

# Rest, Swagger, & OAuth With Mura

# Who Am I?

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# A Super Quick Primer on REST

**It stands for:**

**REPRESENTATIONAL  
STATE  
TRANSFER**

**It's all about transferring a representation of a thing from one system to another.**

**And in the case of Mura's JSON API  
the objects are serialized and  
transferred as JSON**

```
{
  "apiversion": "v1",
  "data": {
    "widgetid": "F388399F-9DC6-FBF7-EFE46E460220AB89",
    "links": {
      "all": "http://localhost:8080/index.cfm/_api/json/v1/default/Widget",
      "properties": "http://localhost:8080/index.cfm/_api/json/v1/default/Widget/properties",
      "self": "http://localhost:8080/index.cfm/_api/json/v1/default/Widget/F388399F-9DC6-FBF7-EFE46E460220AB89",
      "entities": "http://localhost:8080/index.cfm/_api/json/v1/default"
    },
    "id": "F388399F-9DC6-FBF7-EFE46E460220AB89",
    "siteid": "default",
    "isnew": 0,
    "entityname": "Widget",
    "name": "My Widget"
  },
  "method": "findOne",
  "params": {
    "id": "F388399F-9DC6-FBF7-EFE46E460220AB89",
    "siteid": "default",
    "entityname": "Widget"
  }
}
```



**REST-compliant systems are often called “RESTful”**

# **RESTful Systems are Stateless:**

## **The client doesn't know anything about the server and vice versa**

**RESTful systems communicate  
between client and server with http  
requests.**

**A request is to retrieve or modify data**

**And the HTTP verb is what tells the server what the request is trying to do.**

**These http requests are made to url patterns that match resource endpoints**

**`https://mydomain.com/_api/rest/v1/default/widget/{id}`**

**And the HTTP verb is what tells the server what the request is trying to do.**

**GET - Retrieve Resource**  
**POST - Create Resource**  
**DELETE - Delete Resource**  
**PUT - Update Resource**



# A Super Quick Primer on OAuth2

**“The OAuth 2.0 specification is a flexible authorization framework that describes a number of grants (“methods”) for a client application to acquire an access token (which represents a user’s permission for the client to access their data) which can be used to authenticate a request to an API endpoint.”**

**<https://alexbilbie.com/guide-to-oauth-2-grants/>**

# There are 5 Grant Types

- **Authorization code grant**
- **Implicit grant**
- **Resource owner credentials grant**
- **Client credentials grant**
- **Refresh token grant**

# Today we're going to focus on the Authorization code grant

# In a nutshell this is what happens...

**The user gets redirected to the authorization server and prompted to allow access to the client.**

**Upon granting access the user is redirected back to the client with an Authorization “code”.**

**This Authorization “code” can then  
be used to obtain a “refresh\_token”**



**This “refresh\_token” can then be used to obtain an “access\_token”**

**The “access\_token” is what can be used to access the RESTful API**

**The “refresh\_token” can then be stored by the client and used to obtain subsequent “access\_tokens”**

**It's explained really well here:**

**<https://alexbilbie.com/guide-to-oauth-2-grants/>**

# A Super Quick Primer on Swagger

**“Swagger is the world’s largest framework of API developer tools for the OpenAPI Specification(OAS), enabling development across the entire API lifecycle, from design and documentation, to test and deployment.”**

# Now a demo....

**Fin**



# Questions?