

# GraphQL

GraphQL is a query language for APIs and a runtime for fulfilling those queries with your existing data.

GraphQL is a syntax that describes how to ask for data, and is generally used to load data from a server to a client. GraphQL has three main characteristics:

- It lets the client specify exactly what data it needs. - **It helps you to reduce/optimize API instead of creating all methods by all the use cases.**
- It makes it easier to aggregate data from multiple sources.
- It uses a type system to describe data.

Example ) Simple query

```
{
  allMembers {
    members {
      name
    }
  }
}
```

Query Result

```
{
  "data": {
    "allMembers": {
      "members": [
        {
          "name": "Chun"
        },
        {
          "name": "John"
        },
        {
          "name": "Fred"
        },
        ...
      ]
    }
  }
}
```

Example 2) Query with condition

```
members(id: "s20181031xyz") {
  name
  title
}
```

Result

```
{
  "data": {
    "member": {
      "name": "Kenny",
      "title": "Senior Software Engineer"
    }
  }
}
```

GraphQL supports various programming languages

- C# / .NET
- Clojure
- Elixir

- Erlang
- Go
- Groovy
- Java
- JavaScript
- PHP
- Python
- Scala
- Ruby

You can see some same codes at <https://graphql.org/code/> in various programming languages, and reference query example at <https://alligator.io/graphql/introduction-graphql-queries/>