

Queries: query.all() and query.get()

Querying a database table with Flask SQLAlchemy is done through the `query` property of the `Model` class. To get all entries from a model called `TableName` we run `TableName.query.all()`. Often you know the primary key (unique identifier) value of entries you want to fetch. To get an entry with some primary key value `ID` from model `TableName` you run: `TableName.query.get(ID)`.

For example, to get all the entries from the `Reader` table we do the following:

```
readers = Reader.query.all()
```

Similarly, to get a reader with `id = 123` we do the following:

```
reader = Reader.query.get(123)
```

We assign the result of the `.get()` method to a variable because through that variable we can access the entry's attributes. For example:

```
reader = Reader.query.get(450)
print(reader.name)
```

Now you see the amazing convenience of using ORM: database tables are simply treated as Python classes and database entries are Python objects. For example, you can easily use a `for` loop to loop through all the readers and print their name:

```
readers = Reader.query.all()
for reader in readers:
    print(reader.name)
```

In the image on the right, you can see some entries we already inserted for you in the database, so you can query it.

Instructions

1.

In the “playground.py” file, write code that to a variable called `reviews` assigns all entries from the `Review` table.

2.

In the “playground.py” file, write a `for` loop that will, for each `review` in `reviews`, print its `text` attribute.

3.

In the “playground.py” file, write code that to a variable called `book_1` assigns a book with `id = 12` using the `get()` function.

```
from app import db, Book, Reader, Review, Annotation

#query all the readers from the Reader model
readers = Reader.query.all()
print(readers)
```

```
#get an entry with id = 123
reader = Reader.query.get(123)
print(reader)

#reader with id = 450
reader = Reader.query.get(450)
print("Reader with id = ", reader.id, "is called", reader.name)

#Loop through all the readers and print their e-mails
print("\nPrint all the readers in a loop:")
for reader in readers:
    print(reader.email)

#or inline
#[print(reader.email) for reader in readers]

print("\nCheckpoint1: fetching all the reviews")
reviews = Review.query.all()

print("\nCheckpoint2: looping through all the reviews and printing their
text")
for review in reviews:
    print(review.text)

print("\nCheckpoint3: fetching a book with id = 13 using the get()
function")
book_1 = Book.query.get(12)
print(book_1.title)
```