DRF PoC Web API

- https://graphql-drf-poc-api-master.herokuapp.com/admingq/graphql/
- Use above link to access GraphQL based server API.
- Username :- admin (lower case) – Admin
- Password :- poctest#1 (lower case)
- Username :- editor (lower case) – Non Admin
- Password :- test#123 (lower case)

Salient features

- Solution that allows insurers to define their own custom data model for their risks. There are no database tables called automobiles, houses, or prizes. Instead, insurers will be able to create their own risk types and attach as many different fields as they would like.
- Fields are bits of data like first name, age, zip code, model, serial number, Coverage A limit, or prize dollar amount. Basically any data the carrier would want to collect about the risk. Fields can also be of different types, like text, date, number, currency, and so forth.

Salient features (continued)

- As risk field types are user defined and not committed at time of table creation. Actual field/column value stored in table is string type. But field type sanctity is enforced using model validations. i.e User can not supply Date value where Currency is expected.
- Uniqueness among RiskType names is maintained by enforcing unique constrain. But enforcing unique risk field name in similar fashion is somewhat restrictive and naive. I have tried to maintain unique field name within Risk Types and not across all Risk Type using mode validations.

Salient features (continued)

- API allows users to create RiskTypes and associated RiskTypeFields in one go with use of nested serializer.

- During Risk creation system checks that proper referential integrity is maintained with Risk Type and during creation of Risk Fields system ensures that proper referential integrity is maintained with Risk and Risk Type fields.

- Risk API allows users to create Risk and associated RiskFields in one go with use of nested serializer.

- Various model validation errors in RiskType and RiskTypeFields, Risk and RiskFields are returned to client of serve API in JSON format.

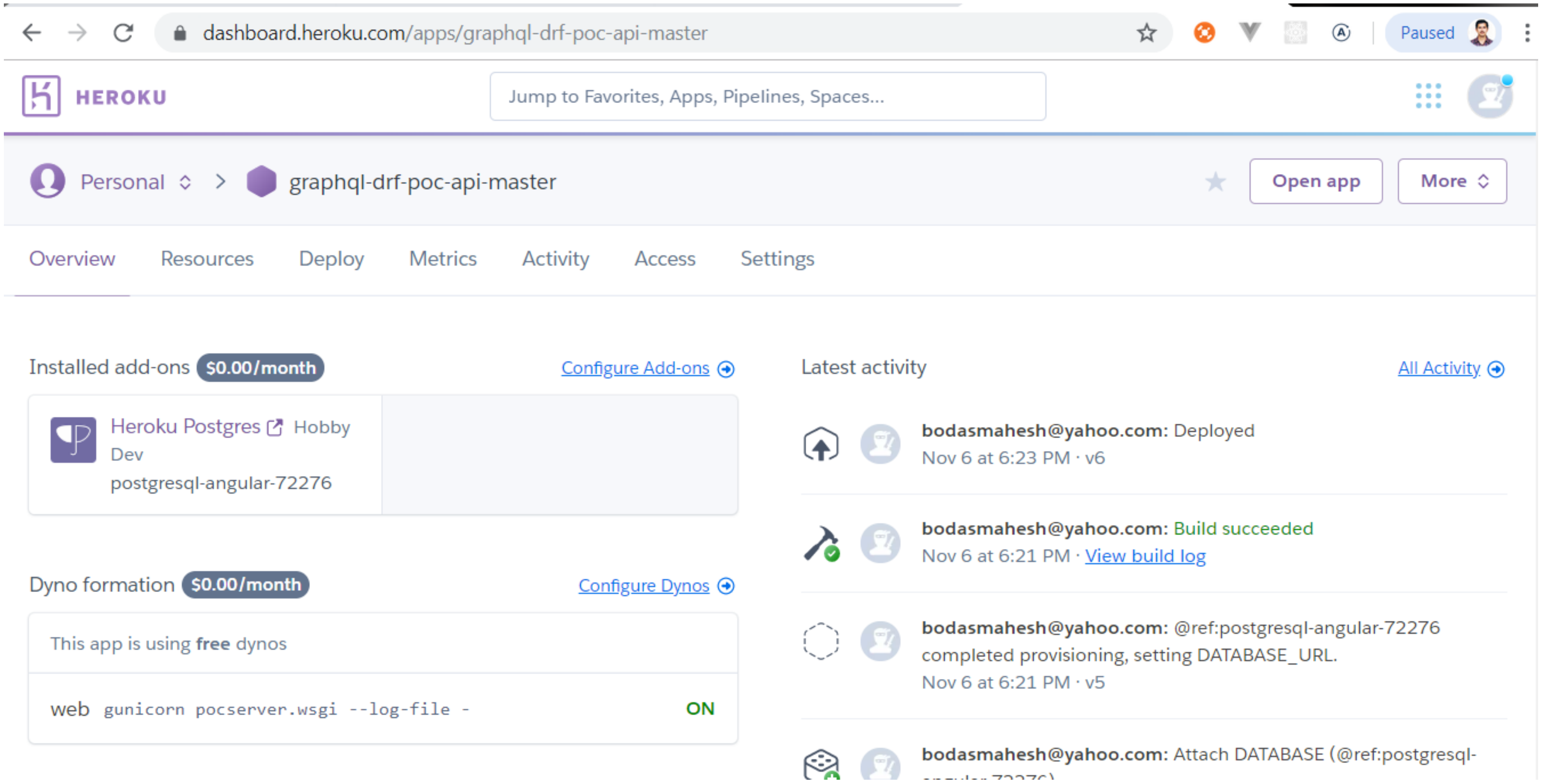
Salient features (continued)

- Risk and RiskFields carry extra metadata related to RiskType and RiskTypeFields.
- On authentication front, only authenticated users can access server API. Role based authorization further enable only admin users to create/delete RiskType. Non admin users only have list and details option for RiskTypes. However they can create Risk instances based on RiskTypes.
- Session authentication is used for browsable API that runs within same session that of Web API
- Token authentication is used for separate website that access Web API for retrieving and creating RiskTypes and Risk.

Salient features (continued)

- Used Graphene DJango library to expose all of API over single endpoint.
- Added new View class to the application so as to avoid unauthenticated access to GraphQL queries and mutation. Default GraphQL view in Graphene library allows access to all of the users.
- GraphQL has concept of queries i.e. Client application defines shape of data to be retried from server. Using Graphene-Django library we can define Query and Resolver classes. Thus root element in GraphQL query map to one of the resolver class which is further used to get and filter data from underlying Django model.
- GraphQL Mutations, Input types are used for adding and updating Django Models. Made use of Django serializers in DRF to do all validation before committing model changes.

Screenshot Heroku deployment



dashboard.heroku.com/apps/graphql-drf-poc-api-master

Installed add-ons $0.00/month Configure Add-ons

Heroku Postgres Hobby Dev
postgresql-angular-72276

Dyno formation $0.00/month Configure Dynos

This app is using **free** dynos

```
web gunicorn pocserver.wsgi --log-file -    ON
```

Latest activity All Activity

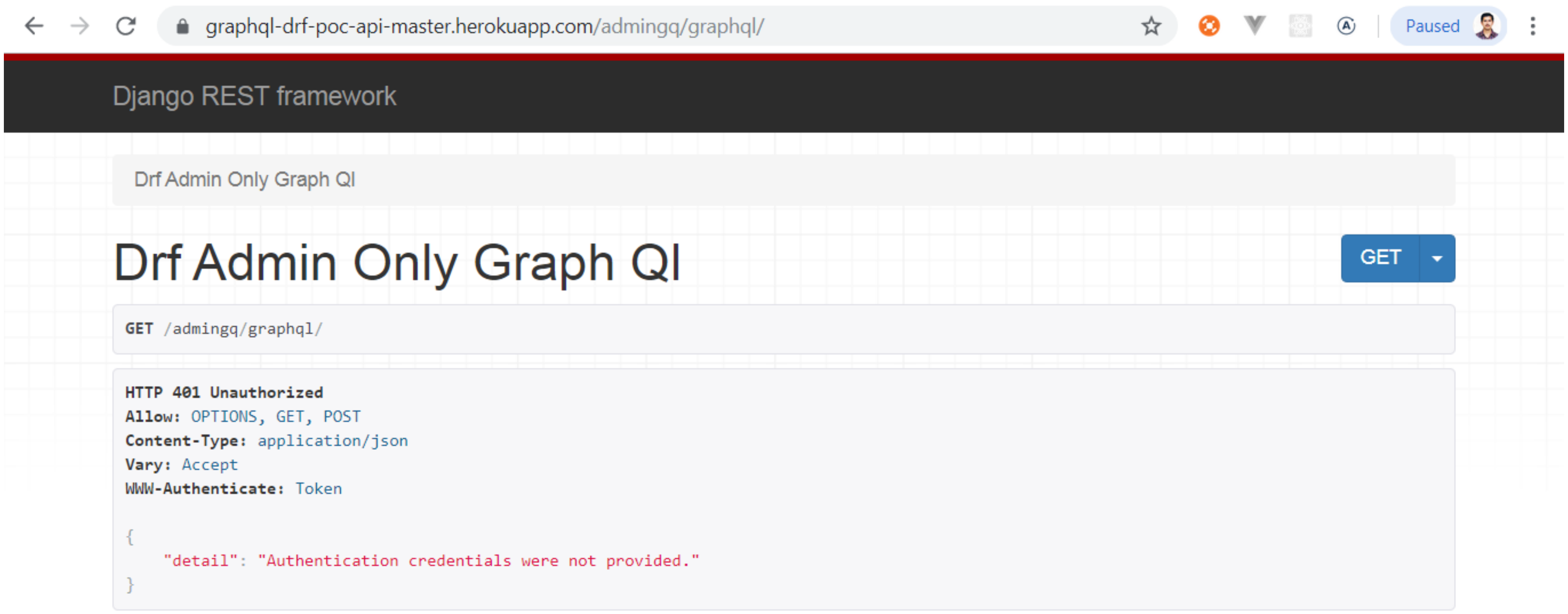
bodasmahesh@yahoo.com: Deployed
Nov 6 at 6:23 PM · v6

bodasmahesh@yahoo.com: Build succeeded
Nov 6 at 6:21 PM · View build log

bodasmahesh@yahoo.com: @ref:postgresql-angular-72276 completed provisioning, setting DATABASE_URL.
Nov 6 at 6:21 PM · v5

bodasmahesh@yahoo.com: Attach DATABASE (@ref:postgresql-

API response when not Logged In

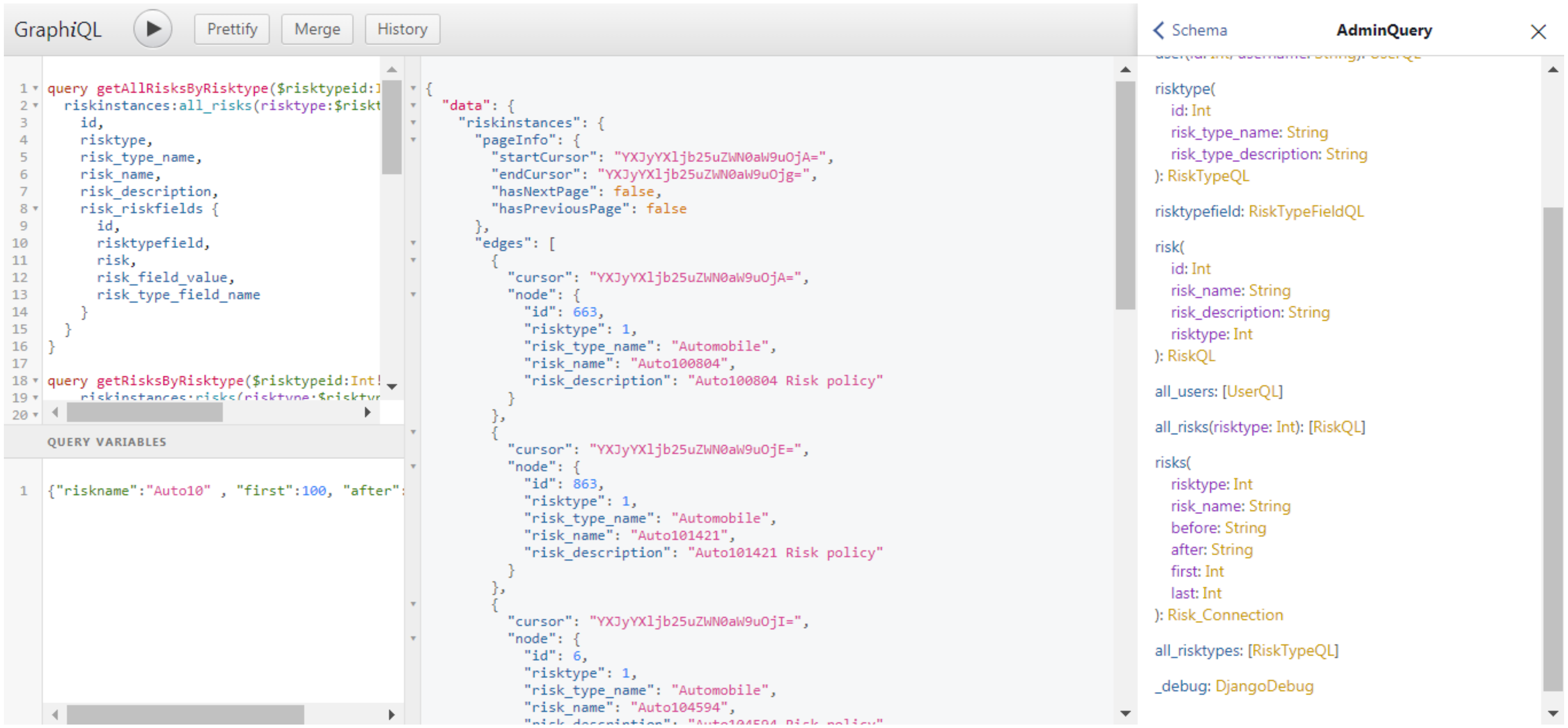


Drf Admin Only Graph Ql

```
GET /admingq/graphql/
```

```
HTTP 401 Unauthorized
Allow: OPTIONS, GET, POST
Content-Type: application/json
Vary: Accept
WWW-Authenticate: Token

{
    "detail": "Authentication credentials were not provided."
}
```

Authenticated User can run queries



```
query getAllRisksByRisktype($risktypeid:I
  riskinstances:all_risks(risktype:$riskt
    id,
    risktype,
    risk_type_name,
    risk_name,
    risk_description,
    risk_riskfields {
      id,
      risktypefield,
      risk,
      risk_field_value,
      risk_type_field_name
    }
  }
}

query getRisksByRisktype($risktypeid:Int!
    riskinstances:risks(risktype:$risktyp
```

```
{"riskname":"Auto10" , "first":100, "after":
```

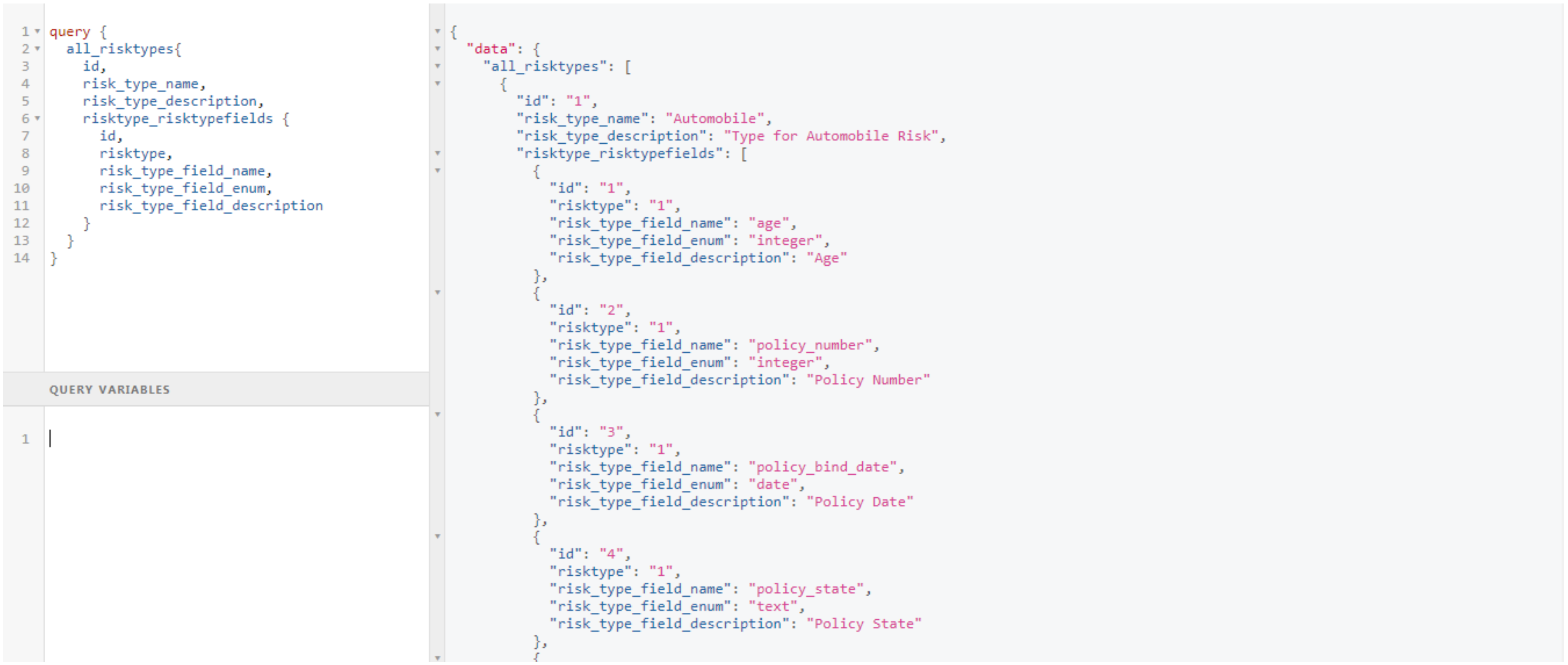
```
{
  "data": {
    "riskinstances": {
      "pageInfo": {
        "startCursor": "YXJyYXljb25uZWN0aW9uOjA=",
        "endCursor": "YXJyYXljb25uZWN0aW9uOjg=",
        "hasNextPage": false,
        "hasPreviousPage": false
      },
      "edges": [
        {
          "cursor": "YXJyYXljb25uZWN0aW9uOjA=",
          "node": {
            "id": 663,
            "risktype": 1,
            "risk_type_name": "Automobile",
            "risk_name": "Auto100804",
            "risk_description": "Auto100804 Risk policy"
          }
        },
        {
          "cursor": "YXJyYXljb25uZWN0aW9uOjE=",
          "node": {
            "id": 863,
            "risktype": 1,
            "risk_type_name": "Automobile",
            "risk_name": "Auto101421",
            "risk_description": "Auto101421 Risk policy"
          }
        },
        {
          "cursor": "YXJyYXljb25uZWN0aW9uOjI=",
          "node": {
            "id": 6,
            "risktype": 1,
            "risk_type_name": "Automobile",
            "risk_name": "Auto104594",
            "risk_description": "Auto104594 Risk policy"
```

```
user(id: Int, username: String): UserQL

risktype(
  id: Int
  risk_type_name: String
  risk_type_description: String
): RiskTypeQL

risktypefield: RiskTypeFieldQL

risk(
  id: Int
  risk_name: String
  risk_description: String
  risktype: Int
): RiskQL

all_users: [UserQL]

all_risks(risktype: Int): [RiskQL]

risks(
  risktype: Int
  risk_name: String
  before: String
  after: String
  first: Int
  last: Int
): Risk_Connection

all_risktypes: [RiskTypeQL]

_debug: DjangoDebug
```

Query to retrieve all RiskTypes

```
query {
  all_risktypes{
    id,
    risk_type_name,
    risk_type_description,
    risktype_risktypefields {
      id,
      risktype,
      risk_type_field_name,
      risk_type_field_enum,
      risk_type_field_description
    }
  }
}
```

Query to get all RiskTypes



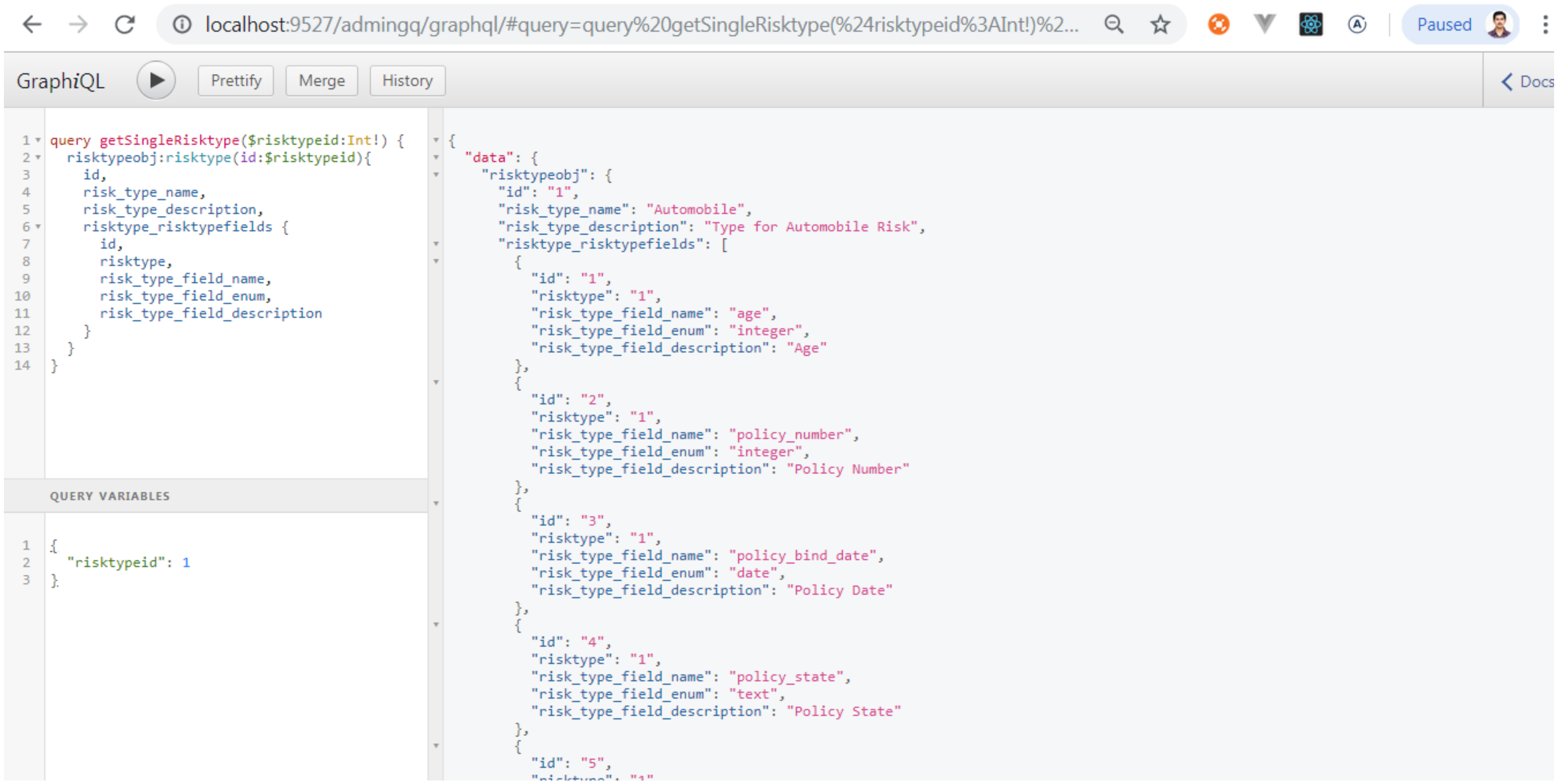
```
query {
  all_risktypes{
    id,
    risk_type_name,
    risk_type_description,
    risktype_risktypefields {
      id,
      risktype,
      risk_type_field_name,
      risk_type_field_enum,
      risk_type_field_description
    }
  }
}
```

```
{
  "data": {
    "all_risktypes": [
      {
        "id": "1",
        "risk_type_name": "Automobile",
        "risk_type_description": "Type for Automobile Risk",
        "risktype_risktypefields": [
          {
            "id": "1",
            "risktype": "1",
            "risk_type_field_name": "age",
            "risk_type_field_enum": "integer",
            "risk_type_field_description": "Age"
          },
          {
            "id": "2",
            "risktype": "1",
            "risk_type_field_name": "policy_number",
            "risk_type_field_enum": "integer",
            "risk_type_field_description": "Policy Number"
          },
          {
            "id": "3",
            "risktype": "1",
            "risk_type_field_name": "policy_bind_date",
            "risk_type_field_enum": "date",
            "risk_type_field_description": "Policy Date"
          },
          {
            "id": "4",
            "risktype": "1",
            "risk_type_field_name": "policy_state",
            "risk_type_field_enum": "text",
            "risk_type_field_description": "Policy State"
          },
          {
```

Query to Single RiskType

```
query getSingleRisktype($risktypeid:Int!) {
  risktypeobj:risktype(id:$risktypeid){
    id,
    risk_type_name,
    risk_type_description,
    risktype_risktypefields {
      id,
      risktype,
      risk_type_field_name,
      risk_type_field_enum,
      risk_type_field_description
    }
  }
}
```

Get Single RiskType



localhost:9527/admingq/graphql/#query=query%20getSingleRisktype(%24risktypeid%3AInt!)%2...

```
query getSingleRisktype($risktypeid:Int!) {
  risktypeobj:risktype(id:$risktypeid){
    id,
    risk_type_name,
    risk_type_description,
    risktype_risktypefields {
      id,
      risktype,
      risk_type_field_name,
      risk_type_field_enum,
      risk_type_field_description
    }
  }
}
```

QUERY VARIABLES

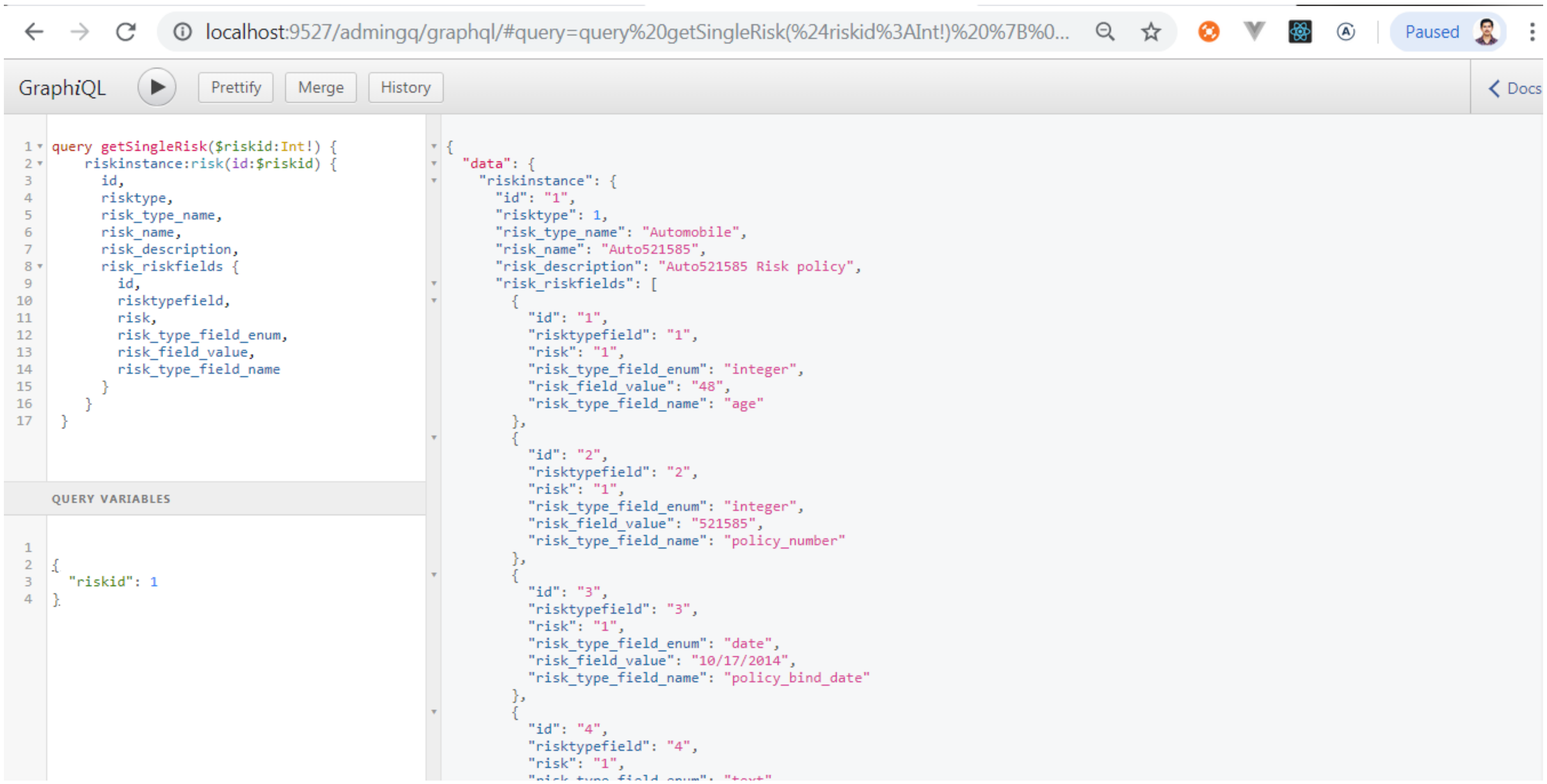
```
{
  "risktypeid": 1
}
```

```
{
  "data": {
    "risktypeobj": {
      "id": "1",
      "risk_type_name": "Automobile",
      "risk_type_description": "Type for Automobile Risk",
      "risktype_risktypefields": [
        {
          "id": "1",
          "risktype": "1",
          "risk_type_field_name": "age",
          "risk_type_field_enum": "integer",
          "risk_type_field_description": "Age"
        },
        {
          "id": "2",
          "risktype": "1",
          "risk_type_field_name": "policy_number",
          "risk_type_field_enum": "integer",
          "risk_type_field_description": "Policy Number"
        },
        {
          "id": "3",
          "risktype": "1",
          "risk_type_field_name": "policy_bind_date",
          "risk_type_field_enum": "date",
          "risk_type_field_description": "Policy Date"
        },
        {
          "id": "4",
          "risktype": "1",
          "risk_type_field_name": "policy_state",
          "risk_type_field_enum": "text",
          "risk_type_field_description": "Policy State"
        },
        {
          "id": "5",
```

Query to Single Risk

```
query getSingleRisk($riskid:Int!) {
  riskinstance:risk(id:$riskid) {
    id,
    risktype,
    risk_type_name,
    risk_name,
    risk_description,
    risk_riskfields {
      id,
      risktypefield,
      risk,
      risk_type_field_enum,
      risk_field_value,
      risk_type_field_name
    }
  }
}
```

Get Single Risk



localhost:9527/admingq/graphql/#query=query%20getSingleRisk(%24riskid%3AInt!)%20%7B%0...

```
query getSingleRisk($riskid:Int!) {
    riskinstance:risk(id:$riskid) {
      id,
      risktype,
      risk_type_name,
      risk_name,
      risk_description,
      risk_riskfields {
        id,
        risktypefield,
        risk,
        risk_type_field_enum,
        risk_field_value,
        risk_type_field_name
      }
    }
 }
```

QUERY VARIABLES

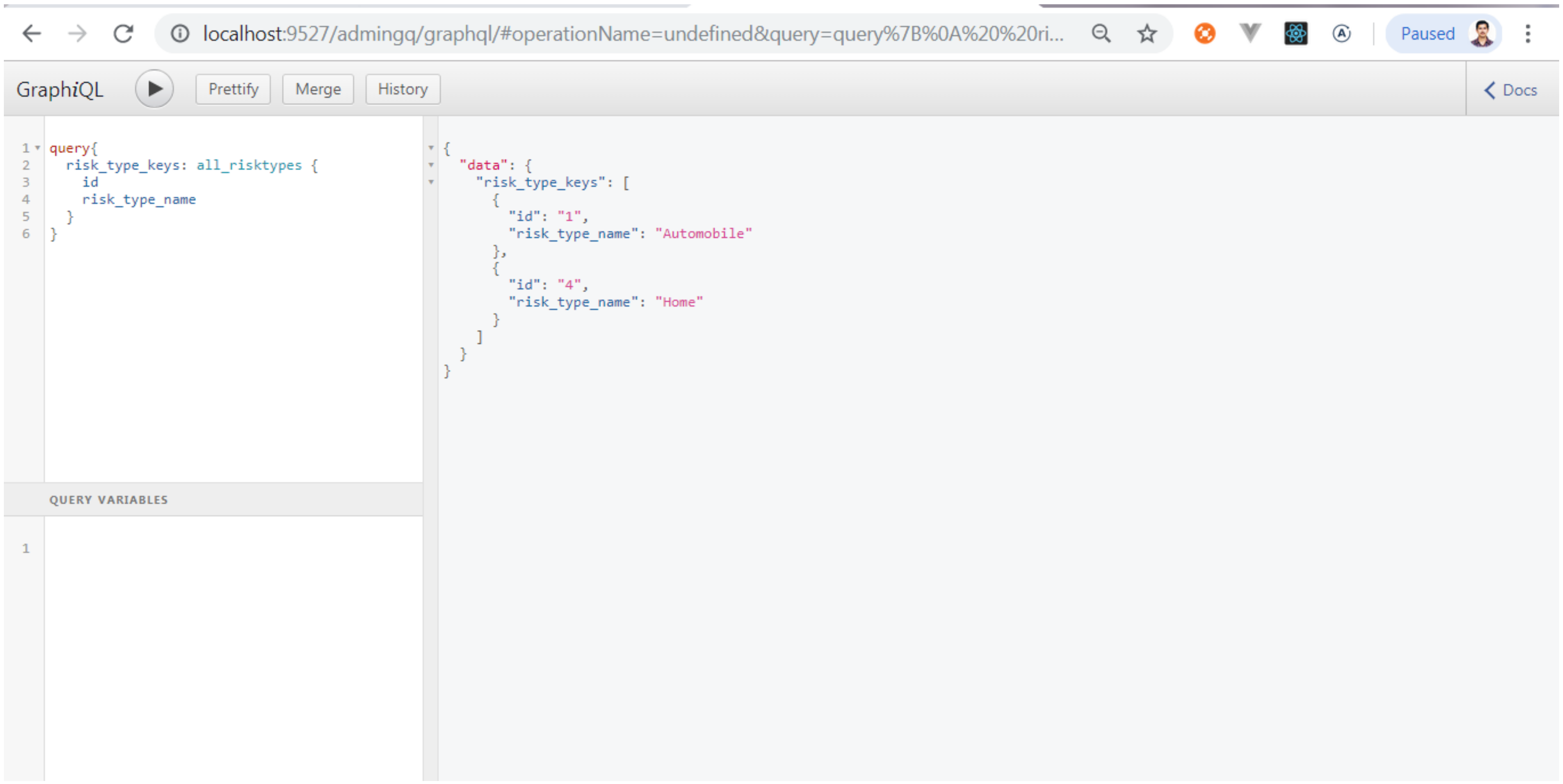
```

{
  "riskid": 1
}
```

```
{
  "data": {
    "riskinstance": {
      "id": "1",
      "risktype": 1,
      "risk_type_name": "Automobile",
      "risk_name": "Auto521585",
      "risk_description": "Auto521585 Risk policy",
      "risk_riskfields": [
        {
          "id": "1",
          "risktypefield": "1",
          "risk": "1",
          "risk_type_field_enum": "integer",
          "risk_field_value": "48",
          "risk_type_field_name": "age"
        },
        {
          "id": "2",
          "risktypefield": "2",
          "risk": "1",
          "risk_type_field_enum": "integer",
          "risk_field_value": "521585",
          "risk_type_field_name": "policy_number"
        },
        {
          "id": "3",
          "risktypefield": "3",
          "risk": "1",
          "risk_type_field_enum": "date",
          "risk_field_value": "10/17/2014",
          "risk_type_field_name": "policy_bind_date"
        },
        {
          "id": "4",
          "risktypefield": "4",
          "risk": "1",
          "risk_type_field_enum": "text"
```

Fetch All RiskTypeKeys

```
query{
  risk_type_keys: all_risktypes {
    id
    risk_type_name
  }
}
```

Get All RiskTypeKeys


localhost:9527/admingq/graphql/#operationName=undefined&query=query%7B%0A%20%20ri...
Paused
GraphiQL
Prettify
Merge
History
Docs
QUERY VARIABLES

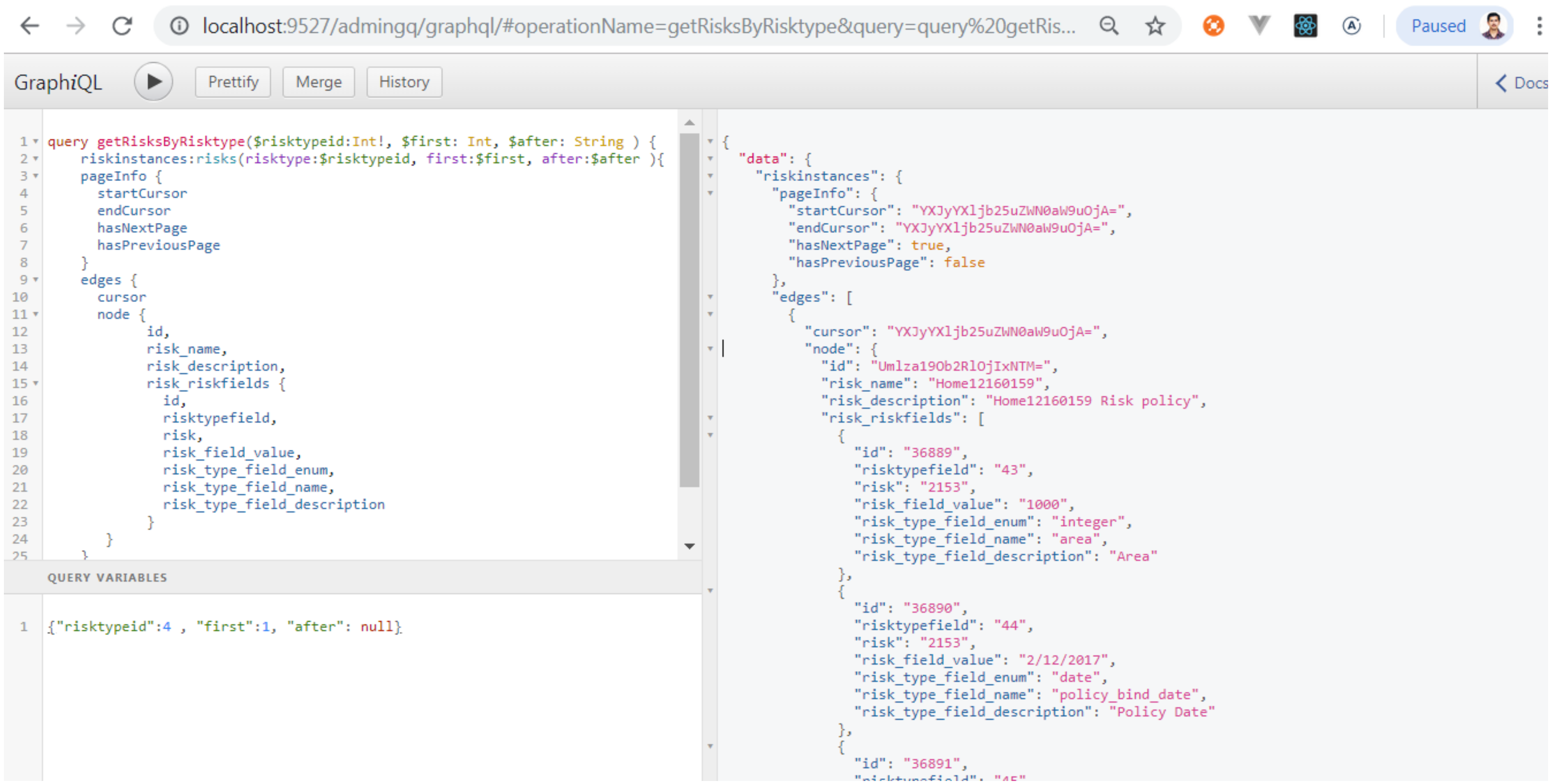
```
query{
  risk_type_keys: all_risktypes {
    id
    risk_type_name
  }
}
```

```
{
  "data": {
    "risk_type_keys": [
      {
        "id": "1",
        "risk_type_name": "Automobile"
      },
      {
        "id": "4",
        "risk_type_name": "Home"
      }
    ]
  }
}
```

Get Risks for Risk type page by page

```
query getRisksByRisktype($risktypeid:Int!, $first: Int, $after: String ) {
   riskinstances:risks(risktype:$risktypeid, first:$first, after:$after ){
   pageInfo {
     startCursor
     endCursor
     hasNextPage
     hasPreviousPage
   }
   edges {
     cursor
     node {
           id,
           risk_name,
           risk_description,
           risk_riskfields {
             id,
             risktypefield,
             risk,
             risk_field_value,
             risk_type_field_enum,
             risk_type_field_name,
             risk_type_field_description
           }
                }
   }
  }
}
```

Get one page of Risks for RiskType


localhost:9527/admingq/graphql/#operationName=getRisksByRisktype&query=query%20getRis...
Paused
GraphiQL
Prettify
Merge
History
Docs

```
query getRisksByRisktype($risktypeid:Int!, $first: Int, $after: String ) {
    riskinstances:risks(risktype:$risktypeid, first:$first, after:$after ){
    pageInfo {
      startCursor
      endCursor
      hasNextPage
      hasPreviousPage
    }
    edges {
      cursor
      node {
            id,
            risk_name,
            risk_description,
            risk_riskfields {
              id,
              risktypefield,
              risk,
              risk_field_value,
              risk_type_field_enum,
              risk_type_field_name,
              risk_type_field_description
            }
      }
    }
```

QUERY VARIABLES

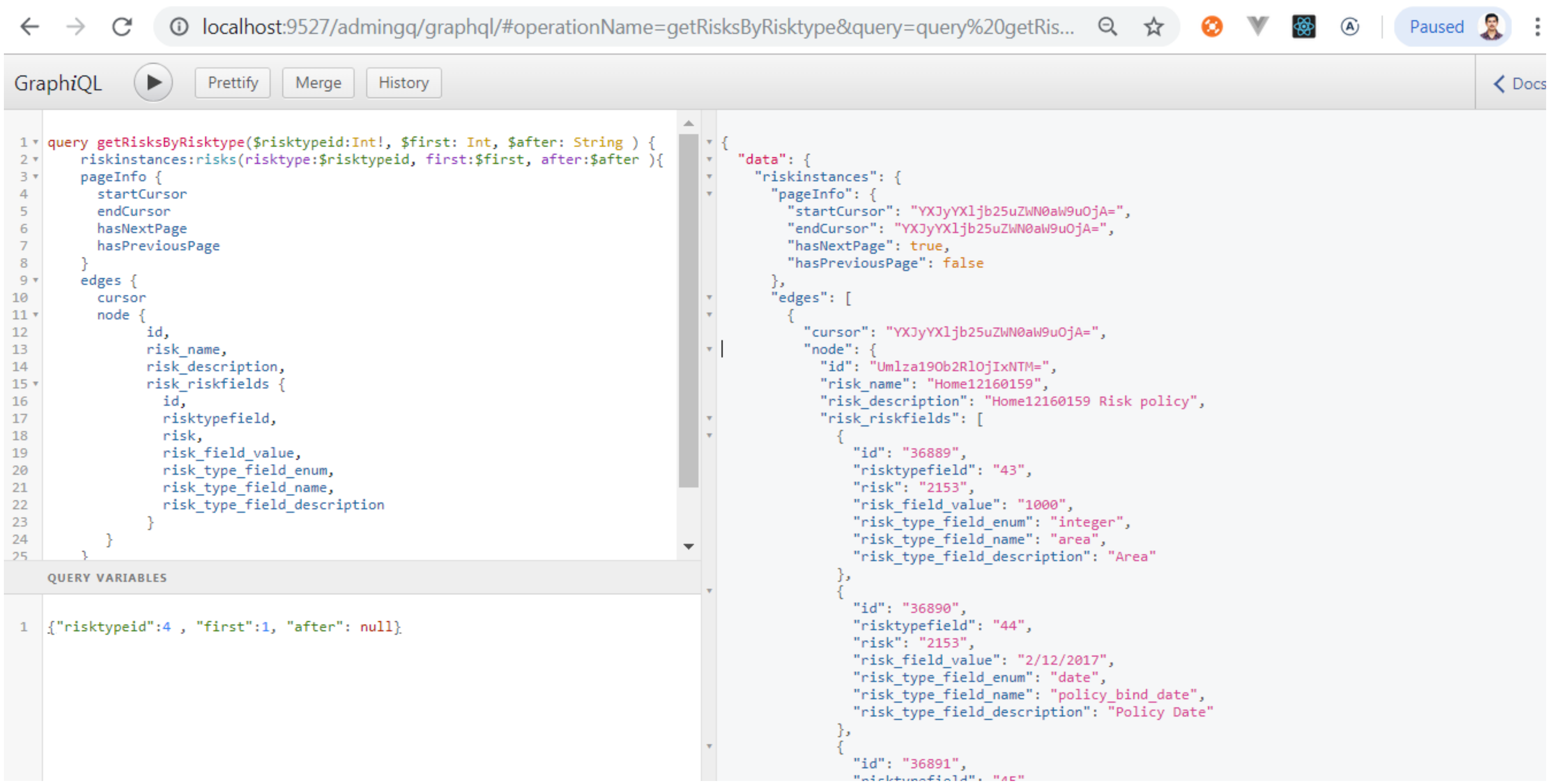
```
{"risktypeid":4 , "first":1, "after": null}
```

```
{
  "data": {
    "riskinstances": {
      "pageInfo": {
        "startCursor": "YXJyYXljb25uZWN0aW9uOjA=",
        "endCursor": "YXJyYXljb25uZWN0aW9uOjA=",
        "hasNextPage": true,
        "hasPreviousPage": false
      },
      "edges": [
        {
          "cursor": "YXJyYXljb25uZWN0aW9uOjA=",
          "node": {
            "id": "Umlza19Ob2RlOjIxNTM=",
            "risk_name": "Home12160159",
            "risk_description": "Home12160159 Risk policy",
            "risk_riskfields": [
              {
                "id": "36889",
                "risktypefield": "43",
                "risk": "2153",
                "risk_field_value": "1000",
                "risk_type_field_enum": "integer",
                "risk_type_field_name": "area",
                "risk_type_field_description": "Area"
              },
              {
                "id": "36890",
                "risktypefield": "44",
                "risk": "2153",
                "risk_field_value": "2/12/2017",
                "risk_type_field_enum": "date",
                "risk_type_field_name": "policy_bind_date",
                "risk_type_field_description": "Policy Date"
              },
              {
                "id": "36891",
                "risktypefield": "45"
```

Create RiskType mutation

```
mutation createRiskType($riskTypeInput:RiskTypeInput!) {
  create_risktype(input:$riskTypeInput) {
    ok,
    risktype{
        risk_type_name,
        risk_type_description,
        risktype_risktypefields {
          risk_type_field_name,
          risk_type_field_enum,
          risk_type_field_description
        }
      }
  }
}
```

Create RiskType mutation



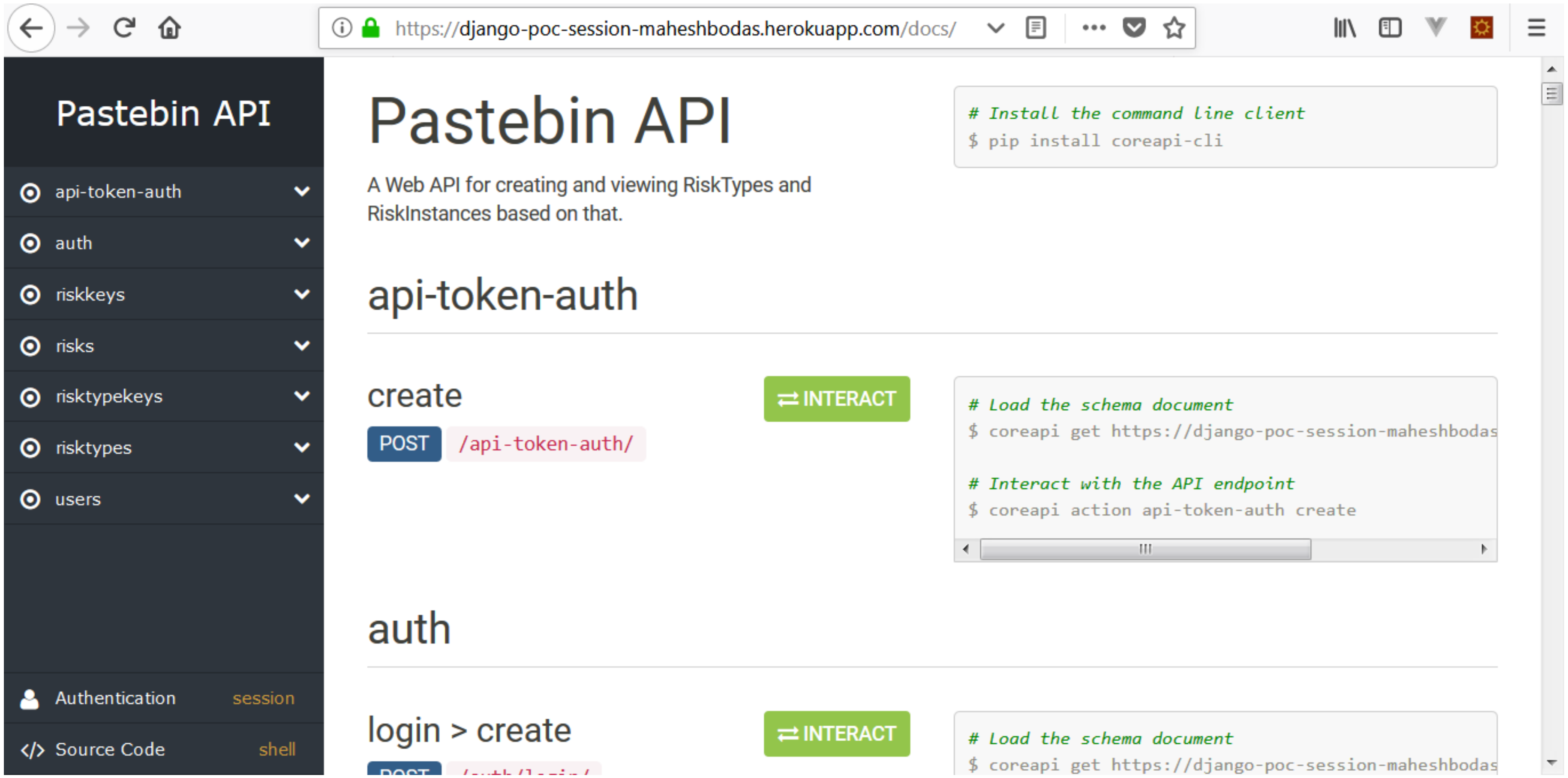
localhost:9527/admingq/graphql/#operationName=getRisksByRisktype&query=query%20getRis...
Paused
GraphiQL
Prettify
Merge
History
Docs
QUERY VARIABLES

```
query getRisksByRisktype($risktypeid:Int!, $first: Int, $after: String ) {
    riskinstances:risks(risktype:$risktypeid, first:$first, after:$after ){
    pageInfo {
      startCursor
      endCursor
      hasNextPage
      hasPreviousPage
    }
    edges {
      cursor
      node {
            id,
            risk_name,
            risk_description,
            risk_riskfields {
              id,
              risktypefield,
              risk,
              risk_field_value,
              risk_type_field_enum,
              risk_type_field_name,
              risk_type_field_description
            }
        }
    }
```

```
{"risktypeid":4 , "first":1, "after": null}
```

```
{
  "data": {
    "riskinstances": {
      "pageInfo": {
        "startCursor": "YXJyYXljb25uZWN0aW9uOjA=",
        "endCursor": "YXJyYXljb25uZWN0aW9uOjA=",
        "hasNextPage": true,
        "hasPreviousPage": false
      },
      "edges": [
        {
          "cursor": "YXJyYXljb25uZWN0aW9uOjA=",
          "node": {
            "id": "Umlza19Ob2RlOjIxNTM=",
            "risk_name": "Home12160159",
            "risk_description": "Home12160159 Risk policy",
            "risk_riskfields": [
              {
                "id": "36889",
                "risktypefield": "43",
                "risk": "2153",
                "risk_field_value": "1000",
                "risk_type_field_enum": "integer",
                "risk_type_field_name": "area",
                "risk_type_field_description": "Area"
              },
              {
                "id": "36890",
                "risktypefield": "44",
                "risk": "2153",
                "risk_field_value": "2/12/2017",
                "risk_type_field_enum": "date",
                "risk_type_field_name": "policy_bind_date",
                "risk_type_field_description": "Policy Date"
              },
              {
                "id": "36891",
                "risktypefield": "45"
```

https://django-poc-session-maheshbodas.herokuapp.com/docs/



https://django-poc-session-maheshbodas.herokuapp.com/docs/

Pastebin API

A Web API for creating and viewing RiskTypes and RiskInstances based on that.

```
# Install the command line client
$ pip install coreapi-cli
```

api-token-auth

create

POST /api-token-auth/

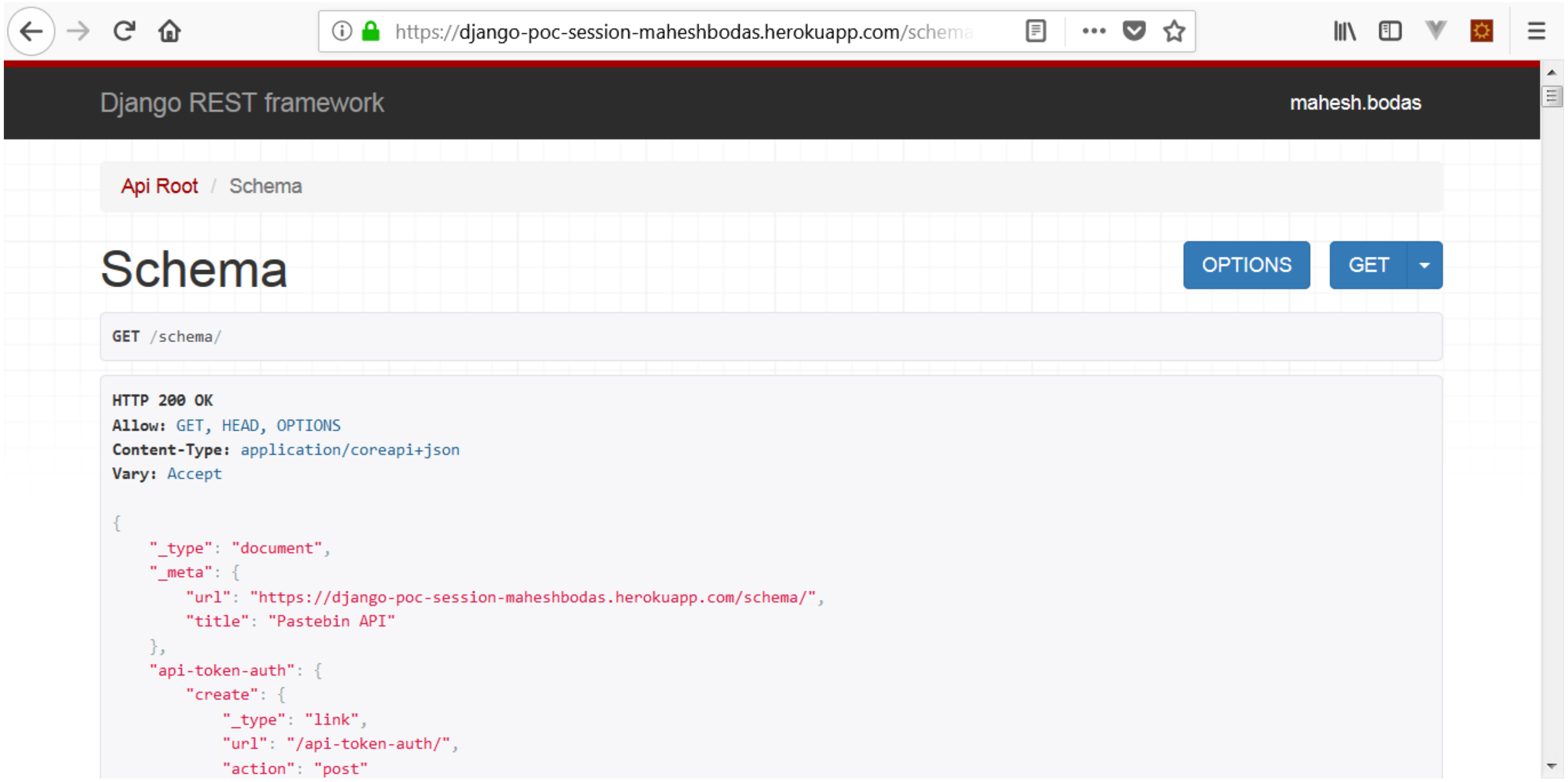
```
# Load the schema document
$ coreapi get https://django-poc-session-maheshbodas

# Interact with the API endpoint
$ coreapi action api-token-auth create
```

auth

login > create

```
# Load the schema document
$ coreapi get https://django-poc-session-maheshbodas
```

https://django-poc-session-maheshbodas.herokuapp.com/schema



Schema

```
GET /schema/
```

```
HTTP 200 OK
Allow: GET, HEAD, OPTIONS
Content-Type: application/coreapi+json
Vary: Accept

{
    "_type": "document",
    "_meta": {
        "url": "https://django-poc-session-maheshbodas.herokuapp.com/schema/",
        "title": "Pastebin API"
    },
    "api-token-auth": {
        "create": {
            "_type": "link",
            "url": "/api-token-auth/",
            "action": "post"
```