

Web Service for Mobile Day I

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About

- Not a Teacher or Instructor
- Not a Programmer or Developer
- Senior Software Engineer at SIPA
- Content writer not speaker
- I use Linux :)

Rules

- You can leave every time.
- If you don't understand and you don't want to ask you can leave.
- If you want to learn by yourself and I'll give you a resources, you can leave.
- If you don't understand at all and everything as I said, you can leave and I'll give a resources, you can learning by yourself.

Quote

“If you cannot do great things, do small things in a great way” - [Napoleon Hill](#)

You should know

- Android
- Java
- PHP or some PHP Framework
- Database System
- Service Oriented Architecture (SOA)
- HTTP Services
- XML, JSON, Data Parsing

Web Service

A Web service is a method of communication between two electronic devices over the World Wide Web. A Web service is a software function provided at a network address over the web or the cloud, it is a service that is "always on" as in the concept of utility computing.

Web Service

Two major classes of Web services

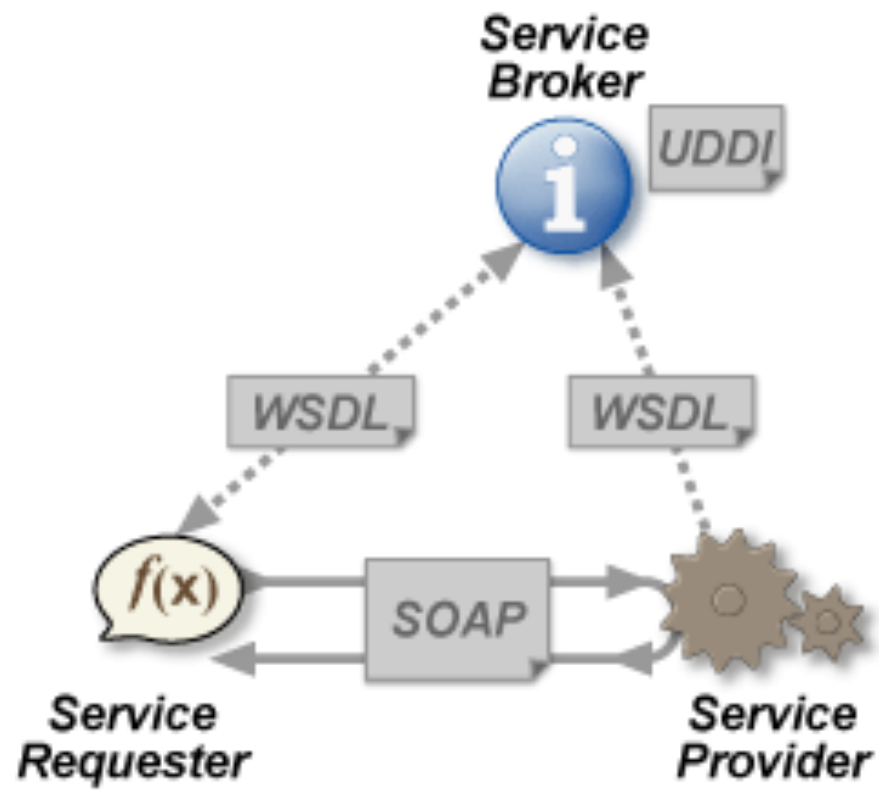
- REST-compliant Web services
- other

Web Services in old fashion

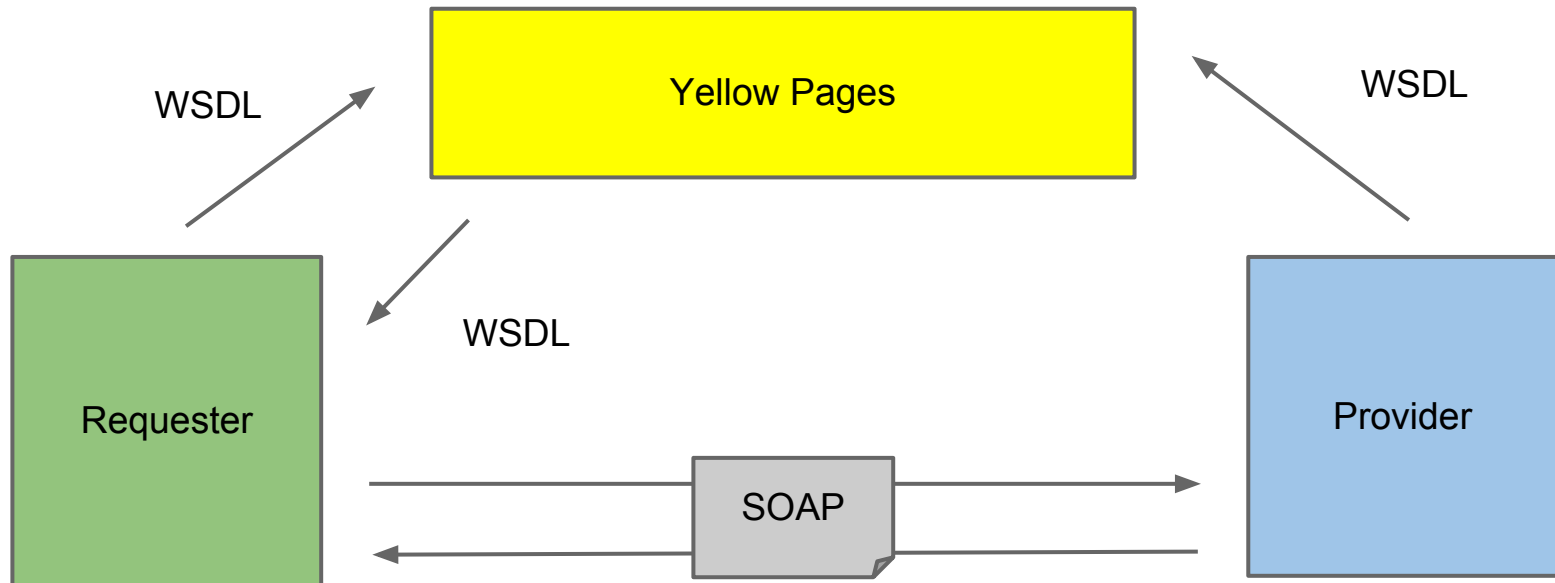
It has an interface described in a machine-processable format (specifically Web Services Description Language, known by the acronym [WSDL](#))

Interact

Systems interact with the Web service in a manner prescribed by its description using SOAP messages, typically conveyed using HTTP with an XML serialization in conjunction with other Web-related standards.



Simple diagram



Requester ask or search yellow pages which address and how to talk with provider. The yellow pages 'll send the response by using WSDL how to talk which provide by Provider to the requester.
Requester receives the address and methods then communicate with Provider.

Quote

"HTTP + XML = SOAP" - [W3CSchool](#)

SOAP Sample

If you want to request to SOAP server, you must know

- URL
 - `http://example.com/service.php`
- WSDL
 - `http://example.com/service.php?wsdl`
- Soap Action
 - `http://example.com/service.php/HelloWorld`
- Method
 - HelloWorld
- Your data to sent

SOAP Request

POST /InStock HTTP/1.1

Host: www.example.org

Content-Type: application/soap+xml; charset=utf-8

Content-Length: nnn

```
<?xml version="1.0"?>
```

```
<soap:Envelope
```

```
  xmlns:soap="http://www.w3.org/2001/12/soap-envelope"
```

```
  soap:encodingStyle="http://www.w3.org/2001/12/soap-encoding">
```

```
    <soap:Body xmlns:m="http://www.example.org/stock">
```

```
      <m:GetStockPrice>
```

```
        <m:StockName>IBM</m:StockName>
```

```
      </m:GetStockPrice>
```

```
    </soap:Body>
```

```
</soap:Envelope>
```

SOAP Response

HTTP/1.1 200 OK

Content-Type: application/soap+xml; charset=utf-8

Content-Length: nnn

```
<?xml version="1.0"?>
```

```
<soap:Envelope
```

```
  xmlns:soap="http://www.w3.org/2001/12/soap-envelope"
```

```
  soap:encodingStyle="http://www.w3.org/2001/12/soap-encoding">
```

```
  <soap:Body xmlns:m="http://www.example.org/stock">
```

```
    <m:GetStockPriceResponse>
```

```
      <m:Price>34.5</m:Price>
```

```
    </m:GetStockPriceResponse>
```

```
  </soap:Body>
```

```
</soap:Envelope>
```

Web services in new fashion

Web API is a development in Web services where emphasis has been moving away from **SOAP based services** towards representational state transfer ([REST](#)) based communications.

RESTFuI / REST API

a style of software architecture for distributed systems such as the WWW. The REST language uses nouns and verbs, and has an emphasis on readability. Unlike SOAP, REST does **not require XML parsing** and does **not require a message header** to and from a service provider.

Concept

- the base URI for the web service, such as `http://example.com/resources/`
- the Internet media type of the data supported by the web service.
- the set of operations supported by the web service using HTTP methods (e.g., GET, PUT, POST, or DELETE).
- The API must be hypertext driven.

Example URI

- `http://example.org/user/`
- `http://example.org/user/anuchit`
- `http://search.twitter.com/search.json?q=xxx`

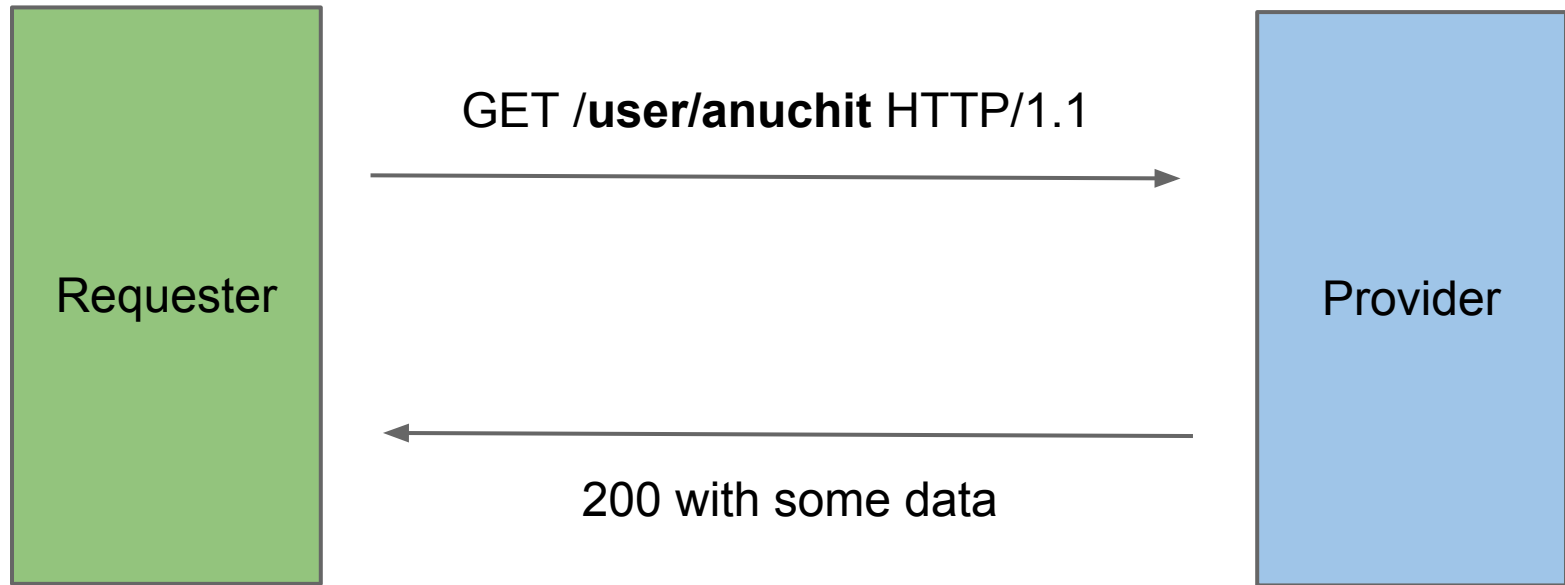
Example methods

Resource	GET	PUT	POST	DELETE
http://example.org/user	list collection	replace	create	delete
http://example.org/user/rose	list data	replace/ create	? / create	delete

No "official" standard

There is no "official" standard for RESTful web services, This is because REST is an architectural style, unlike SOAP, which is a protocol. Even though REST is not a standard, a RESTful implementation such as the Web can use standards like HTTP, URI, XML, etc.

Simple Diagram



Data Format

XML

```
<?xml version="1.0"?>
<item>
  <name>Anuchit Chalothorn</name>
  <email>anoochit@gmail.com</email>
</item>
<item>
  <name>Sira Nokyongthong</name>
  <email>gumaraa@gmail.com</email>
</item>
```

Data Format

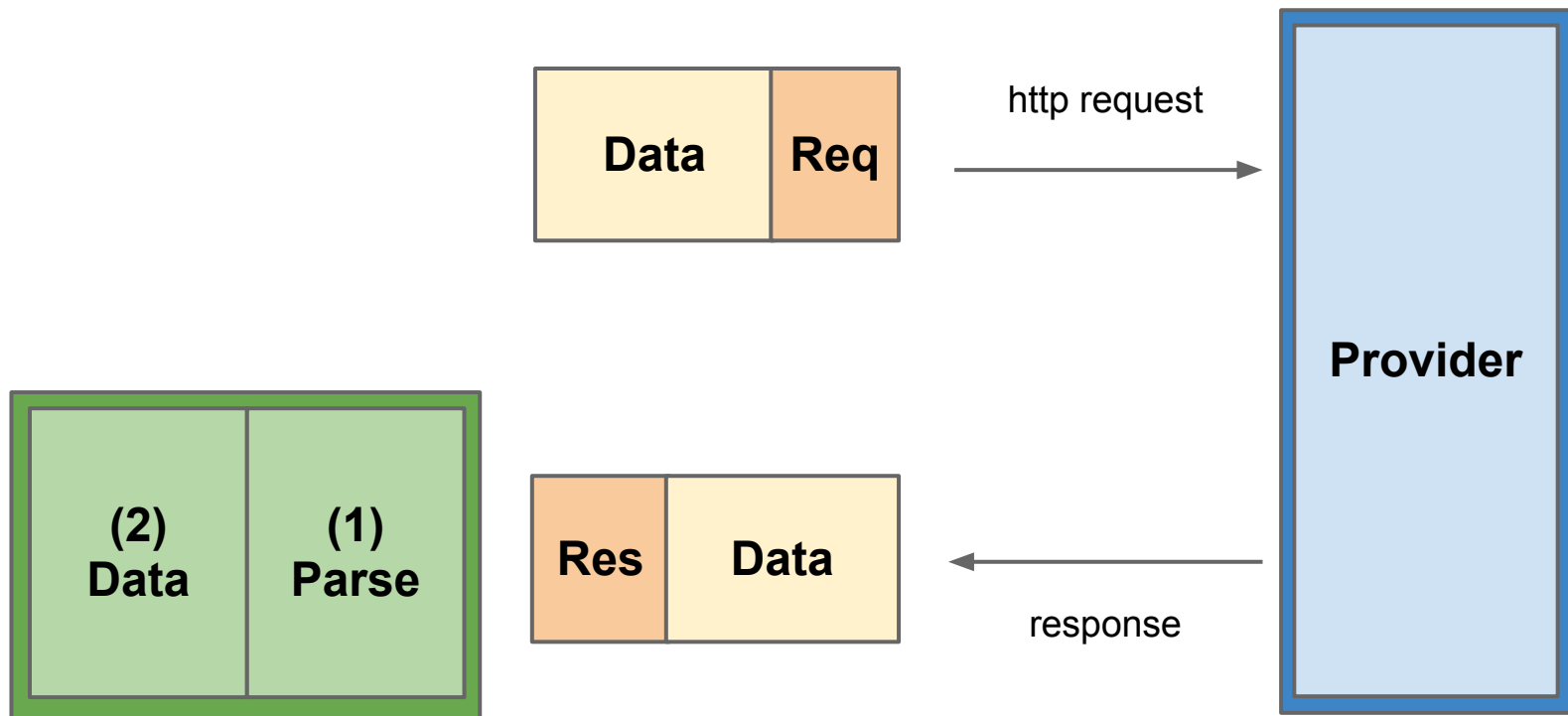
JSON

```
{
  "item": [
    {
      "name": "Anuchit Chalothorn",
      "email": "anoochit@gmail.com"
    },
    {
      "name": "Sira Nokyongthong",
      "email": "gumaraa@gmail.com"
    }
  ]
}
```


Shortcut - Web Services design

- Choose method old style, new style
- Look around an eco-system
- Who'll using your services
- How to implementation
- Design and document

Mobile App & Web Services



* This is your destiny you cannot change your future, accept using vendor sdk's

Case Study - Plus Clever

- **Game (Client)**
 - sum a set of numbers in to 1 digit
 - score by level calculate from time remain and levels
 - each level has 10 sub-levels
 - never ending game BUT maximum is 10 digits to calculate
 - keep your high-score online (web service is here)
- **Web Service (Server)**
 - PaaS on OpenShift
 - PHP, CakePHP, MySQL

Case Study - Plus Clever

Enter Your Name

Dakota

Ask a player name in the first time and keep value in SQLite

Case Study - Plus Clever



Your Score
1,000,000

If player reach high score keep score in SQLite and publish score to server

Case Study - Plus Clever

**World
Leaderboard**
Xavier - 10,000,000
Dakota - 1,000,000
Luxor - 50,000
Keva - 6,000

Ask score server for world leader board.

Case Study - Plus Clever

- REST API
- Using JSON as data
- Using CakePHP to implement score service
- Put in the Cloud ~ OpenShift by RedHat

In Real Life

- Plus Clever in Google Play
 - <http://tinyurl.com/plusclever>
- Score server
 - <https://rest-redlinemobi.rhcloud.com/score/>

Code in GitHub

- Score Server
 - <https://github.com/anoochit/rest-score>
- Score Server Test
 - <https://github.com/anoochit/rest-score-test>
- Plus Clever Game
 - <https://github.com/anoochit/plusclaver-game>

Your Case Study - WattPad ?

I'm too old, anyone can describe this

- What is WattPad ?
- What is WattPad do ?
- Who are using WattPad ?
- How to use WattPad ?

...

...

...

Quote

“If you cannot do great things, do small things in a great way” - [Napoleon Hill](#)

Small things for you

Make Web Services of this small things

- HelloWorld
- Echo your name
- Asking for Date Time
- Temperature Unit Converter
- Search Telephone Number

Small things for you

Make Mobile App by calling your web service

- HelloWorld
- Echo your name
- Asking for Date Time
- Temperature Unit Converter
- Search Telephone Number

Small resources

- Thai Create
 - <http://www.thaicreate.com/mobile.html>

2 Hours
finish & present

Thank You