

بہ نام خدا کہ یکتا

## گزارش تمرین پنجم درس پایگاہ دادہ پیشرفتنہ

نام و نام خانوادگی :

مبین رمضانے خرم آبادک 40311415016

نام استاد :

آفاق دکتر آرمین رشنو

فعالیت ۱: پایگاه داده PostgreSQL که در تمرین سوم ایجاد شد را به FastAPI متصل کنید به طوری که همه عملگرها از طریق API قابل اجرا باشد.

برای جدول student :

درج :

The screenshot shows a REST client interface with the following details:

- Method:** POST
- URL:** http://127.0.0.1:8000/student/create/
- Status:** 200 OK
- Time:** 32 ms
- Size:** 66 B
- Tab:** Body (selected)
- Content Type:** JSON
- Request Body:**

```
1 {
2   "STID": "40311415016",
3   "FName": "Mobin",
4   "LName": "Ramezani",
5   "Father": "Shahram",
6   "Birth": "1381/04/11",
7   "SerialID": "12b145844",
8   "BornCity": "Khorramabad",
9   "Address": "Lorestan-----123 St.",
10  "PostalCode": "6814617137",
11  "CPhone": "09121234567",
12  "HPhone": "02112345678",
13  "Department": "Engineering",
14  "Major": "Computer Engineering",
15  "Married": false,
16  "ID": "1234567890"
17 }
18
```
- Preview Tab:** Shows a response body with a detail message: 

```
1 {
2   "detail": "دانشجوی جدید با موفقیت ثبت شد"
3 }
```

خواندن :

The screenshot shows a REST client interface with the following details:

- Method:** GET
- URL:** http://127.0.0.1:8000/student/select/
- Status:** 200 OK
- Time:** 29 ms
- Size:** 362 B
- Tab:** Params (selected)
- URL Preview:** http://127.0.0.1:8000/student/select/?
- Query Parameters:** Empty
- Path Parameters:** Empty
- Preview Tab:** Shows a response body with a list of student details: 

```
1 {
2   "student": [
3     {
4       "Birth": "1381/04/11",
5       "STID": "40311415016",
6       "Father": "Shahram",
7       "BornCity": "Khorramabad",
8       "PostalCode": "6814617137",
9       "HPhone": "02112345678",
10      "Major": "Computer Engineering",
11      "ID": "1234567890",
12      "LName": "Ramezani",
13      "FName": "Mobin",
14      "SerialID": "12b145844",
15      "Address": "Lorestan-----123 St.",
16      "CPhone": "09121234567",
17      "Department": "Engineering",
18      "Married": false
19    }
20  ]
21 }
```

## آپدیت :

PUT http://127.0.0.1:8000/student/update/40311415016 Send 200 OK 77 ms 446 B Just No

Params (1) Body Headers (4) Scripts Docs

JSON

```
1 {
2   "Married": true,
3   "ID": "4061308408"
4 }
5
```

Preview

```
1 {
2   "message": "اطلاعات دانشجو با موفقیت به روزرسانی شد",
3   "student": {
4     "Birth": "1381/04/11",
5     "STID": "40311415016",
6     "Father": "Shahram",
7     "BornCity": "Khorramabad",
8     "PostalCode": "6814617137",
9     "HPhone": "02112345678",
10    "Major": "Computer Engineering",
11    "ID": "4061308408",
12    "LName": "Ramezani",
13    "FName": "Mobin",
14    "SerialID": "12b145844",
15    "Address": "Lorestan-----123 St.",
16    "CPhone": "09121234567",
17    "Department": "Engineering",
18    "Married": true
19  }
20 }
```

## حذف :

DELETE http://127.0.0.1:8000/student/delete/40311415016 Send 200 OK 35 ms 56 B

Params (1) Body Headers (4) Scripts Docs

URL PREVIEW

http://127.0.0.1:8000/student/delete/40311415016?

QUERY PARAMETERS

Import from URL Bulk Edit

+ Add Delete all Description

name	value			

PATH PARAMETERS

Path parameters are url path segments that start with a colon ': e.g. 'id'

Preview

```
1 {
2   "message": "دانشجو با موفقیت حذف شد"
3 }
```

برای جدول lecturer :

درج :

POST http://127.0.0.1:8000/lecturer/create/ 200 OK 66 ms 62 B

Params 1 Body Auth Headers 4 Scripts Docs Preview Headers 4 Cookies Tests 0/0

JSON

```
1 {
2   "LID": "123456",
3   "FName": "Reza",
4   "LName": "Hosseini",
5   "ID": "4785136548",
6   "Department": "Engineering",
7   "Major": "Computer Engineering",
8   "Birth": "1372/03/10",
9   "BornCity": "Ilam",
10  "Address": "Ilam-----123 St.",
11  "PostalCode": "7257567890",
12  "CPhone": "09121234567",
13  "HPhone": "02112345678"
14 }
15
```

Preview

```
1 {
2   "detail": "استاد جدید با موفقیت ثبت شد"
3 }
```

خواندن :

GET http://127.0.0.1:8000/lecturer/select/ 200 OK 34 ms 288 B

Params 1 Body Auth Headers 4 Scripts Docs Preview Headers 4 Cookies Tests 0/0

URL PREVIEW  
http://127.0.0.1:8000/lecturer/select/

QUERY PARAMETERS  
+ Add Delete all Description

name	value
------	-------

PATH PARAMETERS

Path parameters are url path segments that start with a colon ':' e.g. ':id'

Preview

```
1 {
2   "lecturer": [
3     {
4       "FName": "Reza",
5       "ID": "4785136548",
6       "LID": "123456",
7       "Major": "Computer Engineering",
8       "BornCity": "Ilam",
9       "Address": "Ilam-----123 St.",
10      "CPhone": "09121234567",
11      "Department": "Engineering",
12      "LName": "Hosseini",
13      "Birth": "1372/03/10",
14      "PostalCode": "7257567890",
15      "HPhone": "02112345678"
16    }
17  ]
18 }
```

## آپدیت :

PUT http://127.0.0.1:8000/lecturer/update/123456 Send 200 OK 45 ms 371 B Just N

Params 1 Body Headers 4 Scripts Docs Preview Headers 4 Cookies Tests 0/0 → Mock Co

JSON

```
1 {
2   "PostalCode": "6814617137",
3   "CPhone": "09382938134"
4 }
5
```

Preview

```
1 {
2   "message": "اطلاعات استاد با موفقیت به روزرسانی شد.",
3   "lecturer": {
4     "FName": "Reza",
5     "ID": "4785136548",
6     "LID": "123456",
7     "Major": "Computer Engineering",
8     "BornCity": "Ilam",
9     "Address": "Ilam-----123 St.",
10    "CPhone": "09382938134",
11    "Department": "Engineering",
12    "LName": "Hosseini",
13    "Birth": "1372/03/10",
14    "PostalCode": "6814617137",
15    "HPhone": "02112345678"
16  }
17 }
```

## حذف :

DELETE http://127.0.0.1:8000/lecturer/delete/123456 Send 200 OK 60 ms 54 B

Params 1 Body Headers 4 Scripts Docs Preview Headers 4 Cookies Tests 0/0

URL PREVIEW

http://127.0.0.1:8000/lecturer/delete/123456?

QUERY PARAMETERS Import from URL Bulk Edit

+ Add Delete all Description

name	value			

PATH PARAMETERS

Path parameters are url path segments that start with a colon ':' e.g. ':id'

Preview

```
1 {
2   "message": "استاد با موفقیت حذف شد."
3 }
```

برای جدول **course** :

درج :

POST http://127.0.0.1:8000/course/create/ Send 200 OK 34 ms 58 B

Params (1) Body (●) Auth Headers (4) Scripts Docs

JSON

```
1 {
2   "CID": "12345",
3   "CName": "Database",
4   "Department": "Engineering",
5   "Credit": 3
6 }
7
```

Preview Headers (4) Cookies Tests 0/0

Preview

```
1 {
2   "detail": "درس جدید با موفقیت ثبت شد"
3 }
```

خواندن :

GET http://127.0.0.1:8000/course/select/ Send 200 OK 34 ms 85 B

Params (1) Body (●) Auth Headers (4) Scripts Docs

URL PREVIEW

http://127.0.0.1:8000/course/select/?

QUERY PARAMETERS

Import from URL Bulk Edit

+ Add Delete all Description

name	value
------	-------

PATH PARAMETERS

Path parameters are url path segments that start with a colon ':' e.g. ':id'

Preview

```
1 {
2   "course": [
3     {
4       "Department": "Engineering",
5       "Credit": 3,
6       "CID": "12345",
7       "CName": "Database"
8     }
9   ]
10 }
```

## آپدیت :

PUT ▼ http://127.0.0.1:8000/course/update/12345

Send ▼

200 OK38 ms164 B

Preview

Headers 4

Cookies

Tests 0 / 0

→ Mock

Params 1

Body ●

Auth

Headers 4

Scripts

Docs

JSON ▼

```
1 {
2   "Credit": 4
3 }
4
```

Preview ▼

```
1 {
2   "message": "اطلاعات درس با موفقیت به روزرسانی شد",
3   "course": {
4     "Department": "Engineering",
5     "Credit": 4,
6     "CID": "12345",
7     "CName": "Database"
8   }
9 }
```

## حذف :

DELETE ▼ http://127.0.0.1:8000/course/delete/12345

Send ▼

200 OK26 ms50 B

Preview

Headers 4

Cookies

Tests 0 / 0

Params 1

Body ●

Auth

Headers 4

Scripts

Docs

URL PREVIEW

http://127.0.0.1:8000/course/delete/12345?

QUERY PARAMETERS

Import from URL 👁 Bulk Edit

+ Add

🗑 Delete all

👁 Description

name	value	<span>▼</span>	<span>📧</span>	<span>🗑</span>
------	-------	----------------	----------------	----------------

PATH PARAMETERS

📘 Path parameters are url path segments that start with a colon ':' e.g. ':id'

×

Preview ▼

```
1 {
2   "message": "درس با موفقیت حذف شد"
3 }
```

## برای جدول CourseRegister :

درج :

POST http://127.0.0.1:8000/course\_register/create/ **Send** **200 OK** 33 ms 79 B

Params (1) Body (●) Auth Headers (4) Scripts Docs

JSON

```
1 {
2   "Credit": 3,
3   "Department": "Engineering",
4   "CName": "Database",
5   "FName": "Mobin",
6   "LName": "Ramezani",
7   "STID": "40311415016",
8   "CID": "12345"
9 }
10
```

Preview Headers (4) Cookies Tests 0/0 → Mock

Preview

```
1 {
2   "detail": "ثبت نام درس جدید با موفقیت انجام شد"
3 }
```

خواندن :

GET http://127.0.0.1:8000/course\_register/select/ **Send** **200 OK** 29 ms 150 B

Params (1) Body (●) Auth Headers (4) Scripts Docs

URL PREVIEW

http://127.0.0.1:8000/course\_register/select/?

QUERY PARAMETERS

Import from URL Bulk Edit

+ Add Delete all Description

name	value
------	-------

PATH PARAMETERS

Path parameters are url path segments that start with a colon ':' e.g. ':id'

Preview

```
1 {
2   "course_register": [
3     {
4       "LName": "Ramezani",
5       "CID": "12345",
6       "FName": "Mobin",
7       "Department": "Engineering",
8       "CName": "Database",
9       "Credit": 3,
10      "STID": "40311415016"
11    }
12  ]
13 }
```



## آپدیت :

PUT http://127.0.0.1:8000/course\_register/update/40311415016/12345 Send 200 OK 64 ms 234 B Just N

Params 1 Body Auth Headers 4 Scripts Docs

JSON

```
1 {
2   "Credit": 4,
3   "CName": "AI"
4 }
5
```

Preview

```
1 {
2   "message": "اطلاعات ثبت نام با موفقیت به روزرسانی شد",
3   "course_register": {
4     "LName": "Ramezani",
5     "CID": "12345",
6     "FName": "Mobin",
7     "Department": "Engineering",
8     "CName": "AI",
9     "Credit": 4,
10    "STID": "40311415016"
11  }
12 }
```

## حذف :

DELETE http://127.0.0.1:8000/course\_register/delete/40311415016/12345 Send 200 OK 24 ms 60 B

Params 1 Body Auth Headers 4 Scripts Docs

URL PREVIEW

http://127.0.0.1:8000/course\_register/delete/40311415016/12345?

QUERY PARAMETERS

Import from URL Bulk Edit

+ Add Delete all Description

name	value
------	-------

PATH PARAMETERS

Path parameters are url path segments that start with a colon ':' e.g. 'id'

Preview

```
1 {
2   "message": "ثبت نام با موفقیت حذف شد"
3 }
```

برای جدول PresentedCourses :

درج :

POST http://127.0.0.1:8000/presented\_courses/create/ 200 OK 43 ms 79 B

Params 1 Body Headers 4 Scripts Docs Preview Headers 4 Cookies Tests 0/0 → Mock

JSON

```
1 {
2   "CName": "Database",
3   "Department": "Engineering",
4   "Credit": 3,
5   "FName": "Reza",
6   "LName": "Hosseini",
7   "CID": "12345",
8   "LID": "123456"
9 }
10
```

Preview

```
1 {
2   "detail": "درس ارائه شده جدید با موفقیت ثبت شد"
3 }
```

خواندن :

GET http://127.0.0.1:8000/presented\_courses/select/ 200 OK 23 ms 144 B

Params 1 Body Headers 4 Scripts Docs Preview Headers 4 Cookies Tests 0

URL PREVIEW

http://127.0.0.1:8000/presented\_courses/select/?

QUERY PARAMETERS

Import from URL Bulk Edit

+ Add Delete all Description

name	value
------	-------

PATH PARAMETERS

Path parameters are url path segments that start with a colon ':' e.g. 'id'

Preview

```
1 {
2   "presented_course": [
3     {
4       "Department": "Engineering",
5       "CName": "Database",
6       "FName": "Reza",
7       "CID": "12345",
8       "Credit": 3,
9       "LName": "Hosseini",
10      "LID": "123456"
11     }
12   ]
13 }
```

## آپدیت :

PUT ▼ http://127.0.0.1:8000/presented\_courses/update/123456/12345 Send ▼ 200 OK 28 ms 246 B Just Now

Params 1 Body ● Auth Headers 4 Scripts Docs

JSON ▼

```
1 {
2   "CName": "Algorithm",
3   "Credit": 4
4 }
5
```

Preview Headers 4 Cookies Tests 0/0 → Mock Console

Preview ▼

```
1 {
2   "message": "اطلاعات درس ارائه شده با موفقیت به روزرسانی شد",
3   "presented_course": {
4     "Department": "Engineering",
5     "CName": "Algorithm",
6     "FName": "Reza",
7     "CID": "12345",
8     "Credit": 4,
9     "LName": "Hosseini",
10    "LID": "123456"
11  }
12 }
```

## حذف :

DELETE ▼ http://127.0.0.1:8000/presented\_courses/delete/123456/12345 Send ▼ 200 OK 27 ms 71 B

Params 1 Body ● Auth Headers 4 Scripts Docs

URL PREVIEW

http://127.0.0.1:8000/presented\_courses/delete/123456/12345?

QUERY PARAMETERS

Import from URL 👁 Bulk Edit

+ Add 🗑 Delete all 📄 Description

name	value	▼	☑	🗑
------	-------	---	---	---

PATH PARAMETERS

Path parameters are url path segments that start with a colon ':' e.g. ':id' ×

Preview ▼

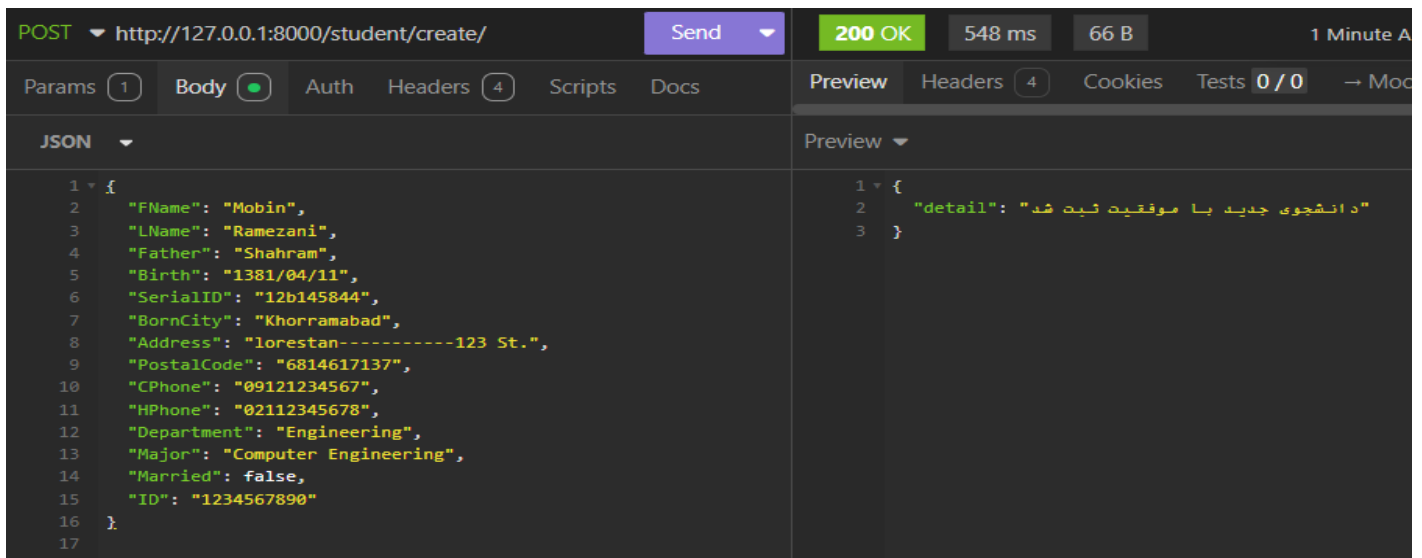
```
1 {
2   "message": "درس ارائه شده با موفقیت حذف شد"
3 }
```

فعالیت ۲: پایگاه داده MongoDB که در تمرین چهارم ایجاد شد را به FastAPI متصل کنید به طوری که همه عملگرها از طریق API قابل اجرا باشد.

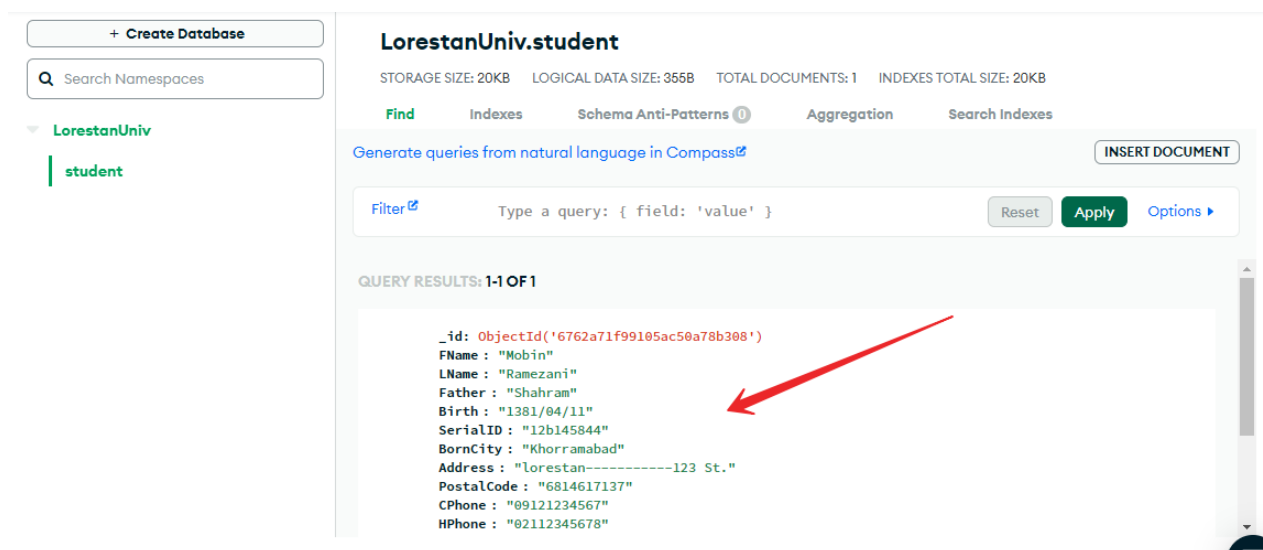
برای جدول student :

درج :

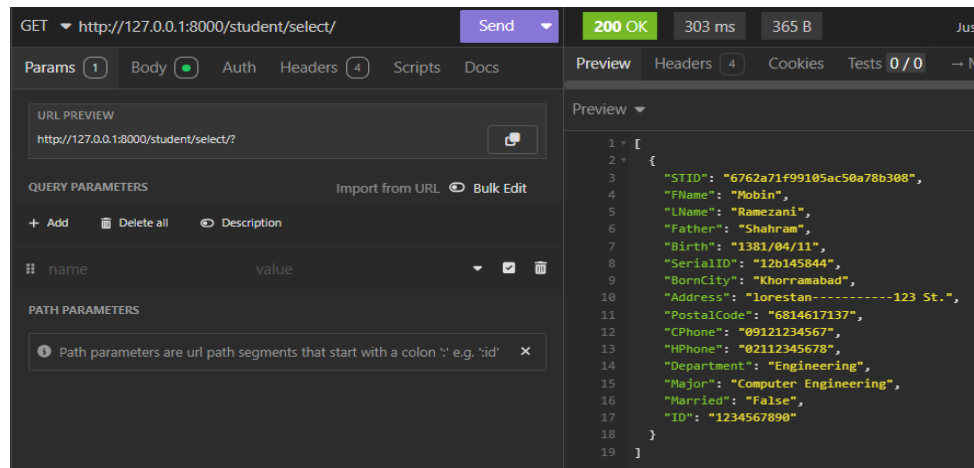
در localhost :



همزمان در Atlas :

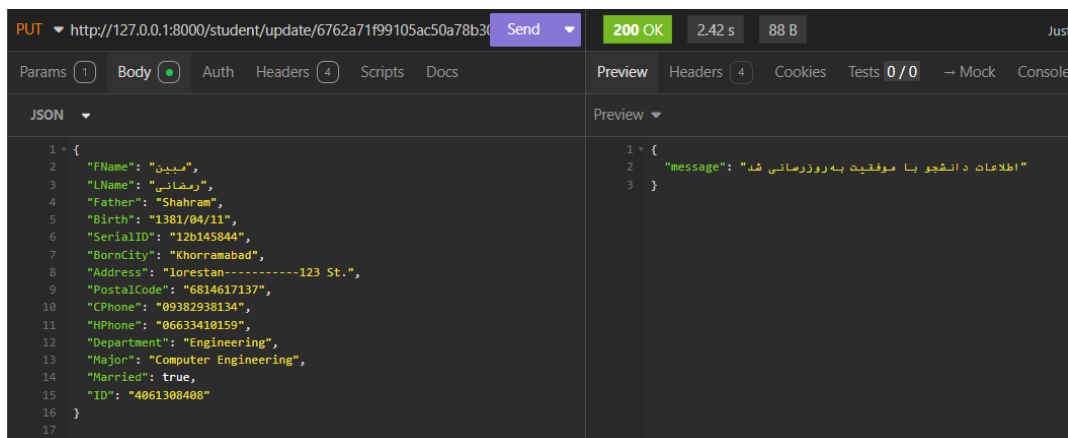


خواندن :

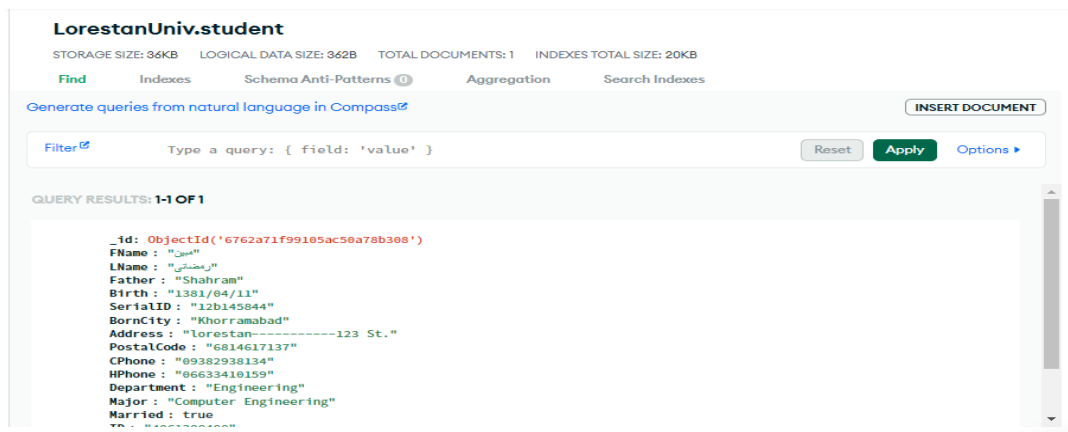


آپدیت :

در localhost :



همزمان در Atlas :



حذف :

در localhost :

DELETE <http://127.0.0.1:8000/student/delete/6762a71f99105ac50a78b308?> Send

200 OK 1.21 s 56 B

Params (1) Body (●) Auth Headers (4) Scripts Docs

URL PREVIEW

<http://127.0.0.1:8000/student/delete/6762a71f99105ac50a78b308?>

QUERY PARAMETERS

Import from URL Bulk Edit

+ Add Delete all Description

name	value
------	-------

PATH PARAMETERS

Path parameters are url path segments that start with a colon ':' e.g. 'id'

Preview

```
1 {
2   "message": "دانشجو با موفقیت حذف شد"
3 }
```

همزمان در Atlas :

+ Create Database

Search Namespaces

LorestanUniv

student

### LorestanUniv.student

STORAGE SIZE: 36KB LOGICAL DATA SIZE: 0B TOTAL DOCUMENTS: 0 INDEXES TOTAL SIZE: 36KB

Find Indexes Schema Anti-Patterns Aggregation Search Indexes

Generate queries from natural language in Compass

INSERT DOCUMENT

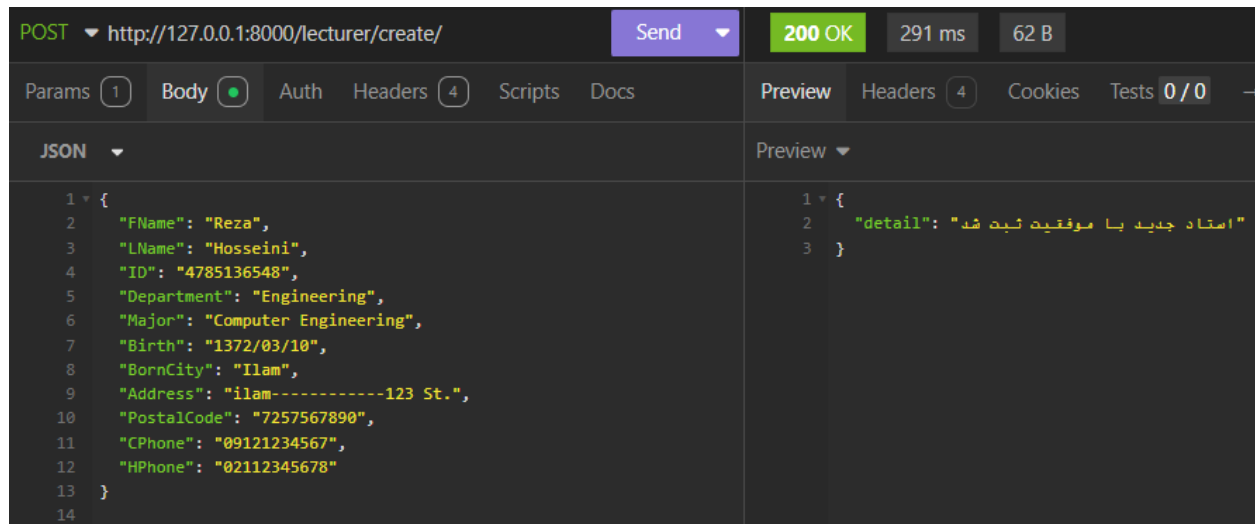
Filter Type a query: { field: 'value' } Reset Apply Options

QUERY RESULTS: 0

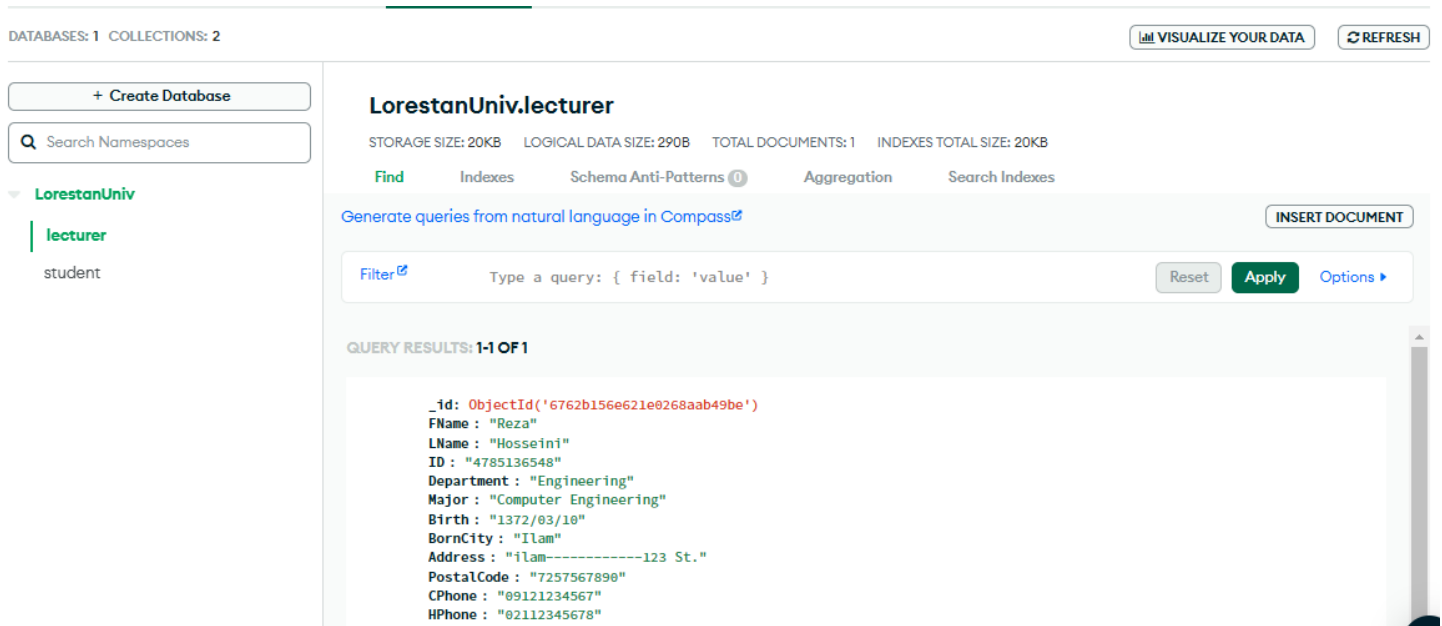
برای جدول lecturer :

درج :

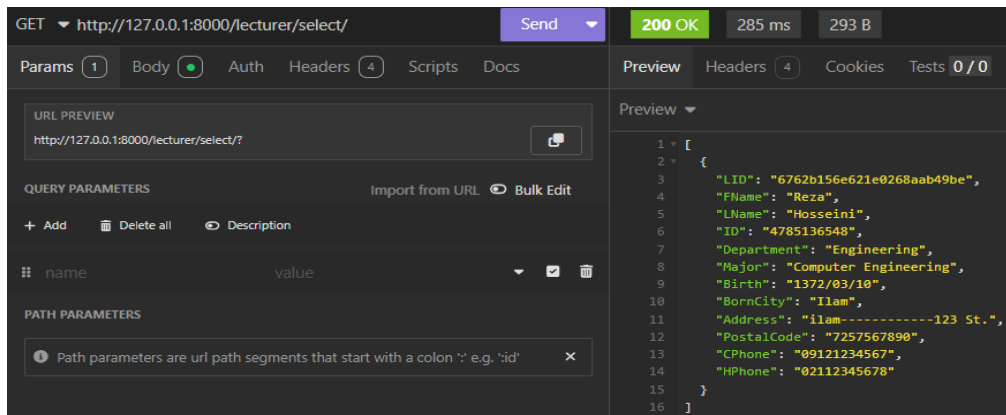
در localhost :



همزمان در Atlas :

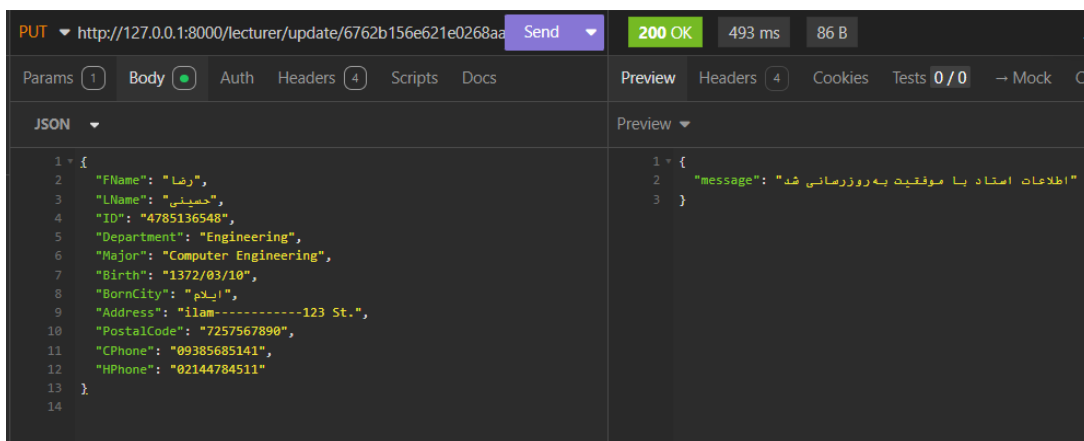


خواندن :

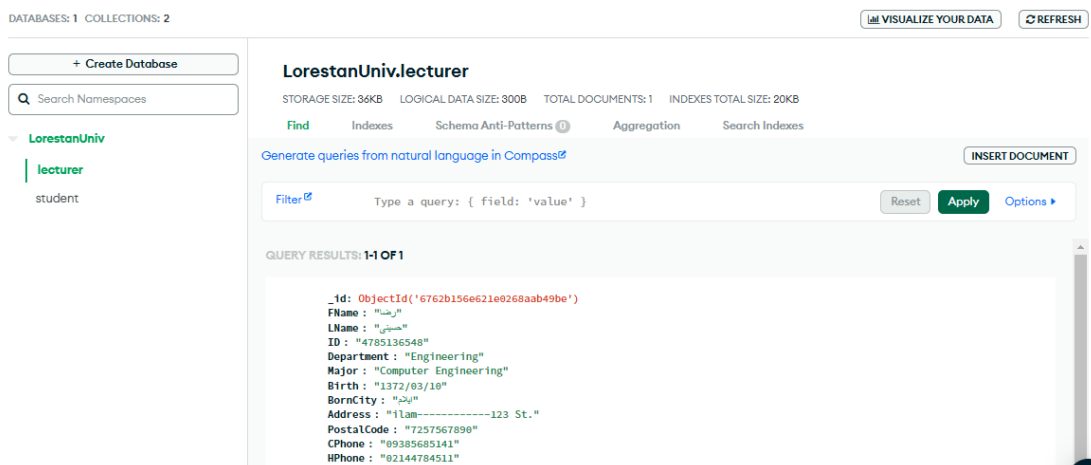


آپدیت :

در localhost :



همزمان در Atlas :





حذف :

در localhost :

DELETE .1:8000/lecturer/delete/6762b156e621e0268aab49be Send 200 OK 462 ms 54 B

Params (1) Body (●) Auth Headers (4) Scripts Docs

URL PREVIEW  
http://127.0.0.1:8000/lecturer/delete/6762b156e621e0268aab49be?

QUERY PARAMETERS  
+ Add Delete all Description

name	value
------	-------

PATH PARAMETERS

Path parameters are url path segments that start with a colon ':' e.g. 'id'

Preview Headers (4) Cookies Tests 0/0

Preview

```
1 {  
2   "message": "استاد با موفقیت حذف شد"  
3 }
```

همزمان در Atlas :

DATABASES: 1 COLLECTIONS: 2 VISUALIZE YOUR DATA REFRESH

+ Create Database

Search Namespaces

▼ LorestanUniv

- lecturer
- student

**LorestanUniv.lecturer**

STORAGE SIZE: 36KB LOGICAL DATA SIZE: 0B TOTAL DOCUMENTS: 0 INDEXES TOTAL SIZE: 36KB

Find Indexes Schema Anti-Patterns Aggregation Search Indexes

Generate queries from natural language in Compass

INSERT DOCUMENT

Filter Type a query: { field: 'value' } Reset Apply Options

QUERY RESULTS: 0

برای جدول **course** :

درج :

در **localhost** :

The screenshot shows a REST client interface with a POST request to `http://127.0.0.1:8000/course/create/`. The response is a 200 OK status with a response time of 257 ms and a body size of 58 B. The request body is a JSON object: `{ "CName": "Database", "Department": "Engineering", "Credit": 3 }`. The response body is a JSON object: `{ "detail": "درس جدید با موفقیت ثبت شد" }`.

همزمان در **Atlas** :

The screenshot shows the MongoDB Atlas web interface. On the left, the 'course' collection is selected under the 'LorestanUniv' database. The main panel displays the 'course' collection details, including storage size (20KB), logical data size (82B), total documents (1), and indexes total size (20KB). The 'Find' tab is active, showing a query filter: `{ field: 'value' }`. The query results show one document: `{ "_id": ObjectId('6762bec34b268a51eb22df92'), "CName": "Database", "Department": "Engineering", "Credit": 3 }`.

خواندن :

GET <http://127.0.0.1:8000/course/select/> Send 200 OK 223 ms 93 B

Params (1) Body Auth Headers (4) Scripts Docs

URL PREVIEW  
<http://127.0.0.1:8000/course/select/>

QUERY PARAMETERS  
Import from URL Bulk Edit

+ Add Delete all Description

name	value
------	-------

PATH PARAMETERS

Path parameters are url path segments that start with a colon ':' e.g. ':id'

Preview

```
1 [
2 {
3   "CID": "6762bec34b268a51eb22df92",
4   "CName": "Database",
5   "Department": "Engineering",
6   "Credit": 3
7 }
8 ]
```

آپدیت :

در localhost :

PUT <http://127.0.0.1:8000/course/update/6762bec34b268a51eb22df92/> Send 200 OK 390 ms 82 B

Params (1) Body Auth Headers (4) Scripts Docs

JSON

```
1 {
2   "CName": "پایگاه داده",
3   "Department": "فنی و مهندسی",
4   "Credit": 3
5 }
6
```

Preview

```
1 {
2   "message": "اطلاعات درس با موفقیت به روزرسانی شد"
3 }
```

همزمان در Atlas :

DATABASES: 1 COLLECTIONS: 3 VISUALIZE YOUR DATA REFRESH

+ Create Database

Search Namespaces

LorestanUniv

- course
- lecturer
- student

LorestanUniv.course

STORAGE SIZE: 36KB LOGICAL DATA SIZE: 104B TOTAL DOCUMENTS: 1 INDEXES TOTAL SIZE: 20KB

Find Indexes Schema Anti-Patterns Aggregation Search Indexes

Generate queries from natural language in Compass

INSERT DOCUMENT

Filter Type a query: { field: 'value' } Reset Apply Options

QUERY RESULTS: 1-1 OF 1

```
{
  "_id": ObjectId('6762bec34b268a51eb22df92'),
  "CName": "پایگاه داده",
  "Department": "فنی و مهندسی",
  "Credit": 3
}
```

حذف :

در localhost :

DELETE ▼ http://127.0.0.1:8000/course/delete/6762bec34b268a51eb22df92 Send ▼ 200 OK 388 ms 50 B

Params 1 Body ● Auth Headers 4 Scripts Docs

URL PREVIEW  
http://127.0.0.1:8000/course/delete/6762bec34b268a51eb22df92?

QUERY PARAMETERS Import from URL Bulk Edit

+ Add 🗑 Delete all 👁 Description

name	value
------	-------

PATH PARAMETERS

! Path parameters are url path segments that start with a colon ':' e.g. 'id' ×

Preview ▼

```
1 {  
2   "message": "درس با موفقیت حذف شد"  
3 }
```

همزمان در Atlas :

DATABASES: 1 COLLECTIONS: 3 VISUALIZE YOUR DATA REFRESH

+ Create Database

🔍 Search Namespaces

▼ LorestanUniv

- course
- lecturer
- student

**LorestanUniv.course**

STORAGE SIZE: 36KB LOGICAL DATA SIZE: 0B TOTAL DOCUMENTS: 0 INDEXES TOTAL SIZE: 20KB

Find Indexes Schema Anti-Patterns Aggregation Search Indexes

[Generate queries from natural language in Compass](#) INSERT DOCUMENT

Filter 🔗 Type a query: { field: 'value' } Reset Apply Options ▶

QUERY RESULTS: 0

برای جدول CourseRegister :

درج :

در localhost :

POST http://127.0.0.1:8000/course\_register/create/ Send 200 OK 196 ms 79 B Just Now

Params 1 Body Auth Headers 4 Scripts Docs Preview Headers 4 Cookies Tests 0/0 → Mock

JSON

```
1 {
2   "Credit": 3,
3   "Department": "Engineering",
4   "CName": "Database",
5   "FName": "Mobin",
6   "LName": "Ramezani",
7   "STID": "40311415016",
8   "CID": "12345"
9 }
10
```

Preview

```
1 {
2   "detail": "ثبت نام درس جدید با موفقیت انجام شد"
3 }
```

همزمان در Atlas :

DATABASES: 1 COLLECTIONS: 4 VISUALIZE YOUR DATA REFRESH

+ Create Database

Search Namespaces

LorestanUniv

- CourseRegister
  - course
  - lecturer
  - student

**LorestanUniv.CourseRegister**

STORAGE SIZE: 20KB LOGICAL DATA SIZE: 156B TOTAL DOCUMENTS: 1 INDEXES TOTAL SIZE: 20KB

Find Indexes Schema Anti-Patterns Aggregation Search Indexes

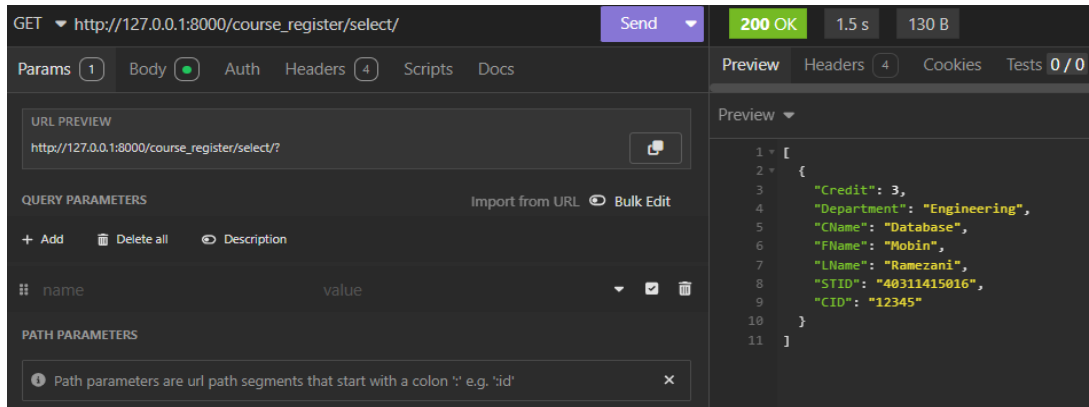
Generate queries from natural language in Compass

Filter Type a query: { field: 'value' } Reset Apply Options

QUERY RESULTS: 1 OF 1

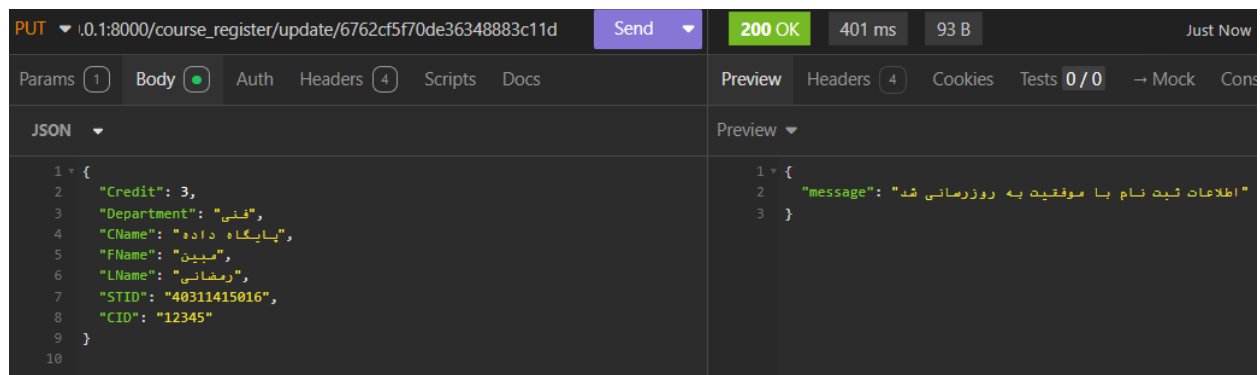
```
{
  "_id": ObjectId('6762cf5f70de36348883c11d')
  Credit: 3
  Department: "Engineering"
  CName: "Database"
  FName: "Mobin"
  LName: "Ramezani"
  STID: "40311415016"
  CID: "12345"
}
```

خواندن :

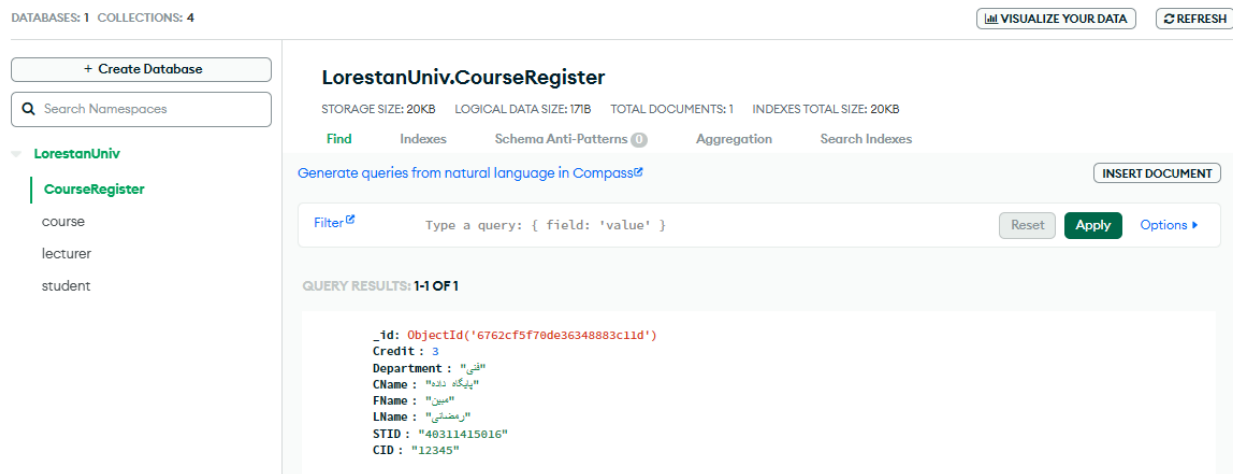


آپدیت :

در localhost :



همزمان در Atlas :



حذف :

در localhost :

The screenshot shows a REST client interface. The top bar indicates a DELETE request to the URL `1:8000/course_register/delete/6762cf5f70de36348883c11d` with a status of 200 OK, 593 ms response time, and 60 B body. The 'Send' button is visible. Below the URL bar, the 'Params' tab is active, showing a URL preview of `http://127.0.0.1:8000/course_register/delete/6762cf5f70de36348883c11d?`. The 'Query Parameters' section is empty. The 'Path Parameters' section shows a note: 'Path parameters are url path segments that start with a colon ':' e.g. 'id''. The 'Preview' tab on the right shows the response body as a JSON object: `{ "message": "تبد نام با موفقیت حذف شد" }`.

همزمان در Atlas :

The screenshot shows the MongoDB Atlas interface. The top bar indicates 'DATABASES: 1' and 'COLLECTIONS: 4'. The 'LorestanUniv' database is selected, and the 'CourseRegister' collection is highlighted in the left sidebar. The main panel shows the 'CourseRegister' collection details, including 'STORAGE SIZE: 36KB', 'LOGICAL DATA SIZE: 0B', 'TOTAL DOCUMENTS: 0', and 'INDEXES TOTAL SIZE: 36KB'. The 'Find' tab is active, showing a query input field with the text 'Type a query: { field: 'value' }'. The 'QUERY RESULTS' section shows '0' results. The 'INSERT DOCUMENT' button is visible in the top right corner of the main panel.

برای جدول **PresentedCourses** :

درج :

در **localhost** :

The screenshot shows a REST client interface with a POST request to `http://127.0.0.1:8000/presented_course/create/`. The response is a 200 OK status with a 384 ms response time and 79 B of data. The request body is a JSON object representing a course:

```
1 {
2   "CName": "Database",
3   "Department": "Engineering",
4   "Credit": 3,
5   "FName": "Reza",
6   "LName": "Hosseini",
7   "CID": "12345",
8   "LID": "123456"
9 }
10
```

The response preview shows a single document with a detail field:

```
1 {
2   "detail": "درس ارائه شده جدید با موفقیت ثبت شد"
3 }
```

همزمان در **Atlas** :

The screenshot shows the MongoDB Atlas web interface. On the left, the database structure is shown with `LorestanUniv` expanded to show the `PresentedCourses` collection. The main panel displays the `LorestanUniv.PresentedCourses` collection details, including storage size (20KB), logical data size (149B), and total documents (1). The `Find` tab is selected, showing a filter bar with a query input field containing `{ field: 'value' }`. Below the filter bar, the query results are displayed as a single document:

```
{
  "_id": ObjectId('6762ebe2870ab8e57ff37a5c'),
  "CName": "Database",
  "Department": "Engineering",
  "Credit": 3,
  "FName": "Reza",
  "LName": "Hosseini",
  "CID": "12345",
  "LID": "123456"
}
```



خواندن :

GET http://127.0.0.1:8000/presented\_course/select/ Send 200 OK 337 ms 123 B

Params (1) Body Auth Headers (4) Scripts Docs

URL PREVIEW  
http://127.0.0.1:8000/presented\_course/select/

QUERY PARAMETERS  
+ Add Delete all Description

PATH PARAMETERS  
Path parameters are url path segments that start with a colon ':' e.g. ':id'

Preview  
1 [ 2 { 3 "CName": "Database", 4 "Department": "Engineering", 5 "Credit": 3, 6 "FName": "Reza", 7 "LName": "Hosseini", 8 "CID": "12345", 9 "LID": "123456" 10 } 11 ]

آپدیت :

در localhost :

PUT http://127.0.0.1:8000/presented\_course/update/6762ebe2870ab8e57ff37a5c Send 200 OK 426 ms 104 B Just Now

Params (1) Body Auth Headers (4) Scripts Docs

JSON

```
1 { 2 "CName": "پایگاه داده", 3 "Department": "فنی و مهندسی", 4 "Credit": 2, 5 "FName": "رضا", 6 "LName": "حسینی", 7 "CID": "12345", 8 "LID": "123456" 9 }
```

Preview  
1 { 2 "message": "اطلاعات درس ارائه شده با موفقیت به روزرسانی شد" 3 }

همزمان در Atlas :

DATABASES: 1 COLLECTIONS: 5 VISUALIZE YOUR DATA REFRESH

+ Create Database

Search Namespaces

LorestanUniv

- CourseRegister
- PresentedCourses
- course
- lecturer
- student

LorestanUniv.PresentedCourses

STORAGE SIZE: 36KB LOGICAL DATA SIZE: 177B TOTAL DOCUMENTS: 1 INDEXES TOTAL SIZE: 20KB

Find Indexes Schema Anti-Patterns Aggregation Search Indexes

Generate queries from natural language in Compass

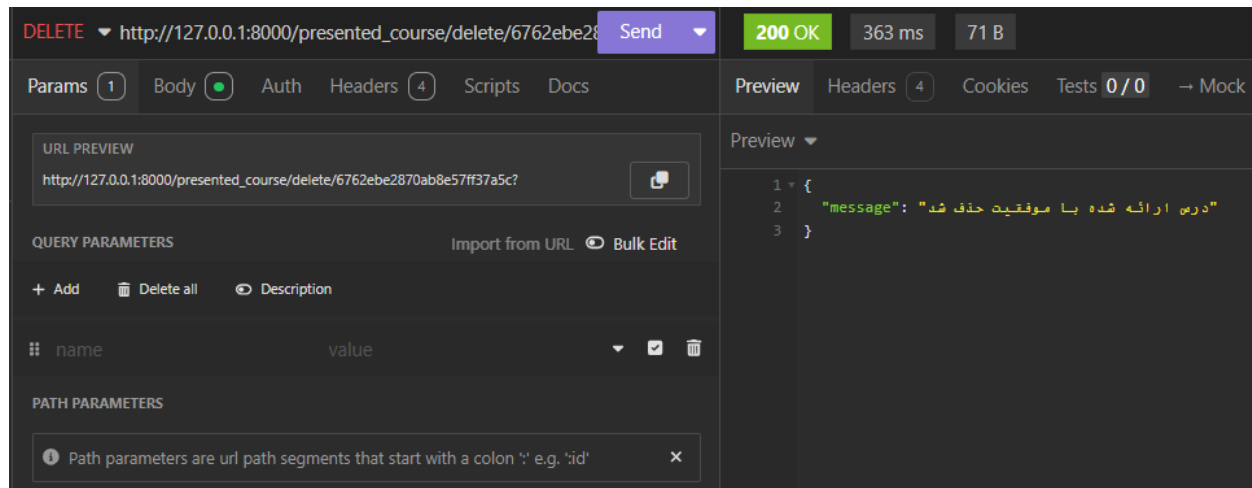
Filter Type a query: { field: 'value' } Reset Apply Options

QUERY RESULTS: 1-1 OF 1

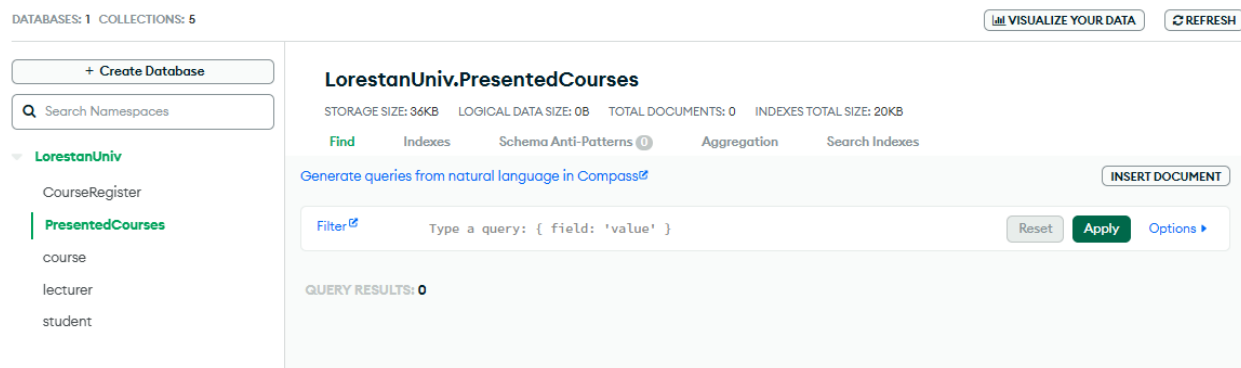
```
{_id: ObjectId('6762ebe2870ab8e57ff37a5c') CName: "پایگاه داده" Department: "فنی و مهندسی" Credit: 2 FName: "رضا" LName: "حسینی" CID: "12345" LID: "123456"}
```

حذف :

در localhost :



همزمان در Atlas :



فعالیت ۳: فعالیت ۱ را Dockerize کنید. Image های لازم را ایجاد کنید. سپس Container ها را ایجاد کرده و Image ها را در آن اجرا کنید.

اول فایل Dockerfile رو میسازیم و کانفیگ زیر رو داخلش قرار میدیم :

```
AD-5
├── __pycache__
├── .idea
├── .venv
├── .vscode
├── MongoDB
├── postgresql
│   ├── __pycache__
│   ├── .vscode
│   ├── crud.py
│   ├── database.py
│   ├── Dockerfile
│   ├── main.py
│   ├── models.py
│   ├── requirements.txt
│   └── schemas.py
└── postgresql > Dockerfile > ...
    1 FROM python:3.12-alpine3.20
    2
    3 WORKDIR /app
    4
    5 COPY /requirements.txt .
    6
    7 RUN pip install -r requirements.txt
    8
    9 CMD [ "fastapi", "run", "main.py" ]
   10
```

بعد Image پروژه postgresql رو بصورت زیر و با نام postgresql-app ایجاد میکنیم :

```
mobin@MobinPC: /mnt/e/Python-Projects/AD-5/postgresql$ sudo docker build -t postgresql-app .
[+] Building 125.4s (9/9) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 190B
=> [internal] load metadata for docker.io/library/python:3.12-alpine3.20
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [1/4] FROM docker.io/library/python:3.12-alpine3.20@sha256:bb94273467caf397de28b4e6dd09ca4a2dd1b53fa9b130d5b2c7c82719258356
=> => resolve docker.io/library/python:3.12-alpine3.20@sha256:bb94273467caf397de28b4e6dd09ca4a2dd1b53fa9b130d5b2c7c82719258356
=> [internal] load build context
=> => transferring context: 37B
=> CACHED [2/4] WORKDIR /app
=> [3/4] COPY /requirements.txt .
=> [4/4] RUN pip install -r requirements.txt
=> exporting to image
=> => exporting layers
=> => exporting manifest sha256:c164a5b3ea6302960178409dbce7f12826ab7a706042c50e91665fb46fa1c673
=> => exporting config sha256:4deffe3ec304cae6c9c897ca19aa8f8f02d747b6fbdeabe1f029bbb529f29c05
=> => exporting attestation manifest sha256:7a317469d4ce1dd94a4772ac742efec44d8635446ee3b16f3b8bb27bb8680766
=> => exporting manifest list sha256:2a44ae52c812c6ff8a2141f8e7797c5e0650e8786fc177c9a3dbb9374332dd42
=> => naming to docker.io/library/postgresql-app:latest
=> => unpacking to docker.io/library/postgresql-app:latest
```

بعد لیست **image** هارو چک میکنیم تا ببینیم **image** به درستی ایجاد شده یا نه :

```
mobin@MobinPC:/mnt/e/Python-Projects/AD-5/postgresql$ sudo docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
postgresql-app	latest	2a44ae52c812	15 seconds ago	246MB
redis	latest	ea96c435dc17	2 months ago	173MB
busybox	latest	2919d0172f75	2 months ago	6.56MB
hello-world	latest	5b3cc85e16e3	19 months ago	24.4kB

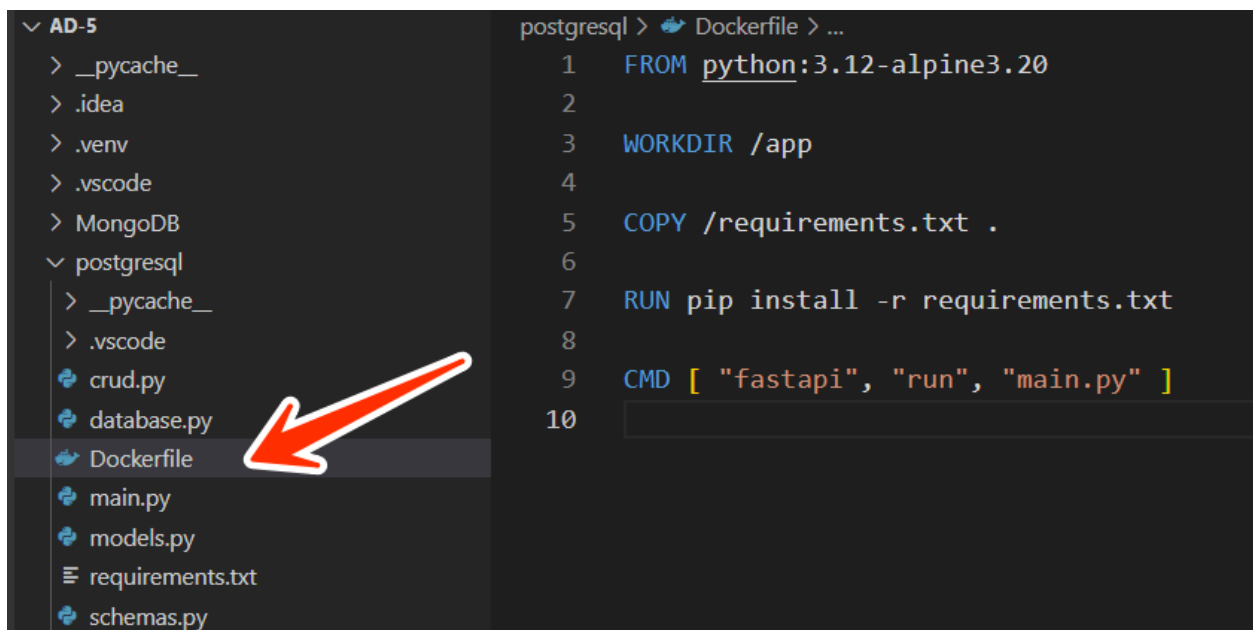
درنهایت یک **container** از این **image** میسازیم و از برنامه **postgres** که نوشتیم، استفاده میکنیم :

```
mobin@MobinPC:/mnt/e/Python-Projects/AD-5/postgresql$ sudo docker run --rm -it postgresql-app
```

FastAPI Starting production server 🚀

فعالیت ۴: فعالیت ۲ را **Dockerize** کنید. **Image** های لازم را ایجاد کنید. سپس **Container** ها را ایجاد کرده و **Image** ها را در آن اجرا کنید.

اول فایل **Dockerfile** رو میسازیم و کانفیگ زیر رو داخلش قرار میدیم : (دقیقا مشابه فعالیت قبل)



```
postgresql > Dockerfile > ...
1 FROM python:3.12-alpine3.20
2
3 WORKDIR /app
4
5 COPY /requirements.txt .
6
7 RUN pip install -r requirements.txt
8
9 CMD [ "fastapi", "run", "main.py" ]
10
```

بعد Image پروژه mongodb رو بصورت زیر و با نام mongo-app ایجاد میکنیم :

```
mobin@MobinPC:/mnt/e/Python-Projects/AD-5/MongoDB$ sudo docker build -t mongo-app .
[sudo] password for mobin:
[+] Building 84.5s (9/9) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 202B
=> [internal] load metadata for docker.io/library/python:3.12-alpine3.20
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [1/4] FROM docker.io/library/python:3.12-alpine3.20@sha256:bb94273467caf397de28b4e6dd09ca4a2dd1b53fa9b130d5b2c7c82719258356
=> => resolve docker.io/library/python:3.12-alpine3.20@sha256:bb94273467caf397de28b4e6dd09ca4a2dd1b53fa9b130d5b2c7c82719258356
=> [internal] load build context
=> => transferring context: 15.32kB
=> CACHED [2/4] WORKDIR /app
=> [3/4] COPY . .
=> [4/4] RUN pip install -r requirements.txt
=> exporting to image
=> => exporting layers
=> => exporting manifest sha256:40afb618a3288aea6072b5db63f50545d49d63b903fedd55606af90a6fb05ee4
=> => exporting config sha256:60339bebc1388148098c1909c419f7a377cf35e82c7ab4145ff8d391b77ec55
=> => exporting attestation manifest sha256:2d00511d2ffde7c14f74666236c23dfe8f24d255e7243bd672bcb6023864975
=> => exporting manifest list sha256:4dddd919e3732420bbcec66a99e36ec53be1cc8c20c0e1f35d70c5557942caf2
=> => naming to docker.io/library/mongo-app:latest
=> => unpacking to docker.io/library/mongo-app:latest
```

بعد لیست image هارو چک میکنیم تا ببینیم image به درستی ایجاد شده یا نه :

```
mobin@MobinPC:/mnt/e/Python-Projects/AD-5/MongoDB$ sudo docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
mongo-app	latest	4dddd919e373	About a minute ago	190MB
postgresql-app	latest	9a4213988309	21 minutes ago	246MB
redis	latest	ea96c435dc17	2 months ago	173MB
busybox	latest	2919d0172f75	2 months ago	6.56MB
hello-world	latest	5b3cc85e16e3	19 months ago	24.4kB

درنهایت یک container از این image میسازیم و از برنامه mongo که نوشته ایم، استفاده میکنیم :

```
mobin@MobinPC:/mnt/e/Python-Projects/AD-5/MongoDB$ sudo docker run --rm -it mongo-app
```

**FastAPI** Starting production server 🚀

Searching for package file structure from directories with `__init__.py` files  
Pinged your deployment. You successfully connected to MongoDB!  
Importing from `/app`

**module** `main.py`

**code** Importing the FastAPI app object from the module with the following code:

```
from main import app
```

**app** Using import string: `main:app`

**server** Server started at <http://0.0.0.0:8000/docs> (ctrl + click)  
**server** Documentation at <http://0.0.0.0:8000/docs>

Logs:

```
INFO Started server process [1]
INFO Waiting for application startup.
INFO Application startup complete.
INFO Uvicorn running on http://0.0.0.0:8000 (Press CTRL+C to quit)
```

Thank you...