Web Services: SOAP vs REST

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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.

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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.

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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.

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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.

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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**.

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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.

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Remembering

T E C M A P S

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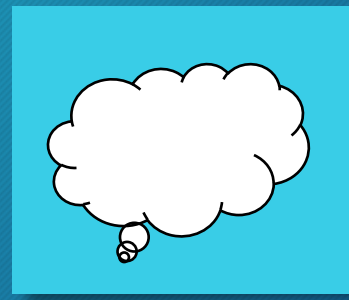
Materials



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