Presentation Transcript:

Slide 1…

* Come in with a joke to break ice

Slide 2…

* Introduce yourself & presentation

Slide 3…

* Talk about Michael

Slide 4…

* Creator: Roy Fielding in 2000
  + Representational State Transfer.
* REST is not HTTP or a Protocol, but a guideline to build a performable & scalable system for the web.
  + It uses HTTP Protocols & HTTP Methods
    - GET = Provides a read only access to a resource.
    - POST = Used to create a new resource.
    - DELETE = Used to remove a resource.
    - PUT = Used to update an existing resource or create a new resource.
  + The makeup of REST Architecture
    - Server provides access to resources, the client accesses, then modify these resources. (text, JSON, XML, etc. JSON being most popular)
    - Identify URLs/global IDs.
* RESTful Web Services = a collection of open protocols and standards used for exchanging data between applications or systems.
  + RESTful is the implementation of REST (guidelines)
  + Defines a URI & provides resource representation such as JSON and set of HTTP Methods.
  + Various programming languages and running on various platforms exchanging data is due to the use of open standards.

Side 5…

* Roy Fielding is known as the father of the HTTP specification and one of the leading international authorities on everything to do with Network Architecture.
  + Well based off his dissertation entitled “Architectural Styles and the Design of Network-based Software Architectures” & BBVA.
* The point is that the Introduction of REST revolutionized software engineering
  + \*REFERENCE SLIDE\*
* Where does API comes in???
  + Well API is an application programming interface.
  + There are no projects or applications that don’t have a REST API for the creation of professional services based on this software.
    - EXAMPLES: Twitter, YouTube, FaceBook & other generated businesses
  + REST determines how the API looks like.
  + Each URL is called a request while the data sent back to you is called a response.
* REST is the most logical, efficient, and widespread standard in the creation of APIs for Internet services.
* The Gold Standard for simple data-processing solutions

Slide 6…

* Explaining pic
  + Here is the client sending an HTTP Request to the server
    - Verbs are the (actions) being undertook
  + Server sends back the Response
    - Resource is represented in these formats

Slide 7…

* Explain pic
  + The API URL is located in the first part, then API methods, finally parameters
    - Parameters are what we can pass on to these methods

**The Anatomy Of A Request**

It’s important to know that a request is made up of four things:

* The endpoint
* The method
* The headers
* The data (or body)
* The endpoint (or route) is the url you request for.
* The root-endpoint is the starting point of the API you’re requesting from.
* The path determines the resource you’re requesting for.

Example: Twitter’s API is https://api.twitter.com.

Slide 8…

* Using simple HTTP Protocols Principles to….
  + Create
  + Read
  + Update
  + Delete
  + These are known as \*CRUD Operations\*
* Client send http request to this endpoint
  + Red = the http protocol
  + Blue = domain name
  + Purple = API
  + Green = resource
* Exploring the Methods
  + GET, PUT, POST, DELETE
* To GET a list of all students
  + Students being plural indicates a list of students
  + Server sends back a response like so… an array of student objects
  + To ask for a specific student call for the id
* To UPDATE a student
  + Send a PUT request to endpoint
  + Include student object in body of request: “name”
  + Server updates id with given values
* To DELETE a student
  + Send HTTP request to endpoint as follows
  + No customer object needed
  + Only need id
  + No Server response, just an action
* To CREATE a student
  + Send HTTP POST request
  + Adding a new student, don’t need an id in the address
  + POSTing new student to the collection “students”
  + Include student object “name”
  + Server creates student for us

CONCLUSION:

* REST is a style of software architecture
* REST API defines a set of functions which developers can perform requests and receive responses via HTTP protocol such as GET and POST
* RESTful are web services implementing REST architecture