Web Services: SOAP vs REST

REVATURE

Peter Alagna Jr.

The Tools

- SOAP
  - There are many SOAP engine tools available (Apache CXF).
  - This tools provide **Code** and **WSDL** generation (JAX-WS in the case of Java).
    - Contract first – Contract last.
- REST
  - Is Tool-less.

The Exception Handling

- SOAP
  - Has **exception handling** built-in, **configurable** in the **body** of the **message** (<fault> tag).
- REST
  - Behavior needs to be provided through **Spring** in order to be able to handle exceptions.

The Contract

- SOAP
  - Is **contract** based (**WSDL**).
- REST
  - Is **not contract** based.
  - Even **though** there is something called the **WADL** (Web Application Description Language) that can make REST become **contract** based.
    - This approach is **old** and **not used** widely in the industry.

The Message

- SOAP
  - Uses a standard structured message called **Envelope**.
  - It only allows **XML** as its media type.
- REST
  - It uses the **HTTP** package itself as part of the protocol.
  - It has a **Request** and a **Response** message.
  - It allows **JSON** (Jackson), **XML** (JAX-B) and other media types.
    - **Flexible**.

The Atomicity

- SOAP
  - Has **transactions** built-in, **configurable** in the **header** of the **message**.
    - This can make messages become **atomic**.
- REST
  - Doesn’t perform **atomic** transactions. It just **represents** state.

The Protocol

- SOAP
  - Can use **HTTP**, **HTTPS**, **FTP**, **SMTP** and other **protocols**.
- REST
  - Can only use **HTTP** and **HTTPS**.
  - REST is **bound** to **HTTP protocol**.
    - However, this is the most used **transfer protocol**.

The Security

- SOAP
  - Has **security** built-in, **configurable** in the **header** of the **message**.
  - It allows double **encryption**, if **HTTPS** is being used.
- REST
  - The only way to secure it is through **HTTPS** and authentication.

Remembering

T E C M A P S

Materials

- SOAP: https://msdn.microsoft.com/en-us/library/ms995800.aspx
- REST: https://www.tutorialspoint.com/restful/