Edge REST Design Fundamentals
Building Blocks of REST

What is Pragmatic REST?

REST is an acronym for "Representational State Transfer".

Pragmatic REST is a mechanism for using standard HTTP concepts to access machine readable resources.

Pragmatic REST allows programmers to access web APIs with very little overhead.

A well-written Pragmatic REST API is easily understandable, readily consumable and self-documenting.

What does Pragmatic REST look like?

Resource-Oriented

    /v1/customers - a collection of or search for customers

    /v1/customers/{} - a specific customer

HTTP Verb Driven

    GET - fetch / search

    POST - create

    PUT - update

    DELETE - remove

Why Pragmatic REST?

Well understood in the industry

Easily implementable

Easily consumable

Lifecycle tools

Governance tools

Benefits of Resource-Oriented, Verb-Driven APIs

Clear intent, common understanding

HTTP caching tricks enabled

      ETag

      If-Modified-Since

      Cache-Control

Provides an opportunity to design resource objects that simplify system
    interactions and improve adoption through stability

Data Types

SOAP+XML

The "Traditional" enterprise data structure type

Strong validation = brittle apps

Difficult implementation on mobile / web platforms

JSON

Web-native data structures

Weak validation = robust apps

Seamless implementation on mobile / web platforms

Sample Interaction

```
GET /v1/customers HTTP/1.1
Host: api.yourdomain.com
```

Sample Interaction

```
GET /v1/customerz HTTP/1.1
Host: api.yourdomain.com
```

```
410 Gone

{
  "deprecated": true,
  "message": "use /v1/customers"
}
```

Sample Interaction

```
GET /v1/customers/U3443 HTTP/1.1
Host: api.yourdomain.com
```

Sample Interaction

```
GET /v1/customers/U3443 HTTP/1.1
Host: api.yourdomain.com
```

```
200 OK
Cache-Control: max-age=35000
Last-Modified: Wed, 21 Dec 2016 08:12:31 MDT

{
  "fname":"Fred", "lname":"Jones",
  "id":"U3443",
  "address": {
    "line1":"455 Weaver Park Rd #500",
    "city":"Longmont",
    "state":"CO",
    "zip":"80501"
  },
  "orders": {
    "href":"https://.../v1/orders?
cust=U3443"
  }
}
```

Sample Interaction

```
GET /v1/customers/U3443 HTTP/1.1
Host: api.yourdomain.com
If-Modified-Since: Wed, 21 Dec 2016
08:12:31 MDT
```

Sample Interaction

```
GET /v1/customers/U3443 HTTP/1.1
Host: api.yourdomain.com
If-Modified-Since: Wed, 21 Dec 2016
08:12:31 MDT
```

```
304 Not Modified
Last-Modified: Wed, 21 Dec 2016 08:12:31 MDT
```

THANK YOU