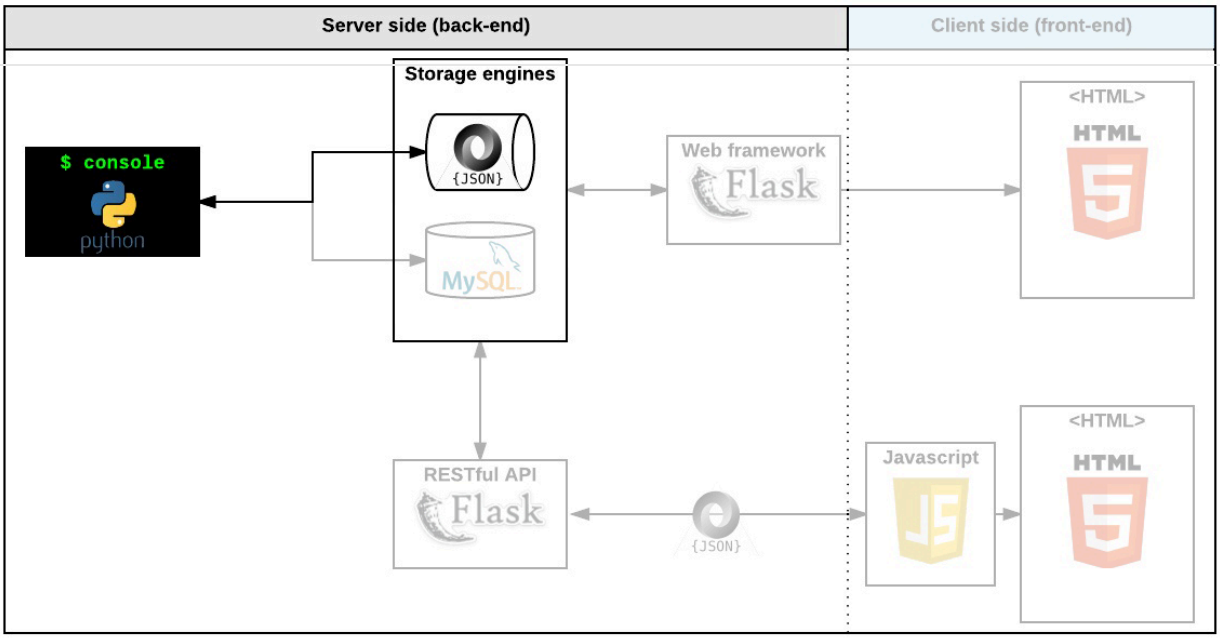
```
$ echo "help" | ./console.py
(hbnb)

Documented commands (type help <topic>):
========================================
EOF  help  quit
(hbnb)
$
$ cat test_help
help
$
$ cat test_help | ./console.py
(hbnb)

Documented commands (type help <topic>):
========================================
EOF  help  quit
(hbnb)
$
```

All tests should also pass in non-interactive mode: `$ echo "python3 -m unittest discover tests" | bash`

(/)



Video library (8 total)

Search by title

HBNB project overview

HBNB - the console

Python: Unique Identifier

Python: Unittests

Python: BaseModel and inheritance	**Code consistency**
Python: Modules and Packages	**HBNB - storage abstraction**

Tasks

0. README, AUTHORS

mandatory

Score: 100.0% (*Checks completed: 100.0%*)

- Write a `README.md`:
  - description of the project
  - description of the command interpreter:
    - how to start it
    - how to use it
    - examples
- You should have an `AUTHORS` file at the root of your repository, listing all individuals having contributed content to the repository. For format, reference Docker's AUTHORS page (/rltoken/_8n_z3pf5HWi1l7uv1E9iA)
- You should use branches and pull requests on GitHub - it will help you as team to organize your work

Repo:

- GitHub repository: `AirBnB_clone`
- File: `README.md, AUTHORS`

☑ Done! | QA Review

1. Be pycodestyle compliant!

mandatory

Score: 75.0% (*Checks completed: 75.0%*)

Write beautiful code that passes the pycodestyle checks.
(/)

Repo:

- GitHub repository: `AirBnB_clone`

Done? | Check your code | Ask for a new correction | Get a sandbox | QA Review

2. Unittests

mandatory

Score: 73.08% (*Checks completed: 73.08%*)

All your files, classes, functions must be tested with unit tests

```
guillaume@ubuntu:~/AirBnB$ python3 -m unittest discover tests
..........................................................................
..........................................................................
......................
----------------------------------------------------------------------
Ran 189 tests in 13.135s

OK
guillaume@ubuntu:~/AirBnB$
```

Note that this is just an example, the number of tests you create can be different from the above example.

Warning:

Unit tests must also pass in non-interactive mode:

```
guillaume@ubuntu:~/AirBnB$ echo "python3 -m unittest discover tests" | bash
..........................................................................
..........................................................................
......................
----------------------------------------------------------------------
Ran 189 tests in 13.135s

OK
guillaume@ubuntu:~/AirBnB$
```

Repo:

- GitHub repository: `AirBnB_clone`
- File: `tests/`

Done? | Check your code | Ask for a new correction | Get a sandbox | QA Review

3. BaseModel

mandatory

Score: 100.0% (*Checks completed: 100.0%*)

Write a class `BaseModel` that defines all common attributes/methods for other classes:

- `models/base_model.py`
- Public instance attributes:
  - `id` : string - assign with an `uuid` when an instance is created:
    - you can use `uuid.uuid4()` to generate unique `id` but don't forget to convert to a string
    - the goal is to have unique `id` for each `BaseModel`
  - `created_at` : datetime - assign with the current datetime when an instance is created
  - `updated_at` : datetime - assign with the current datetime when an instance is created and it will be updated every time you change your object
- `__str__` : should print: `[<class name>] (<self.id>) <self.__dict__>`
- Public instance methods:
  - `save(self)` : updates the public instance attribute `updated_at` with the current datetime
  - `to_dict(self)` : returns a dictionary containing all keys/values of `__dict__` of the instance:
    - by using `self.__dict__` , only instance attributes set will be returned
    - a key `__class__` must be added to this dictionary with the class name of the object
    - `created_at` and `updated_at` must be converted to string object in ISO format:
      - format: `%Y-%m-%dT%H:%M:%S.%f` (ex: `2017-06-14T22:31:03.285259`)
      - you can use `isoformat()` of `datetime` object
    - This method will be the first piece of the serialization/deserialization process: create a dictionary representation with "simple object type" of our `BaseModel`

(7)

```
guillaume@ubuntu:~/AirBnB$ cat test_base_model.py
#!/usr/bin/python3
from models.base_model import BaseModel

my_model = BaseModel()
my_model.name = "My First Model"
my_model.my_number = 89
print(my_model)
my_model.save()
print(my_model)
my_model_json = my_model.to_dict()
print(my_model_json)
print("JSON of my_model:")
for key in my_model_json.keys():
    print("\t{}: ({}) - {}".format(key, type(my_model_json[key]), my_model_json[key]))

guillaume@ubuntu:~/AirBnB$ ./test_base_model.py
[BaseModel] (b6a6e15c-c67d-4312-9a75-9d084935e579) {'my_number': 89, 'name': 'My First Mode
l', 'updated_at': datetime.datetime(2017, 9, 28, 21, 5, 54, 119434), 'id': 'b6a6e15c-c67d-43
12-9a75-9d084935e579', 'created_at': datetime.datetime(2017, 9, 28, 21, 5, 54, 119427)}
[BaseModel] (b6a6e15c-c67d-4312-9a75-9d084935e579) {'my_number': 89, 'name': 'My First Mode
l', 'updated_at': datetime.datetime(2017, 9, 28, 21, 5, 54, 119572), 'id': 'b6a6e15c-c67d-43
12-9a75-9d084935e579', 'created_at': datetime.datetime(2017, 9, 28, 21, 5, 54, 119427)}
{'my_number': 89, 'name': 'My First Model', '__class__': 'BaseModel', 'updated_at': '2017-09
-28T21:05:54.119572', 'id': 'b6a6e15c-c67d-4312-9a75-9d084935e579', 'created_at': '2017-09-2
8T21:05:54.119427'}
JSON of my_model:
    my_number: (<class 'int'>) - 89
    name: (<class 'str'>) - My First Model
    __class__: (<class 'str'>) - BaseModel
    updated_at: (<class 'str'>) - 2017-09-28T21:05:54.119572
    id: (<class 'str'>) - b6a6e15c-c67d-4312-9a75-9d084935e579
    created_at: (<class 'str'>) - 2017-09-28T21:05:54.119427

guillaume@ubuntu:~/AirBnB$
```

Repo:

- GitHub repository: `AirBnB_clone`
- File: `models/base_model.py, models/__init__.py, tests/`

Done! | Check your code | Get a sandbox | QA Review

4. Create BaseModel from dictionary

mandatory

Score: 100.0% (*Checks completed: 100.0%*)

Previously we created a method to generate a dictionary representation of an instance (method `to_dict()`).

Now it's time to re-create an instance with this dictionary representation.

```
<class 'BaseModel'> -> to_dict() -> <class 'dict'> -> <class 'BaseModel'>
```

Update `models/base_model.py`:

- `__init__(self, *args, **kwargs)`:
  - you will use `*args, **kwargs` arguments for the constructor of a `BaseModel`. (more information inside the **AirBnB clone** concept page)
  - `*args` won't be used
  - if `kwargs` is not empty:
    - each key of this dictionary is an attribute name (**Note** `__class__` from `kwargs` is the only one that should not be added as an attribute. See the example output, below)
    - each value of this dictionary is the value of this attribute name
    - **Warning**: `created_at` and `updated_at` are strings in this dictionary, but inside your `BaseModel` instance is working with `datetime` object. You have to convert these strings into `datetime` object. Tip: you know the string format of these datetime
  - otherwise:
    - create `id` and `created_at` as you did previously (new instance)

(7)

```
guillaume@ubuntu:~/AirBnB$ cat test_base_model_dict.py
#!/usr/bin/python3
from models.base_model import BaseModel

my_model = BaseModel()
my_model.name = "My_First_Model"
my_model.my_number = 89
print(my_model.id)
print(my_model)
print(type(my_model.created_at))
print("--")
my_model_json = my_model.to_dict()
print(my_model_json)
print("JSON of my_model:")
for key in my_model_json.keys():
    print("\t{}: ({}) - {}".format(key, type(my_model_json[key]), my_model_json[key]))

print("--")
my_new_model = BaseModel(**my_model_json)
print(my_new_model.id)
print(my_new_model)
print(type(my_new_model.created_at))

print("--")
print(my_model is my_new_model)

guillaume@ubuntu:~/AirBnB$ ./test_base_model_dict.py
56d43177-cc5f-4d6c-a0c1-e167f8c27337
[BaseModel] (56d43177-cc5f-4d6c-a0c1-e167f8c27337) {'id': '56d43177-cc5f-4d6c-a0c1-e167f8c27
337', 'created_at': datetime.datetime(2017, 9, 28, 21, 3, 54, 52298), 'my_number': 89, 'upda
ted_at': datetime.datetime(2017, 9, 28, 21, 3, 54, 52302), 'name': 'My_First_Model'}
<class 'datetime.datetime'>
--
{'id': '56d43177-cc5f-4d6c-a0c1-e167f8c27337', 'created_at': '2017-09-28T21:03:54.052298',
'__class__': 'BaseModel', 'my_number': 89, 'updated_at': '2017-09-28T21:03:54.052302', 'nam
e': 'My_First_Model'}
JSON of my_model:
    id: (<class 'str'>) - 56d43177-cc5f-4d6c-a0c1-e167f8c27337
    created_at: (<class 'str'>) - 2017-09-28T21:03:54.052298
    __class__: (<class 'str'>) - BaseModel
    my_number: (<class 'int'>) - 89
    updated_at: (<class 'str'>) - 2017-09-28T21:03:54.052302
    name: (<class 'str'>) - My_First_Model
--
56d43177-cc5f-4d6c-a0c1-e167f8c27337
[BaseModel] (56d43177-cc5f-4d6c-a0c1-e167f8c27337) {'id': '56d43177-cc5f-4d6c-a0c1-e167f8c27
337', 'created_at': datetime.datetime(2017, 9, 28, 21, 3, 54, 52298), 'my_number': 89, 'upda
ted_at': datetime.datetime(2017, 9, 28, 21, 3, 54, 52302), 'name': 'My_First_Model'}
<class 'datetime.datetime'>
--
```

```
False
guillaume@ubuntu:~/AirBnB$
```

Repo:

- GitHub repository: `AirBnB_clone`
- File: `models/base_model.py, tests/`

Done! | Check your code | Get a sandbox | QA Review

5. Store first object

mandatory

Score: 100.0% (*Checks completed: 100.0%*)

Now we can recreate a `BaseModel` from another one by using a dictionary representation:

```
<class 'BaseModel'> -> to_dict() -> <class 'dict'> -> <class 'BaseModel'>
```

It's great but it's still not persistent: every time you launch the program, you don't restore all objects created before... The first way you will see here is to save these objects to a file.

Writing the dictionary representation to a file won't be relevant:

- Python doesn't know how to convert a string to a dictionary (easily)
- It's not human readable
- Using this file with another program in Python or other language will be hard.

So, you will convert the dictionary representation to a JSON string. JSON is a standard representation of a data structure. With this format, humans can read and all programming languages have a JSON reader and writer.

Now the flow of serialization-deserialization will be:

```
<class 'BaseModel'> -> to_dict() -> <class 'dict'> -> JSON dump -> <class 'str'> -> FILE ->
<class 'str'> -> JSON load -> <class 'dict'> -> <class 'BaseModel'>
```

Magic right?

Terms:

- **simple Python data structure**: Dictionaries, arrays, number and string. ex: `{ '12': { 'numbers': [1, 2, 3], 'name': "John" } }`
- **JSON string representation**: String representing a simple data structure in JSON format. ex: `'{ "12": { "numbers": [1, 2, 3], "name": "John" } }'`

Write a class `FileStorage` that serializes instances to a JSON file and deserializes JSON file to instances:

- `models/engine/file_storage.py`
- Private class attributes:
  - `__file_path` : string - path to the JSON file (ex: `file.json`)

(/)

    - `__objects` : dictionary - empty but will store all objects by `<class name>.id` (ex: to store a `BaseModel` object with `id=12121212` , the key will be `BaseModel.12121212`)
- Public instance methods:
    - `all(self)` : returns the dictionary `__objects`
    - `new(self, obj)` : sets in `__objects` the `obj` with key `<obj class name>.id`
    - `save(self)` : serializes `__objects` to the JSON file (path: `__file_path`)
    - `reload(self)` : deserializes the JSON file to `__objects` (only if the JSON file (`__file_path`) exists ; otherwise, do nothing. If the file doesn't exist, no exception should be raised)

Update `models/__init__.py` : to create a unique `FileStorage` instance for your application

- import `file_storage.py`
- create the variable `storage` , an instance of `FileStorage`
- call `reload()` method on this variable

Update `models/base_model.py` : to link your `BaseModel` to `FileStorage` by using the variable `storage`

- import the variable `storage`
- in the method `save(self)` :
    - call `save(self)` method of `storage`
- `__init__(self, *args, **kwargs)` :
    - if it's a new instance (not from a dictionary representation), add a call to the method `new(self)` on `storage`

(7)

```
guillaume@ubuntu:~/AirBnB$ cat test_save_reload_base_model.py
#!/usr/bin/python3
from models import storage
from models.base_model import BaseModel

all_objs = storage.all()
print("-- Reloaded objects --")
for obj_id in all_objs.keys():
    obj = all_objs[obj_id]
    print(obj)

print("-- Create a new object --")
my_model = BaseModel()
my_model.name = "My_First_Model"
my_model.my_number = 89
my_model.save()
print(my_model)

guillaume@ubuntu:~/AirBnB$ cat file.json
cat: file.json: No such file or directory
guillaume@ubuntu:~/AirBnB$
guillaume@ubuntu:~/AirBnB$ ./test_save_reload_base_model.py
-- Reloaded objects --
-- Create a new object --
[BaseModel] (ee49c413-023a-4b49-bd28-f2936c95460d) {'my_number': 89, 'updated_at': datetime.
datetime(2017, 9, 28, 21, 7, 25, 47381), 'created_at': datetime.datetime(2017, 9, 28, 21, 7,
25, 47372), 'name': 'My_First_Model', 'id': 'ee49c413-023a-4b49-bd28-f2936c95460d'}
guillaume@ubuntu:~/AirBnB$
guillaume@ubuntu:~/AirBnB$ cat file.json ; echo ""
{"BaseModel.ee49c413-023a-4b49-bd28-f2936c95460d": {"my_number": 89, "__class__": "BaseMode
l", "updated_at": "2017-09-28T21:07:25.047381", "created_at": "2017-09-28T21:07:25.047372",
"name": "My_First_Model", "id": "ee49c413-023a-4b49-bd28-f2936c95460d"}}
guillaume@ubuntu:~/AirBnB$
guillaume@ubuntu:~/AirBnB$ ./test_save_reload_base_model.py
-- Reloaded objects --
[BaseModel] (ee49c413-023a-4b49-bd28-f2936c95460d) {'name': 'My_First_Model', 'id': 'ee49c41
3-023a-4b49-bd28-f2936c95460d', 'updated_at': datetime.datetime(2017, 9, 28, 21, 7, 25, 4738
1), 'my_number': 89, 'created_at': datetime.datetime(2017, 9, 28, 21, 7, 25, 47372)}
-- Create a new object --
[BaseModel] (080cce84-c574-4230-b82a-9acb74ad5e8c) {'name': 'My_First_Model', 'id': '080cce8
4-c574-4230-b82a-9acb74ad5e8c', 'updated_at': datetime.datetime(2017, 9, 28, 21, 7, 51, 9733
08), 'my_number': 89, 'created_at': datetime.datetime(2017, 9, 28, 21, 7, 51, 973301)}
guillaume@ubuntu:~/AirBnB$
guillaume@ubuntu:~/AirBnB$ ./test_save_reload_base_model.py
-- Reloaded objects --
[BaseModel] (080cce84-c574-4230-b82a-9acb74ad5e8c) {'id': '080cce84-c574-4230-b82a-9acb74ad5
e8c', 'updated_at': datetime.datetime(2017, 9, 28, 21, 7, 51, 973308), 'created_at': datetim
e.datetime(2017, 9, 28, 21, 7, 51, 973301), 'name': 'My_First_Model', 'my_number': 89}
[BaseModel] (ee49c413-023a-4b49-bd28-f2936c95460d) {'id': 'ee49c413-023a-4b49-bd28-f2936c954
60d', 'updated_at': datetime.datetime(2017, 9, 28, 21, 7, 25, 47381), 'created_at': datetim
e.datetime(2017, 9, 28, 21, 7, 25, 47372), 'name': 'My_First_Model', 'my_number': 89}
-- Create a new object --
```

```
[BaseModel] (e79e744a-55d4-45a3-b74a-ca5fae74e0e2) {'id': 'e79e744a-55d4-45a3-b74a-ca5fae74e0e2', 'updated_at': datetime.datetime(2017, 9, 28, 21, 8, 6, 151750), 'created_at': datetime.datetime(2017, 9, 28, 21, 8, 6, 151711), 'name': 'My_First_Model', 'my_number': 89}
guillaume@ubuntu:~/AirBnB$
guillaume@ubuntu:~/AirBnB$ cat file.json ; echo ""
{"BaseModel.e79e744a-55d4-45a3-b74a-ca5fae74e0e2": {"__class__": "BaseModel", "id": "e79e744a-55d4-45a3-b74a-ca5fae74e0e2", "updated_at": "2017-09-28T21:08:06.151750", "created_at": "2017-09-28T21:08:06.151711", "name": "My_First_Model", "my_number": 89}, "BaseModel.080cce84-c574-4230-b82a-9acb74ad5e8c": {"__class__": "BaseModel", "id": "080cce84-c574-4230-b82a-9acb74ad5e8c", "updated_at": "2017-09-28T21:07:51.973308", "created_at": "2017-09-28T21:07:51.973301", "name": "My_First_Model", "my_number": 89}, "BaseModel.ee49c413-023a-4b49-bd28-f2936c95460d": {"__class__": "BaseModel", "id": "ee49c413-023a-4b49-bd28-f2936c95460d", "updated_at": "2017-09-28T21:07:25.047381", "created_at": "2017-09-28T21:07:25.047372", "name": "My_First_Model", "my_number": 89}}
guillaume@ubuntu:~/AirBnB$
```

Repo:

- GitHub repository: `AirBnB_clone`
- File: `models/engine/file_storage.py, models/engine/__init__.py, models/__init__.py, models/base_model.py, tests/`

☑ Done! | Check your code | >_ Get a sandbox | QA Review

6. Console 0.0.1

mandatory

Score: 100.0% (*Checks completed: 100.0%*)

Write a program called `console.py` that contains the entry point of the command interpreter:

- You must use the module `cmd`
- Your class definition must be: `class HBNBCommand(cmd.Cmd):`
- Your command interpreter should implement:
  - `quit` and `EOF` to exit the program
  - `help` (this action is provided by default by `cmd` but you should keep it updated and documented as you work through tasks)
  - a custom prompt: `(hbnb)`
  - an empty line + `ENTER` shouldn't execute anything
- Your code should not be executed when imported

Warning:

You should end your file with:

```
if __name__ == '__main__':
    HBNBCommand().cmdloop()
```

to make your program executable except when imported. Please don't add anything around - the Checker won't like it otherwise

```
guillaume@ubuntu:~/AirBnB$ ./console.py
(hbnb) help

Documented commands (type help <topic>):
========================================
EOF  help  quit

(hbnb)
(hbnb) help quit
Quit command to exit the program

(hbnb)
(hbnb)
(hbnb) quit
guillaume@ubuntu:~/AirBnB$
```

No unittests needed

Repo:

- GitHub repository: `AirBnB_clone`
- File: `console.py`

☑ Done! | Check your code | >_ Get a sandbox | QA Review

7. Console 0.1

mandatory

Score: 100.0% (*Checks completed: 100.0%*)

Update your command interpreter (`console.py`) to have these commands:

- `create` : Creates a new instance of `BaseModel` , saves it (to the JSON file) and prints the `id` . Ex: `$ create BaseModel`
  - If the class name is missing, print `** class name missing **` (ex: `$ create`)
  - If the class name doesn't exist, print `** class doesn't exist **` (ex: `$ create MyModel`)
- `show` : Prints the string representation of an instance based on the class name and `id` . Ex: `$ show BaseModel 1234-1234-1234` .
  - If the class name is missing, print `** class name missing **` (ex: `$ show`)
  - If the class name doesn't exist, print `** class doesn't exist **` (ex: `$ show MyModel`)
  - If the `id` is missing, print `** instance id missing **` (ex: `$ show BaseModel`)
  - If the instance of the class name doesn't exist for the `id` , print `** no instance found **` (ex: `$ show BaseModel 121212`)
- `destroy` : Deletes an instance based on the class name and `id` (save the change into the JSON file). Ex: `$ destroy BaseModel 1234-1234-1234` .
  - If the class name is missing, print `** class name missing **` (ex: `$ destroy`)

(/)

    - If the class name doesn't exist, print `** class doesn't exist **` (ex: $ destroy MyModel)
    - If the `id` is missing, print `** instance id missing **` (ex: `$ destroy BaseModel`)
    - If the instance of the class name doesn't exist for the `id` , print `** no instance found **` (ex: `$ destroy BaseModel 121212`)
- `all` : Prints all string representation of all instances based or not on the class name. Ex: `$ all BaseModel` or `$ all` .
    - The printed result must be a list of strings (like the example below)
    - If the class name doesn't exist, print `** class doesn't exist **` (ex: `$ all MyModel`)
- `update` : Updates an instance based on the class name and `id` by adding or updating attribute (save the change into the JSON file). Ex: `$ update BaseModel 1234-1234-1234 email "aibnb@mail.com"` .
    - Usage: `update <class name> <id> <attribute name> "<attribute value>"`
    - Only one attribute can be updated at the time
    - You can assume the attribute name is valid (exists for this model)
    - The attribute value must be casted to the attribute type
    - If the class name is missing, print `** class name missing **` (ex: `$ update`)
    - If the class name doesn't exist, print `** class doesn't exist **` (ex: `$ update MyModel`)
    - If the `id` is missing, print `** instance id missing **` (ex: `$ update BaseModel`)
    - If the instance of the class name doesn't exist for the `id` , print `** no instance found **` (ex: `$ update BaseModel 121212`)
    - If the attribute name is missing, print `** attribute name missing **` (ex: `$ update BaseModel existing-id`)
    - If the value for the attribute name doesn't exist, print `** value missing **` (ex: `$ update BaseModel existing-id first_name`)
    - All other arguments should not be used (Ex: `$ update BaseModel 1234-1234-1234 email "aibnb@mail.com" first_name "Betty" = $ update BaseModel 1234-1234-1234 email "aibnb@mail.com"`)
    - `id` , `created_at` and `updated_at` cant' be updated. You can assume they won't be passed in the `update` command
    - Only "simple" arguments can be updated: string, integer and float. You can assume nobody will try to update list of ids or datetime

Let's add some rules:

- You can assume arguments are always in the right order
- Each arguments are separated by a space
- A string argument with a space must be between double quote
- The error management starts from the first argument to the last one

#7)

```
guillaume@ubuntu:~/AirBnB$ ./console.py
(hbnb) all MyModel
** class doesn't exist **
(hbnb) show BaseModel
** instance id missing **
(hbnb) show BaseModel My_First_Model
** no instance found **
(hbnb) create BaseModel
49faff9a-6318-451f-87b6-910505c55907
(hbnb) all BaseModel
["[BaseModel] (49faff9a-6318-451f-87b6-910505c55907) {'created_at': datetime.datetime(2017,
10, 2, 3, 10, 25, 903293), 'id': '49faff9a-6318-451f-87b6-910505c55907', 'updated_at': datet
ime.datetime(2017, 10, 2, 3, 10, 25, 903300)}"]
(hbnb) show BaseModel 49faff9a-6318-451f-87b6-910505c55907
[BaseModel] (49faff9a-6318-451f-87b6-910505c55907) {'created_at': datetime.datetime(2017, 1
0, 2, 3, 10, 25, 903293), 'id': '49faff9a-6318-451f-87b6-910505c55907', 'updated_at': dateti
me.datetime(2017, 10, 2, 3, 10, 25, 903300)}
(hbnb) destroy
** class name missing **
(hbnb) update BaseModel 49faff9a-6318-451f-87b6-910505c55907 first_name "Betty"
(hbnb) show BaseModel 49faff9a-6318-451f-87b6-910505c55907
[BaseModel] (49faff9a-6318-451f-87b6-910505c55907) {'first_name': 'Betty', 'id': '49faff9a-6
318-451f-87b6-910505c55907', 'created_at': datetime.datetime(2017, 10, 2, 3, 10, 25, 90329
3), 'updated_at': datetime.datetime(2017, 10, 2, 3, 11, 3, 49401)}
(hbnb) create BaseModel
2dd6ef5c-467c-4f82-9521-a772ea7d84e9
(hbnb) all BaseModel
["[BaseModel] (2dd6ef5c-467c-4f82-9521-a772ea7d84e9) {'id': '2dd6ef5c-467c-4f82-9521-a772ea7
d84e9', 'created_at': datetime.datetime(2017, 10, 2, 3, 11, 23, 639717), 'updated_at': datet
ime.datetime(2017, 10, 2, 3, 11, 23, 639724)}", "[BaseModel] (49faff9a-6318-451f-87b6-910505
c55907) {'first_name': 'Betty', 'id': '49faff9a-6318-451f-87b6-910505c55907', 'created_at':
datetime.datetime(2017, 10, 2, 3, 10, 25, 903293), 'updated_at': datetime.datetime(2017, 10,
2, 3, 11, 3, 49401)}"]
(hbnb) destroy BaseModel 49faff9a-6318-451f-87b6-910505c55907
(hbnb) show BaseModel 49faff9a-6318-451f-87b6-910505c55907
** no instance found **
(hbnb)
```

No unittests needed

Repo:

- GitHub repository: `AirBnB_clone`
- File: `console.py`

☑ Done! | Check your code | >_ Get a sandbox | QA Review

8. First User

mandatory

Score: 100.0% (*Checks completed: 100.0%*)

Write a class `User` that inherits from `BaseModel`:

- `models/user.py`
- Public class attributes:
  - `email`: string - empty string
  - `password`: string - empty string
  - `first_name`: string - empty string
  - `last_name`: string - empty string

Update `FileStorage` to manage correctly serialization and deserialization of `User`.

Update your command interpreter (`console.py`) to allow `show`, `create`, `destroy`, `update` and `all` used with `User`.

7)

```
guillaume@ubuntu:~/AirBnB$ cat test_save_reload_user.py
#!/usr/bin/python3
from models import storage
from models.base_model import BaseModel
from models.user import User

all_objs = storage.all()
print("-- Reloaded objects --")
for obj_id in all_objs.keys():
    obj = all_objs[obj_id]
    print(obj)

print("-- Create a new User --")
my_user = User()
my_user.first_name = "Betty"
my_user.last_name = "Bar"
my_user.email = "airbnb@mail.com"
my_user.password = "root"
my_user.save()
print(my_user)

print("-- Create a new User 2 --")
my_user2 = User()
my_user2.first_name = "John"
my_user2.email = "airbnb2@mail.com"
my_user2.password = "root"
my_user2.save()
print(my_user2)

guillaume@ubuntu:~/AirBnB$ cat file.json ; echo ""
{"BaseModel.2bf3ebfd-a220-49ee-9ae6-b01c75f6f6a4": {"__class__": "BaseModel", "id": "2bf3ebf
d-a220-49ee-9ae6-b01c75f6f6a4", "updated_at": "2017-09-28T21:11:14.333862", "created_at": "2
017-09-28T21:11:14.333852"}, "BaseModel.a42ee380-c959-450e-ad29-c840a898cfce": {"__class__":
"BaseModel", "id": "a42ee380-c959-450e-ad29-c840a898cfce", "updated_at": "2017-09-28T21:11:1
5.504296", "created_at": "2017-09-28T21:11:15.504287"}, "BaseModel.af9b4cbd-2ce1-4e6e-8259-f
578097dd15f": {"__class__": "BaseModel", "id": "af9b4cbd-2ce1-4e6e-8259-f578097dd15f", "upda
ted_at": "2017-09-28T21:11:12.971544", "created_at": "2017-09-28T21:11:12.971521"}, "BaseMod
el.38a22b25-ae9c-4fa9-9f94-59b3eb51bfba": {"__class__": "BaseModel", "id": "38a22b25-ae9c-4f
a9-9f94-59b3eb51bfba", "updated_at": "2017-09-28T21:11:13.753347", "created_at": "2017-09-28
T21:11:13.753337"}, "BaseModel.9bf17966-b092-4996-bd33-26a5353cccb4": {"__class__": "BaseMod
el", "id": "9bf17966-b092-4996-bd33-26a5353cccb4", "updated_at": "2017-09-28T21:11:14.96305
8", "created_at": "2017-09-28T21:11:14.963049"}}
guillaume@ubuntu:~/AirBnB$
guillaume@ubuntu:~/AirBnB$ ./test_save_reload_user.py
-- Reloaded objects --
[BaseModel] (38a22b25-ae9c-4fa9-9f94-59b3eb51bfba) {'id': '38a22b25-ae9c-4fa9-9f94-59b3eb51b
fba', 'created_at': datetime.datetime(2017, 9, 28, 21, 11, 13, 753337), 'updated_at': dateti
me.datetime(2017, 9, 28, 21, 11, 13, 753347)}
[BaseModel] (9bf17966-b092-4996-bd33-26a5353cccb4) {'id': '9bf17966-b092-4996-bd33-26a5353cc
cb4', 'created_at': datetime.datetime(2017, 9, 28, 21, 11, 14, 963049), 'updated_at': dateti
me.datetime(2017, 9, 28, 21, 11, 14, 963058)}
[BaseModel] (2bf3ebfd-a220-49ee-9ae6-b01c75f6f6a4) {'id': '2bf3ebfd-a220-49ee-9ae6-b01c75f6f
```

```
6a4', 'created_at': datetime.datetime(2017, 9, 28, 21, 11, 14, 333852), 'updated_at': dateti
me.datetime(2017, 9, 28, 21, 11, 14, 333862)}
[BaseModel] (a42ee380-c959-450e-ad29-c840a898cfce) {'id': 'a42ee380-c959-450e-ad29-c840a898c
fce', 'created_at': datetime.datetime(2017, 9, 28, 21, 11, 15, 504287), 'updated_at': dateti
me.datetime(2017, 9, 28, 21, 11, 15, 504296)}
[BaseModel] (af9b4cbd-2ce1-4e6e-8259-f578097dd15f) {'id': 'af9b4cbd-2ce1-4e6e-8259-f578097dd
15f', 'created_at': datetime.datetime(2017, 9, 28, 21, 11, 12, 971521), 'updated_at': dateti
me.datetime(2017, 9, 28, 21, 11, 12, 971544)}
-- Create a new User --
[User] (38f22813-2753-4d42-b37c-57a17f1e4f88) {'id': '38f22813-2753-4d42-b37c-57a17f1e4f88',
'created_at': datetime.datetime(2017, 9, 28, 21, 11, 42, 848279), 'updated_at': datetime.dat
etime(2017, 9, 28, 21, 11, 42, 848291), 'email': 'airbnb@mail.com', 'first_name': 'Betty',
'last_name': 'Bar', 'password': 'root'}
-- Create a new User 2 --
[User] (d0ef8146-4664-4de5-8e89-096d667b728e) {'id': 'd0ef8146-4664-4de5-8e89-096d667b728e',
'created_at': datetime.datetime(2017, 9, 28, 21, 11, 42, 848280), 'updated_at': datetime.dat
etime(2017, 9, 28, 21, 11, 42, 848294), 'email': 'airbnb2@mail.com', 'first_name': 'John',
'password': 'root'}
guillaume@ubuntu:~/AirBnB$
guillaume@ubuntu:~/AirBnB$ cat file.json ; echo ""
{"BaseModel.af9b4cbd-2ce1-4e6e-8259-f578097dd15f": {"id": "af9b4cbd-2ce1-4e6e-8259-f578097dd
15f", "updated_at": "2017-09-28T21:11:12.971544", "created_at": "2017-09-28T21:11:12.97152
1", "__class__": "BaseModel"}, "BaseModel.38a22b25-ae9c-4fa9-9f94-59b3eb51bfba": {"id": "38a
22b25-ae9c-4fa9-9f94-59b3eb51bfba", "updated_at": "2017-09-28T21:11:13.753347", "created_a
t": "2017-09-28T21:11:13.753337", "__class__": "BaseModel"}, "BaseModel.9bf17966-b092-4996-b
d33-26a5353cccb4": {"id": "9bf17966-b092-4996-bd33-26a5353cccb4", "updated_at": "2017-09-28T
21:11:14.963058", "created_at": "2017-09-28T21:11:14.963049", "__class__": "BaseModel"}, "Ba
seModel.2bf3ebfd-a220-49ee-9ae6-b01c75f6f6a4": {"id": "2bf3ebfd-a220-49ee-9ae6-b01c75f6f6a
4", "updated_at": "2017-09-28T21:11:14.333862", "created_at": "2017-09-28T21:11:14.333852",
"__class__": "BaseModel"}, "BaseModel.a42ee380-c959-450e-ad29-c840a898cfce": {"id": "a42ee38
0-c959-450e-ad29-c840a898cfce", "updated_at": "2017-09-28T21:11:15.504296", "created_at": "2
017-09-28T21:11:15.504287", "__class__": "BaseModel"}, "User.38f22813-2753-4d42-b37c-57a17f1
e4f88": {"id": "38f22813-2753-4d42-b37c-57a17f1e4f88", "created_at": "2017-09-28T21:11:42.84
8279", "updated_at": "2017-09-28T21:11:42.848291", "email": "airbnb@mail.com", "first_name":
"Betty", "__class__": "User", "last_name": "Bar", "password": "root"}, "User.d0ef8146-4664-4
de5-8e89-096d667b728e": {"id": "d0ef8146-4664-4de5-8e89-096d667b728e", "created_at": "2017-0
9-28T21:11:42.848280", "updated_at": "2017-09-28T21:11:42.848294", "email": "airbnb_2@mail.c
om", "first_name": "John", "__class__": "User", "password": "root"}}
guillaume@ubuntu:~/AirBnB$
guillaume@ubuntu:~/AirBnB$ ./test_save_reload_user.py
-- Reloaded objects --
[BaseModel] (af9b4cbd-2ce1-4e6e-8259-f578097dd15f) {'updated_at': datetime.datetime(2017, 9,
28, 21, 11, 12, 971544), 'id': 'af9b4cbd-2ce1-4e6e-8259-f578097dd15f', 'created_at': datetim
e.datetime(2017, 9, 28, 21, 11, 12, 971521)}
[BaseModel] (2bf3ebfd-a220-49ee-9ae6-b01c75f6f6a4) {'updated_at': datetime.datetime(2017, 9,
28, 21, 11, 14, 333862), 'id': '2bf3ebfd-a220-49ee-9ae6-b01c75f6f6a4', 'created_at': datetim
e.datetime(2017, 9, 28, 21, 11, 14, 333852)}
[BaseModel] (9bf17966-b092-4996-bd33-26a5353cccb4) {'updated_at': datetime.datetime(2017, 9,
28, 21, 11, 14, 963058), 'id': '9bf17966-b092-4996-bd33-26a5353cccb4', 'created_at': datetim
e.datetime(2017, 9, 28, 21, 11, 14, 963049)}
[BaseModel] (a42ee380-c959-450e-ad29-c840a898cfce) {'updated_at': datetime.datetime(2017, 9,
28, 21, 11, 15, 504296), 'id': 'a42ee380-c959-450e-ad29-c840a898cfce', 'created_at': datetim
```

```
e.datetime(2017, 9, 28, 21, 11, 15, 504287)}
[BaseModel] (38a22b25-ae9c-4fa9-9f94-59b3eb51bfba) {'updated_at': datetime.datetime(2017, 9,
28, 21, 11, 13, 753347), 'id': '38a22b25-ae9c-4fa9-9f94-59b3eb51bfba', 'created_at': datetim
e.datetime(2017, 9, 28, 21, 11, 13, 753337)}
[User] (38f22813-2753-4d42-b37c-57a17f1e4f88) {'password': '63a9f0ea7bb98050796b649e8548184
5', 'created_at': datetime.datetime(2017, 9, 28, 21, 11, 42, 848279), 'email': 'airbnb@mail.
com', 'updated_at': datetime.datetime(2017, 9, 28, 21, 11, 42, 848291), 'last_name': 'Bar',
'id': '38f22813-2753-4d42-b37c-57a17f1e4f88', 'first_name': 'Betty'}
[User] (d0ef8146-4664-4de5-8e89-096d667b728e) {'password': '63a9f0ea7bb98050796b649e8548184
5', 'created_at': datetime.datetime(2017, 9, 28, 21, 11, 42, 848280), 'email': 'airbnb_2@mai
l.com', 'updated_at': datetime.datetime(2017, 9, 28, 21, 11, 42, 848294), 'id': 'd0ef8146-46
64-4de5-8e89-096d667b728e', 'first_name': 'John'}
-- Create a new User --
[User] (246c227a-d5c1-403d-9bc7-6a47bb9f0f68) {'password': 'root', 'created_at': datetime.da
tetime(2017, 9, 28, 21, 12, 19, 611352), 'email': 'airbnb@mail.com', 'updated_at': datetime.
datetime(2017, 9, 28, 21, 12, 19, 611363), 'last_name': 'Bar', 'id': '246c227a-d5c1-403d-9bc
7-6a47bb9f0f68', 'first_name': 'Betty'}
-- Create a new User 2 --
[User] (fce12f8a-fdb6-439a-afe8-2881754de71c) {'password': 'root', 'created_at': datetime.da
tetime(2017, 9, 28, 21, 12, 19, 611354), 'email': 'airbnb_2@mail.com', 'updated_at': datetim
e.datetime(2017, 9, 28, 21, 12, 19, 611368), 'id': 'fce12f8a-fdb6-439a-afe8-2881754de71c',
'first_name': 'John'}
guillaume@ubuntu:~/AirBnB$
guillaume@ubuntu:~/AirBnB$ cat file.json ; echo ""
{"BaseModel.af9b4cbd-2ce1-4e6e-8259-f578097dd15f": {"updated_at": "2017-09-28T21:11:12.97154
4", "__class__": "BaseModel", "id": "af9b4cbd-2ce1-4e6e-8259-f578097dd15f", "created_at": "2
017-09-28T21:11:12.971521"}, "User.38f22813-2753-4d42-b37c-57a17f1e4f88": {"password": "63a9
f0ea7bb98050796b649e85481845", "created_at": "2017-09-28T21:11:42.848279", "email": "airbnb@
mail.com", "id": "38f22813-2753-4d42-b37c-57a17f1e4f88", "last_name": "Bar", "updated_at":
"2017-09-28T21:11:42.848291", "first_name": "Betty", "__class__": "User"}, "User.d0ef8146-46
64-4de5-8e89-096d667b728e": {"password": "63a9f0ea7bb98050796b649e85481845", "created_at":
"2017-09-28T21:11:42.848280", "email": "airbnb_2@mail.com", "id": "d0ef8146-4664-4de5-8e89-0
96d667b728e", "updated_at": "2017-09-28T21:11:42.848294", "first_name": "John", "__class__":
"User"}, "BaseModel.9bf17966-b092-4996-bd33-26a5353cccb4": {"updated_at": "2017-09-28T21:11:
14.963058", "__class__": "BaseModel", "id": "9bf17966-b092-4996-bd33-26a5353cccb4", "created
_at": "2017-09-28T21:11:14.963049"}, "BaseModel.a42ee380-c959-450e-ad29-c840a898cfce": {"upd
ated_at": "2017-09-28T21:11:15.504296", "__class__": "BaseModel", "id": "a42ee380-c959-450e-
ad29-c840a898cfce", "created_at": "2017-09-28T21:11:15.504287"}, "BaseModel.38a22b25-ae9c-4f
a9-9f94-59b3eb51bfba": {"updated_at": "2017-09-28T21:11:13.753347", "__class__": "BaseMode
l", "id": "38a22b25-ae9c-4fa9-9f94-59b3eb51bfba", "created_at": "2017-09-28T21:11:13.75333
7"}, "BaseModel.2bf3ebfd-a220-49ee-9ae6-b01c75f6f6a4": {"updated_at": "2017-09-28T21:11:14.3
33862", "__class__": "BaseModel", "id": "2bf3ebfd-a220-49ee-9ae6-b01c75f6f6a4", "created_a
t": "2017-09-28T21:11:14.333852"}, "User.246c227a-d5c1-403d-9bc7-6a47bb9f0f68": {"password":
"root", "created_at": "2017-09-28T21:12:19.611352", "email": "airbnb@mail.com", "id": "246c2
27a-d5c1-403d-9bc7-6a47bb9f0f68", "last_name": "Bar", "updated_at": "2017-09-28T21:12:19.611
363", "first_name": "Betty", "__class__": "User"}, "User.fce12f8a-fdb6-439a-afe8-2881754de71
c": {"password": "root", "created_at": "2017-09-28T21:12:19.611354", "email": "airbnb_2@mai
l.com", "id": "fce12f8a-fdb6-439a-afe8-2881754de71c", "updated_at": "2017-09-28T21:12:19.611
368", "first_name": "John", "__class__": "User"}}
guillaume@ubuntu:~/AirBnB$
```

No unittests needed for the console
(/)

Repo:

- GitHub repository: `AirBnB_clone`
- File: `models/user.py, models/engine/file_storage.py, console.py, tests/`

☑ Done! | Check your code | >_ Get a sandbox | QA Review

9. More classes!

mandatory

Score: 100.0% (*Checks completed: 100.0%*)

Write all those classes that inherit from `BaseModel` :

- `State` (`models/state.py`):
  - Public class attributes:
    - `name` : string - empty string
- `City` (`models/city.py`):
  - Public class attributes:
    - `state_id` : string - empty string: it will be the `State.id`
    - `name` : string - empty string
- `Amenity` (`models/amenity.py`):
  - Public class attributes:
    - `name` : string - empty string
- `Place` (`models/place.py`):
  - Public class attributes:
    - `city_id` : string - empty string: it will be the `City.id`
    - `user_id` : string - empty string: it will be the `User.id`
    - `name` : string - empty string
    - `description` : string - empty string
    - `number_rooms` : integer - 0
    - `number_bathrooms` : integer - 0
    - `max_guest` : integer - 0
    - `price_by_night` : integer - 0
    - `latitude` : float - 0.0
    - `longitude` : float - 0.0
    - `amenity_ids` : list of string - empty list: it will be the list of `Amenity.id` later
- `Review` (`models/review.py`):
  - Public class attributes:
    - `place_id` : string - empty string: it will be the `Place.id`
    - `user_id` : string - empty string: it will be the `User.id`
    - `text` : string - empty string

Repo:

- GitHub repository: `AirBnB_clone`

- File: `models/state.py, models/city.py, models/amenity.py, models/place.py, models/review.py, tests/`

(/)

Done! | Check your code | Get a sandbox | QA Review

10. Console 1.0

mandatory

Score: 100.0% (*Checks completed: 100.0%*)

Update `FileStorage` to manage correctly serialization and deserialization of all our new classes: `Place`, `State`, `City`, `Amenity` and `Review`

Update your command interpreter (`console.py`) to allow those actions: `show`, `create`, `destroy`, `update` and `all` with all classes created previously.

Enjoy your first console!

No unittests needed for the console

Repo:

- GitHub repository: `AirBnB_clone`
- File: `console.py, models/engine/file_storage.py, tests/`

Done! | Check your code | Get a sandbox | QA Review

11. All instances by class name

#advanced

Score: 0.0% (*Checks completed: 0.0%*)

Update your command interpreter (`console.py`) to retrieve all instances of a class by using: `<class name>.all()`.

```
guillaume@ubuntu:~/AirBnB$ ./console.py
(hbnb) User.all()
[[User] (246c227a-d5c1-403d-9bc7-6a47bb9f0f68) {'first_name': 'Betty', 'last_name': 'Bar',
'created_at': datetime.datetime(2017, 9, 28, 21, 12, 19, 611352), 'updated_at': datetime.dat
etime(2017, 9, 28, 21, 12, 19, 611363), 'password': '63a9f0ea7bb98050796b649e85481845', 'ema
il': 'airbnb@mail.com', 'id': '246c227a-d5c1-403d-9bc7-6a47bb9f0f68'}, [User] (38f22813-2753
-4d42-b37c-57a17f1e4f88) {'first_name': 'Betty', 'last_name': 'Bar', 'created_at': datetime.
datetime(2017, 9, 28, 21, 11, 42, 848279), 'updated_at': datetime.datetime(2017, 9, 28, 21,
11, 42, 848291), 'password': 'b9be11166d72e9e3ae7fd407165e4bd2', 'email': 'airbnb@mail.com',
'id': '38f22813-2753-4d42-b37c-57a17f1e4f88'}]
(hbnb)
```

No unittests needed

Repo:

- GitHub repository: `AirBnB_clone`
- File: `console.py`

Done? | Check your code | Ask for a new correction | Get a sandbox | QA Review

12. Count instances

#advanced

Score: 0.0% (*Checks completed: 0.0%*)

Update your command interpreter (`console.py`) to retrieve the number of instances of a class: `<class name>.count()` .

```
guillaume@ubuntu:~/AirBnB$ ./console.py
(hbnb) User.count()
2
(hbnb)
```

No unittests needed

Repo:

- GitHub repository: `AirBnB_clone`
- File: `console.py`

Done? | Check your code | Ask for a new correction | Get a sandbox | QA Review

13. Show (7)

#advanced

Score: 0.0% (*Checks completed: 0.0%*)

Update your command interpreter (`console.py`) to retrieve an instance based on its ID: `<class name>.show(<id>)` .

Errors management must be the same as previously.

```
guillaume@ubuntu:~/AirBnB$ ./console.py
(hbnb) User.show("246c227a-d5c1-403d-9bc7-6a47bb9f0f68")
[User] (246c227a-d5c1-403d-9bc7-6a47bb9f0f68) {'first_name': 'Betty', 'last_name': 'Bar', 'c
reated_at': datetime.datetime(2017, 9, 28, 21, 12, 19, 611352), 'updated_at': datetime.datet
ime(2017, 9, 28, 21, 12, 19, 611363), 'password': '63a9f0ea7bb98050796b649e85481845', 'emai
l': 'airbnb@mail.com', 'id': '246c227a-d5c1-403d-9bc7-6a47bb9f0f68'}
(hbnb) User.show("Bar")
** no instance found **
(hbnb)
```

No unittests needed

Repo:

- GitHub repository: `AirBnB_clone`
- File: `console.py`

Done? | Check your code | Ask for a new correction | Get a sandbox | QA Review

14. Destroy

#advanced

Score: 0.0% (*Checks completed: 0.0%*)

Update your command interpreter (`console.py`) to destroy an instance based on his ID: `<class name>.destroy(<id>)` .

Errors management must be the same as previously.

```
guillaume@ubuntu:~/AirBnB$ ./console.py
(hbnb) User.count()
2
(hbnb) User.destroy("246c227a-d5c1-403d-9bc7-6a47bb9f0f68")
(hbnb) User.count()
1
(hbnb) User.destroy("Bar")
** no instance found **
(hbnb)
```

No unittests needed
(/)

Repo:

- GitHub repository: `AirBnB_clone`
- File: `console.py`

Done? | Check your code | Ask for a new correction | Get a sandbox | QA Review

15. Update

#advanced

Score: 0.0% (*Checks completed: 0.0%*)

Update your command interpreter (`console.py`) to update an instance based on his ID: `<class name>.update(<id>, <attribute name>, <attribute value>)`.

Errors management must be the same as previously.

```
guillaume@ubuntu:~/AirBnB$ ./console.py
(hbnb) User.show("38f22813-2753-4d42-b37c-57a17f1e4f88")
[User] (38f22813-2753-4d42-b37c-57a17f1e4f88) {'first_name': 'Betty', 'last_name': 'Bar', 'c
reated_at': datetime.datetime(2017, 9, 28, 21, 11, 42, 848279), 'updated_at': datetime.datet
ime(2017, 9, 28, 21, 11, 42, 848291), 'password': 'b9be11166d72e9e3ae7fd407165e4bd2', 'emai
l': 'airbnb@mail.com', 'id': '38f22813-2753-4d42-b37c-57a17f1e4f88'}
(hbnb)
(hbnb) User.update("38f22813-2753-4d42-b37c-57a17f1e4f88", "first_name", "John")
(hbnb) User.update("38f22813-2753-4d42-b37c-57a17f1e4f88", "age", 89)
(hbnb)
(hbnb) User.show("38f22813-2753-4d42-b37c-57a17f1e4f88")
[User] (38f22813-2753-4d42-b37c-57a17f1e4f88) {'age': 89, 'first_name': 'John', 'last_name':
'Bar', 'created_at': datetime.datetime(2017, 9, 28, 21, 11, 42, 848279), 'updated_at': datet
ime.datetime(2017, 9, 28, 21, 15, 32, 299055), 'password': 'b9be11166d72e9e3ae7fd407165e4bd
2', 'email': 'airbnb@mail.com', 'id': '38f22813-2753-4d42-b37c-57a17f1e4f88'}
(hbnb)
```

No unittests needed

Repo:

- GitHub repository: `AirBnB_clone`
- File: `console.py`

Done? | Check your code | Ask for a new correction | Get a sandbox | QA Review

16. Update from dictionary (7)

#advanced

Score: 0.0% (*Checks completed: 0.0%*)

Update your command interpreter (`console.py`) to update an instance based on his ID with a dictionary: `<class name>.update(<id>, <dictionary representation>)` .

Errors management must be the same as previously.

```
guillaume@ubuntu:~/AirBnB$ ./console.py
(hbnb) User.show("38f22813-2753-4d42-b37c-57a17f1e4f88")
[User] (38f22813-2753-4d42-b37c-57a17f1e4f88) {'age': 23, 'first_name': 'Bob', 'last_name':
'Bar', 'created_at': datetime.datetime(2017, 9, 28, 21, 11, 42, 848279), 'updated_at': datet
ime.datetime(2017, 9, 28, 21, 15, 32, 299055), 'password': 'b9be11166d72e9e3ae7fd407165e4bd
2', 'email': 'airbnb@mail.com', 'id': '38f22813-2753-4d42-b37c-57a17f1e4f88'}
(hbnb)
(hbnb) User.update("38f22813-2753-4d42-b37c-57a17f1e4f88", {'first_name': "John", "age": 8
9})
(hbnb)
(hbnb) User.show("38f22813-2753-4d42-b37c-57a17f1e4f88")
[User] (38f22813-2753-4d42-b37c-57a17f1e4f88) {'age': 89, 'first_name': 'John', 'last_name':
'Bar', 'created_at': datetime.datetime(2017, 9, 28, 21, 11, 42, 848279), 'updated_at': datet
ime.datetime(2017, 9, 28, 21, 17, 10, 788143), 'password': 'b9be11166d72e9e3ae7fd407165e4bd
2', 'email': 'airbnb@mail.com', 'id': '38f22813-2753-4d42-b37c-57a17f1e4f88'}
(hbnb)
```

No unittests needed

Repo:

- GitHub repository: `AirBnB_clone`
- File: `console.py`

Done? | Check your code | Ask for a new correction | Get a sandbox | QA Review

17. Unittests for the Console!

#advanced

Score: 17.65% (*Checks completed: 17.65%*)

Write all unittests for `console.py` , all features!

For testing the console, you should “intercept” STDOUT of it, we **highly** recommend you to use:

```
with patch('sys.stdout', new=StringIO()) as f:
    HBNBCommand().onecmd("help show")
```

Otherwise, you will have to re-write the console by replacing `precmd` by `default` .

Well done on completing this project! Let the world hear about this milestone achieved.

Click here to tweet! (https://twitter.com/intent/tweet?text=I+have+successfully+completed+my+AirBnB+Console+project+on+%23ALX_SE+%40facesofalxse)

Repo:

- GitHub repository: `AirBnB_clone`
- File: `tests/test_console.py`

Done? | Check your code | Ask for a new correction | Get a sandbox | QA Review

Ready for peer review

Reviews are closed since **Dec 13, 2023** at **6:00 AM**