Restful Web service Principles

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Restful Web Services

Four golden principles.

➢One-to-one mapping with Http methods(post, get, put, delete).

➢Stateless.

➢Define URI.

➢Define content type.

One-to-one mapping with Http methods

- The CRUD operations are mapped with HTTP methods.

  - To create a resource on the server, use POST.

  - To retrieve a resource, use GET.

  - To change the state of a resource or to update it, use PUT.

  - To remove or delete a resource, use DELETE.

Stateless

- Main advantage of stateless is to make it scaleable on multi cluster environmnet i.e. request can be handled by any server without maintaining additional information about the request on server.

- This aspect of the Rest service defines two responsibilities on Server and Client Side.

- Server Side

    - The generated responses by the server contains information about the last-modified date and Cache-controle to avoid duplicate requests for the same response.

    - Generates the embedded links to navigate between related resources.

Stateless

- Client Side
  - Uses the Cache-Control header to check if whether the response should be cached(local copy should be maintained).
  - Client also reads the Last-Modified response header and sends back the same date in If-Modified-Since header to confirm that if response is changed.
    - (For such a request, if response is not modified then server sends 304 http response in the response)

Define URI

- URI should be intutive enough.
  - For example:
    - http://www.myservice.org/discussion/topics//{topic}
    - Generic to specific as moving from left to right.
  - Additional points to remember:
    - Keep everything lowercase.
    - Hide the server-side scripting technology file extensions.
    - Substitute spaces with hyphens or underscores if required.
    - Avoid query strings as much as you can.

•Define content type

- Restful webservice use built-in HTTP Accept header to get the content type.

  – Mime-Type   Content-type

  - Json   application/json
  - Xml   application/xml
  - Xhtml   application/xhtml/xml