Forge Data Days

Tokyo – 29 July 2022

Takehiro Kato, Developer Advocate

AUTODESK

GraphQLの概要

GraphQL

Developed: 2012 | Public release: 2015

GraphQL

ユーザ

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GraphQL

CRUD

Create
Read
Update
Delete

```
mutation {
 createUser(name: “John Doe”) {
  id
 }
}
```

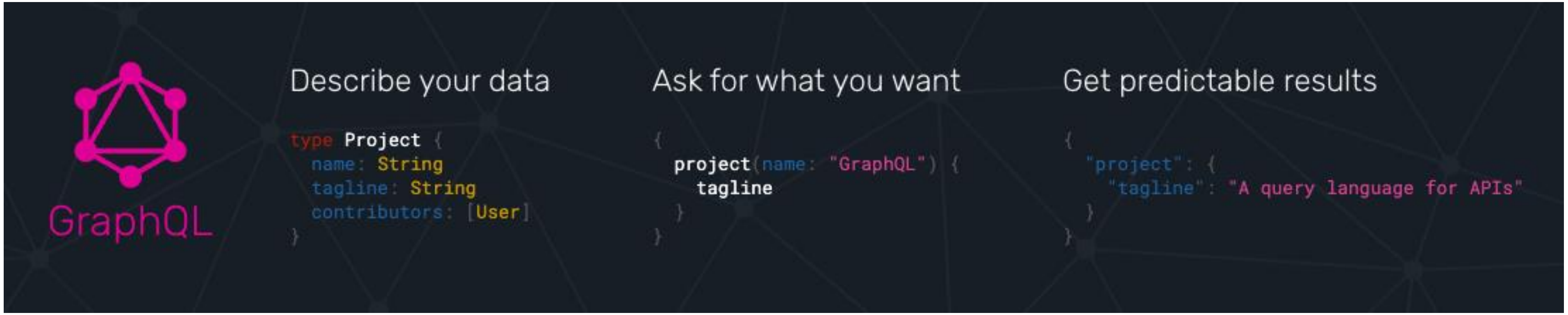
```
mutation {
 updateUser(input : {id: “1234”, address: “New place”}) {
  id
 }
}
```

```
mutation {
 deleteUser(userId : “1234”)
}
```

```
query {
 users() {
  id
  name
 }
}
```

GraphQL
ドキュメント

https://graphql.org/



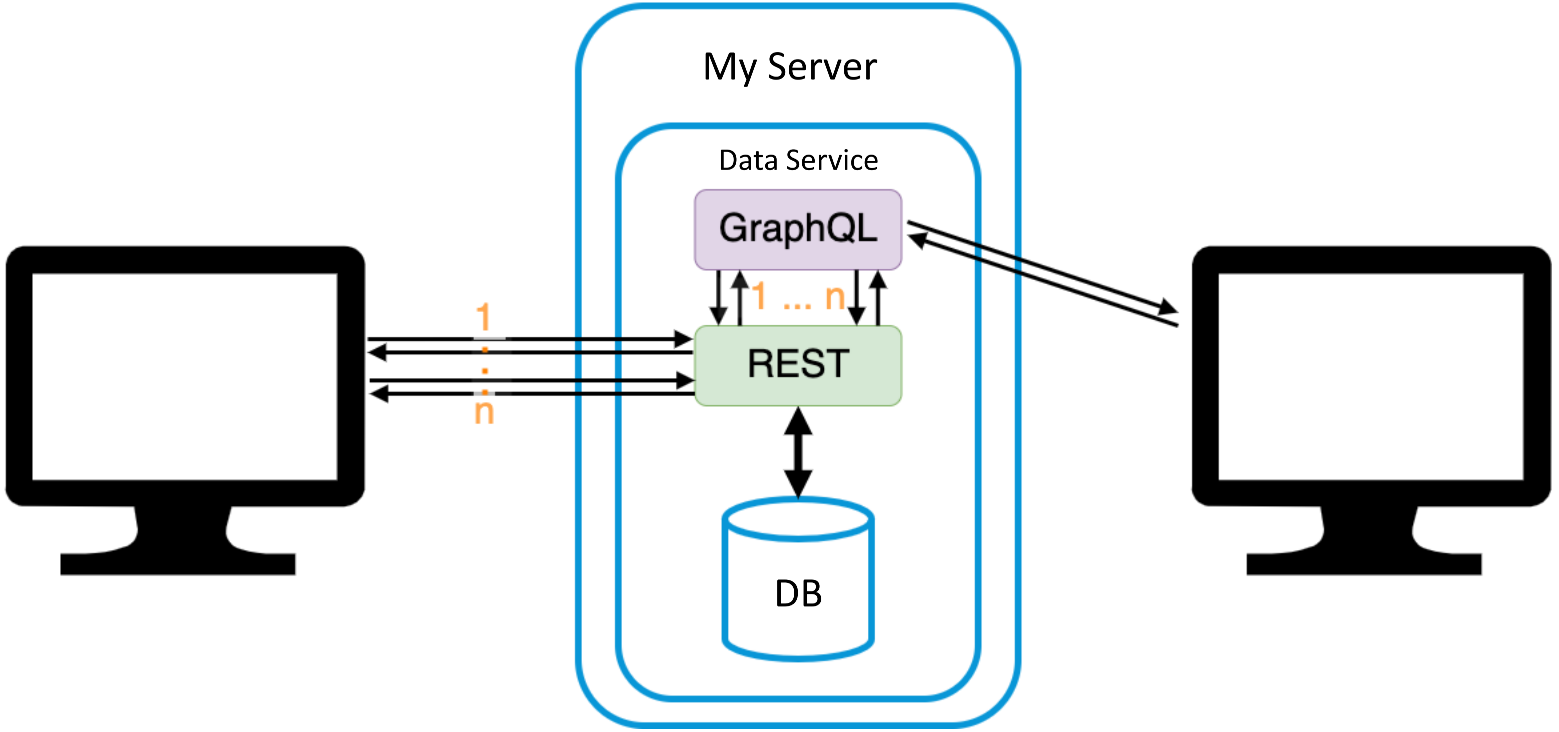
```
type Project {
  name: String
  tagline: String
  contributors: [User]
}
```

```
{
  project(name: "GraphQL") {
    tagline
  }
}
```

```
{
  "project": {
    "tagline": "A query language for APIs"
  }
}
```

GraphQL

GraphQL vs REST



GraphQL

チュートリアル

https://graphql.org/graphql-js/running-an-express-graphql-server/

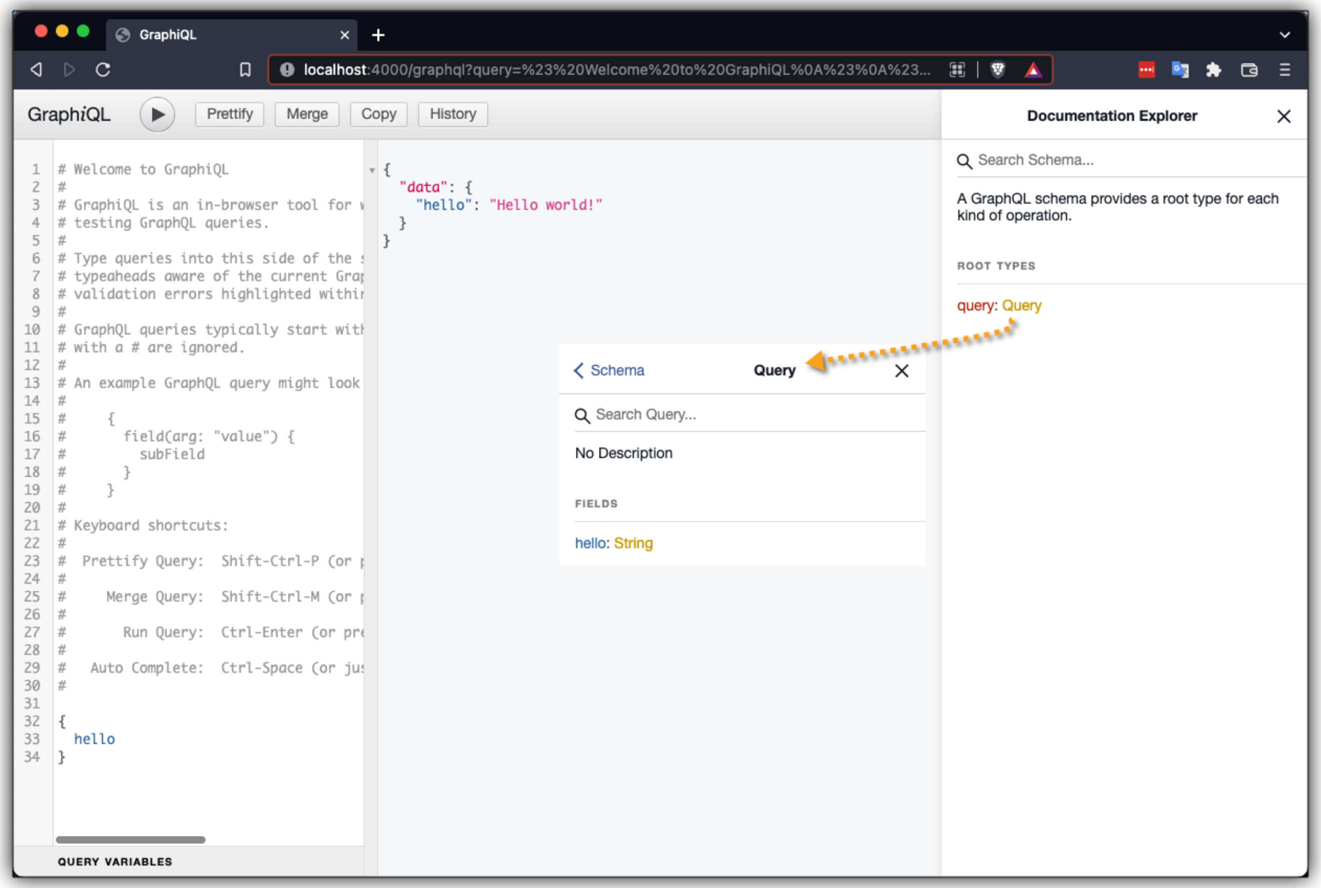
npm init

npm i express express-graphql graphql

GraphQL
チュートリアル

```
var express = require('express');
var { graphqlHTTP } = require('express-graphql');
var { buildSchema } = require('graphql');
// Construct a schema, using GraphQL schema language
var schema = buildSchema(`
  type Query {
    hello: String
  }
`);
// The root provides a resolver function for each API endpoint
var root = {
  hello: () => {
    return 'Hello world!';
  },
};
var app = express();
app.use('/graphql', graphqlHTTP({
  schema: schema,
  rootValue: root,
  graphiql: true,
}));
app.listen(4000);
console.log('Running a GraphQL API server at http://localhost:4000/graphql');
```

GraphQL
チュートリアル



```
# Welcome to GraphiQL
#
# GraphiQL is an in-browser tool for w
# testing GraphQL queries.
#
# Type queries into this side of the s
# typeaheads aware of the current Grap
# validation errors highlighted withir
#
# GraphQL queries typically start wit
# with a # are ignored.
#
# An example GraphQL query might look
#
#     {
#       field(arg: "value") {
#         subField
#       }
#     }
#
# Keyboard shortcuts:
#
#  Prettify Query:  Shift-Ctrl-P (or p
#
#     Merge Query:  Shift-Ctrl-M (or p
#
#       Run Query:  Ctrl-Enter (or pre
#
#   Auto Complete:  Ctrl-Space (or jus
#

{
  hello
}
```

```
{
  "data": {
    "hello": "Hello world!"
  }
}
```

A GraphQL schema provides a root type for each kind of operation.

query: Query

No Description

hello: String

GraphQL

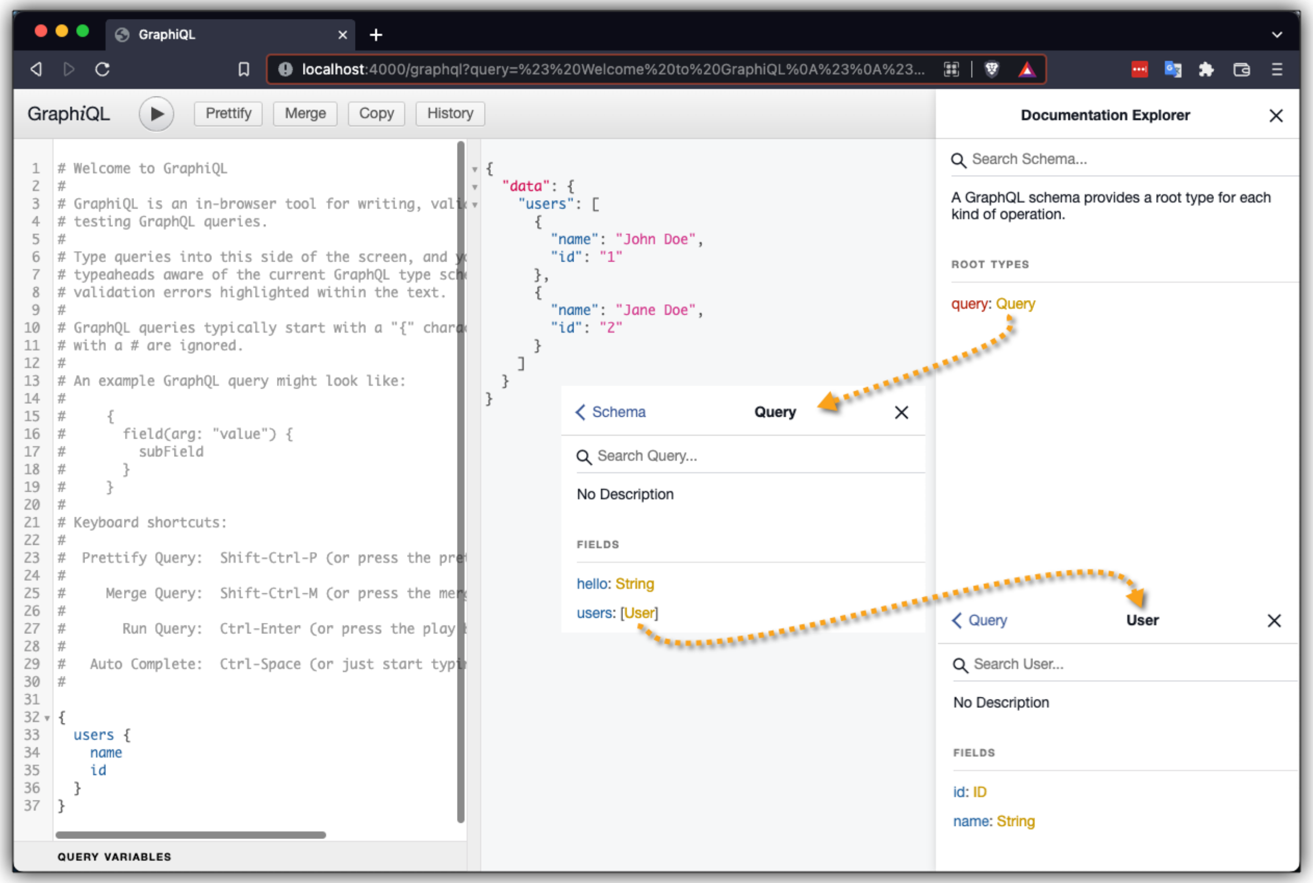
チュートリアル

```
var schema = buildSchema(`
 type Query {
  hello: String
  users: [User]
 },
 type User {
  id: ID
  name: String
 }
`);
```

```
let users = [{
 name: 'John Doe',
 id: '1'
}, {
 name: 'Jane Doe',
 id: '2'
}];

var root = {
 hello: () => {
  return 'Hello world!';
 },
 users: () => {
  return users;
 }
};
```

GraphQL
チュートリアル



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#   Auto Complete:  Ctrl-Space (or just start typi
#


{
  users {
    name
    id
  }
}
```

```
{
  "data": {
    "users": [
      {
        "name": "John Doe",
        "id": "1"
      },
      {
        "name": "Jane Doe",
        "id": "2"
      }
    ]
  }
}
```

Search Schema...

A GraphQL schema provides a root type for each kind of operation.

ROOT TYPES

query: Query

< Schema　Query

Search Query...

No Description

FIELDS

hello: String
users: [User]

< Query　User

Search User...

No Description

FIELDS

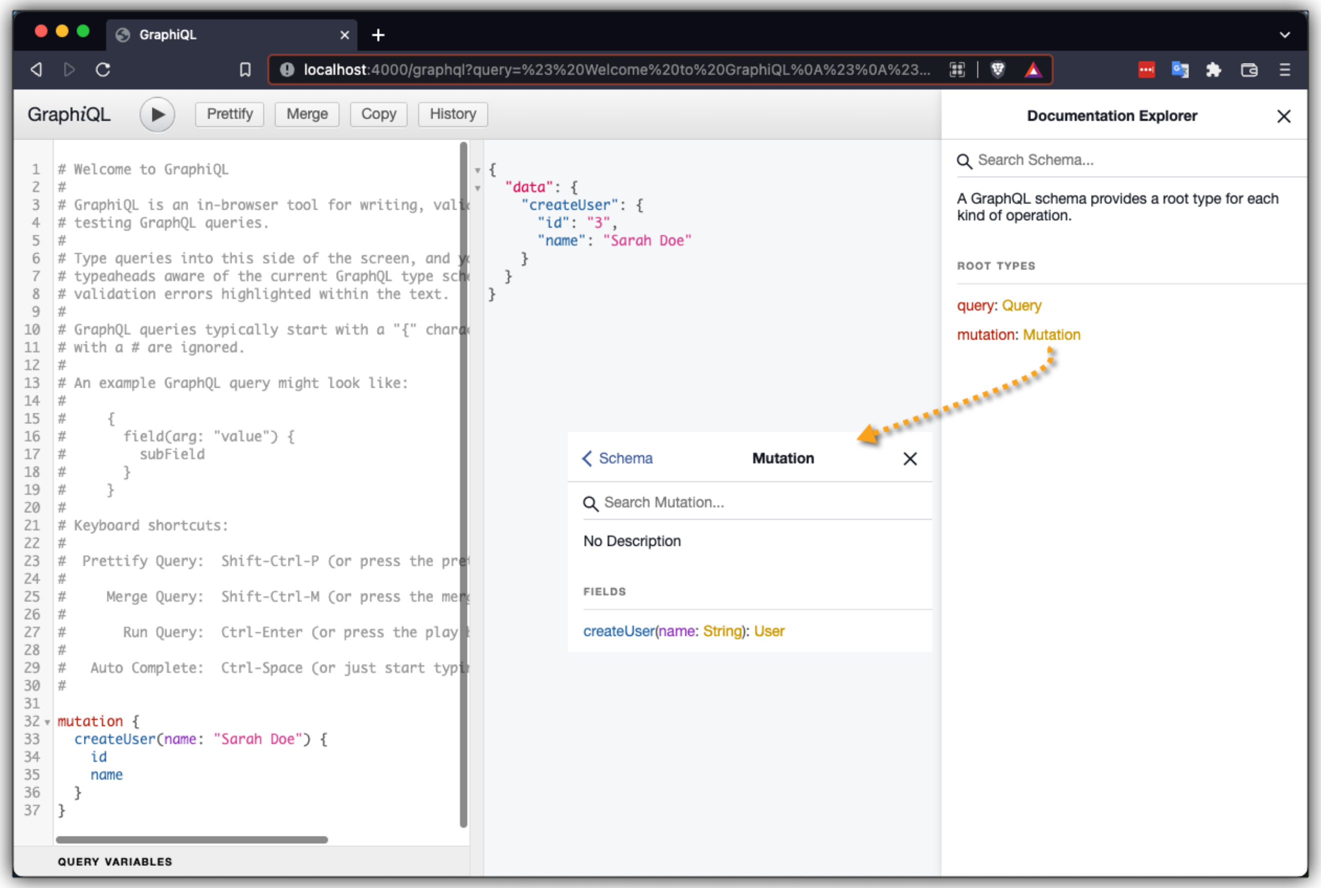
id: ID
name: String

GraphQL
チュートリアル

```
var schema = buildSchema(`
 type Query {
  hello: String
  users: [User]
 },
 type Mutation {
  createUser(name: String): User
 },
 type User {
  id: ID
  name: String
 }
`);
```

```
var root = {
 hello: () => {
  return 'Hello world!';
 },
 users: () => {
  return users
 },
 createUser: (input) => {
  let user = {
   name: input.name,
   id: users.length + 1
  };
  users.push(user);
  return user;
 }
};
```

GraphQL
チュートリアル



GraphiQL
localhost:4000/graphql?query=%23%20Welcome%20to%20GraphiQL%0A%23%0A%23...
Prettify
Merge
Copy
History
QUERY VARIABLES

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#
#       Run Query:  Ctrl-Enter (or press the play
#
#   Auto Complete:  Ctrl-Space (or just start typi
#

mutation {
  createUser(name: "Sarah Doe") {
    id
    name
  }
}
```

```
{
  "data": {
    "createUser": {
      "id": "3",
      "name": "Sarah Doe"
    }
  }
}
```

Documentation Explorer

Search Schema...

A GraphQL schema provides a root type for each kind of operation.

ROOT TYPES

query: Query

mutation: Mutation

Schema — Mutation

Search Mutation...

No Description

FIELDS

createUser(name: String): User

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