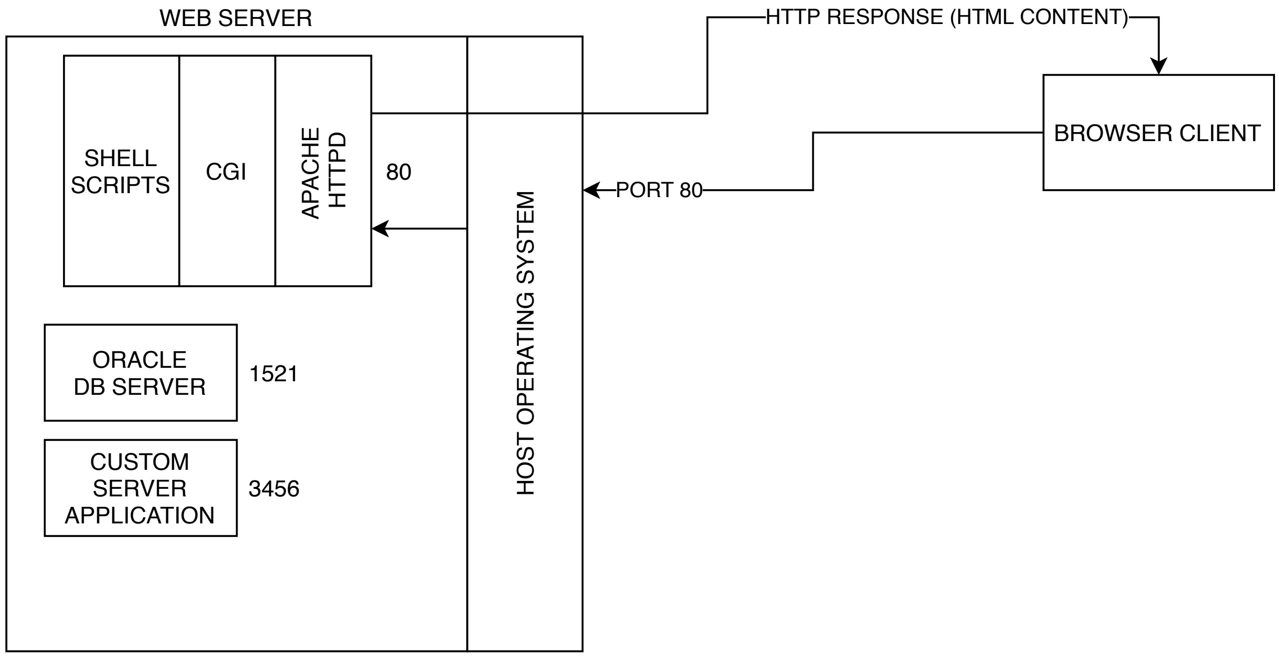
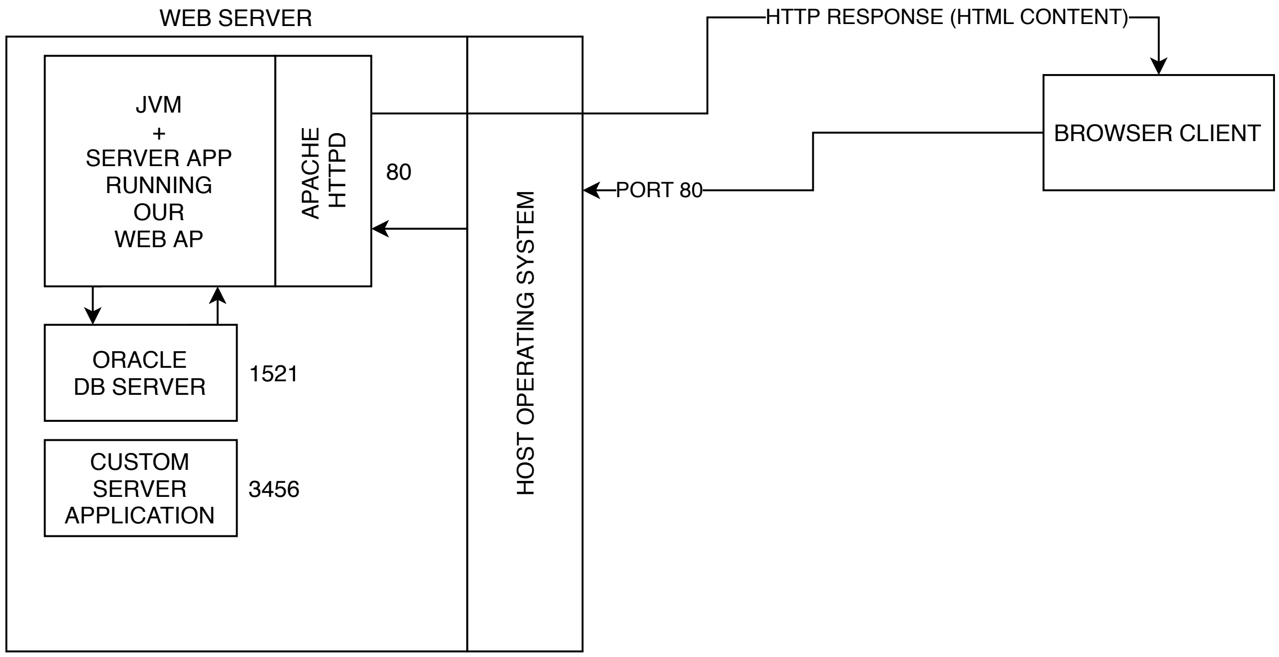
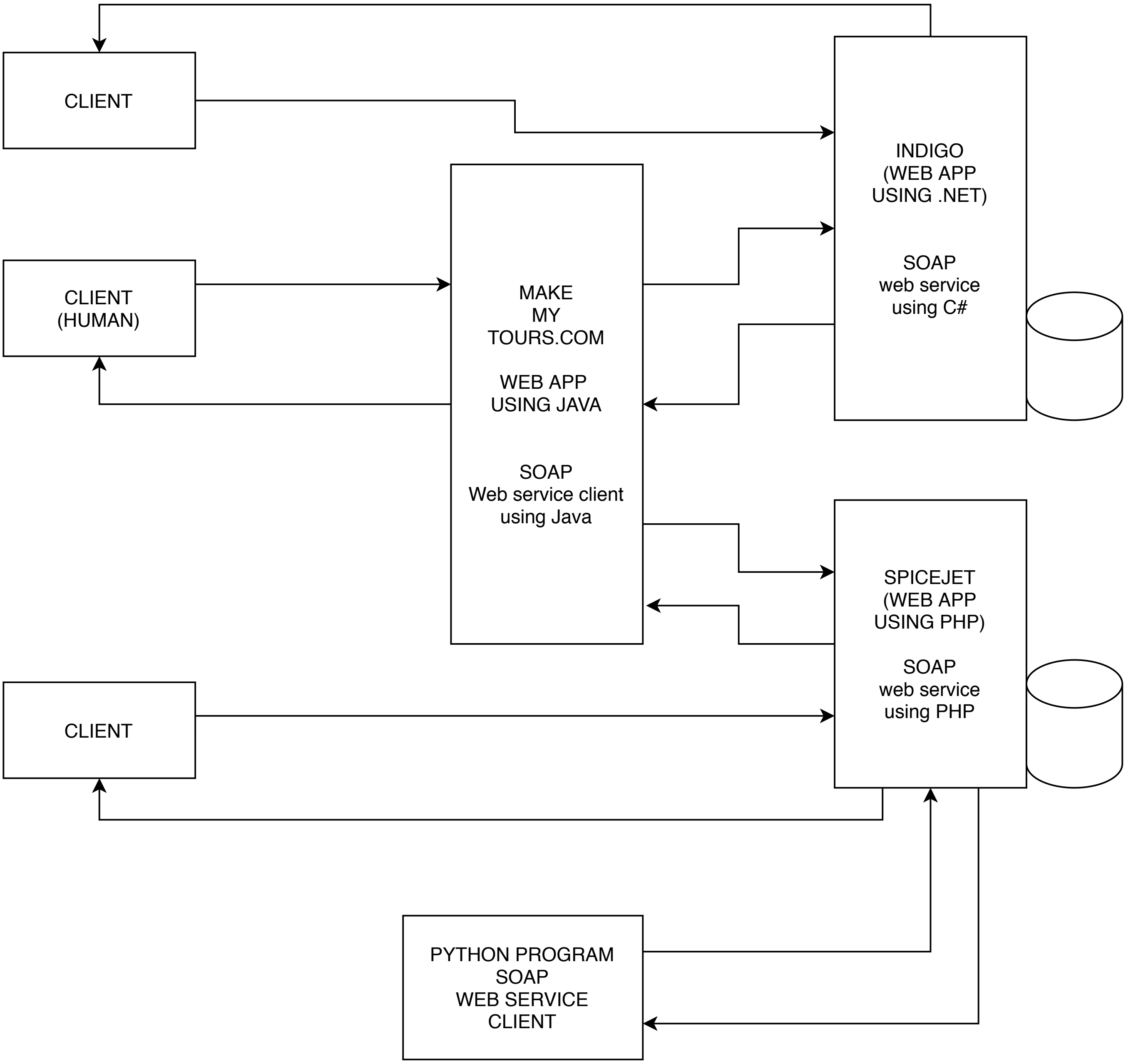
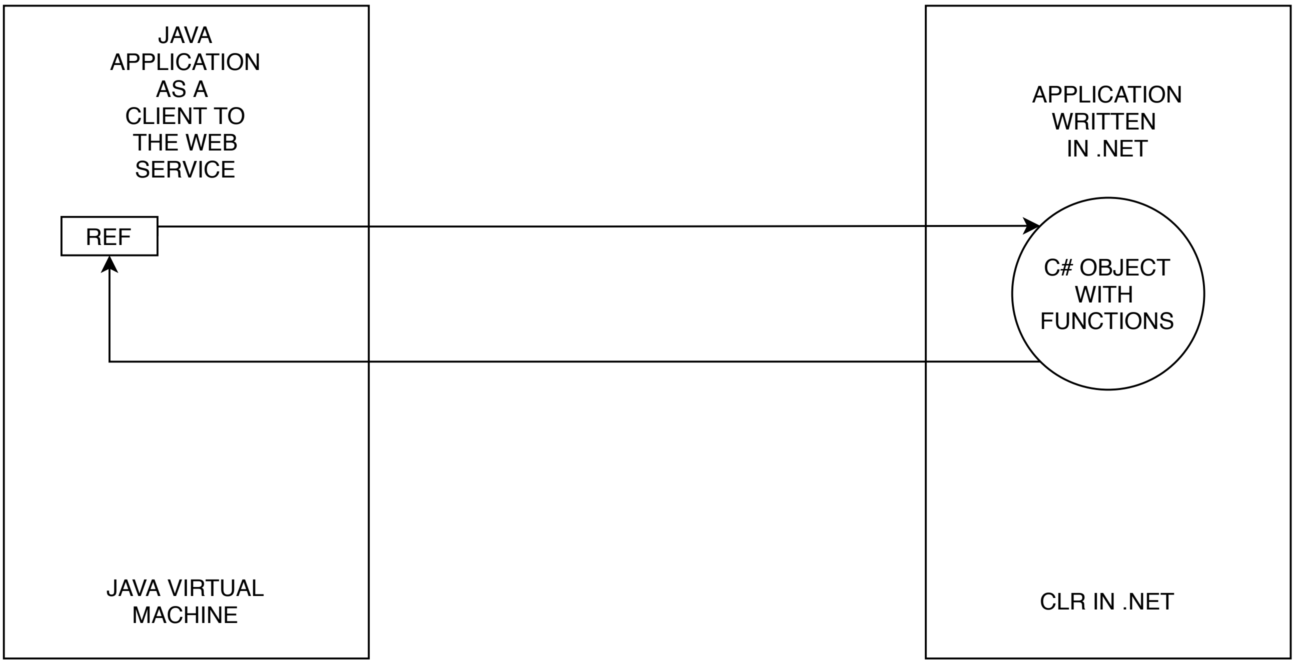
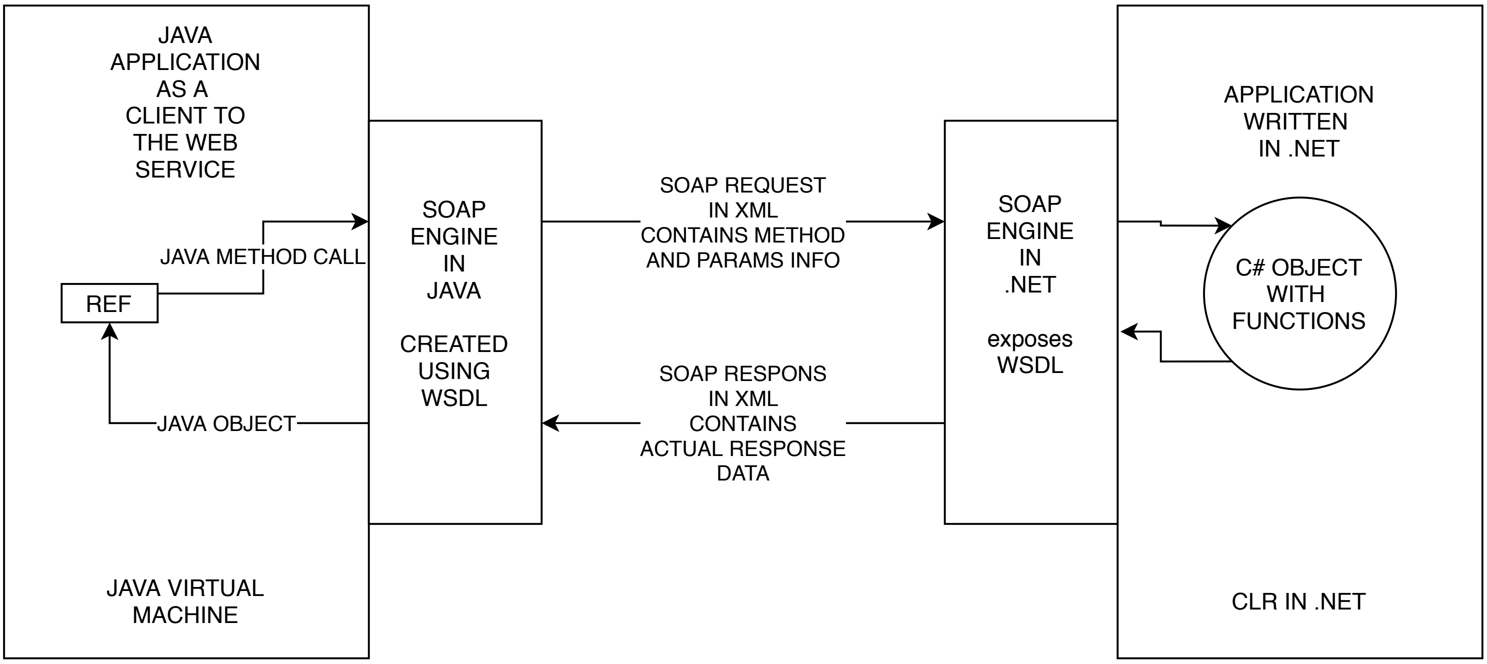

WEB SERVER
SHELL SCRIPTS
CGI
APACHE HTTPD
80
ORACLE DB SERVER
1521
CUSTOM SERVER APPLICATION
3456
HOST OPERATING SYSTEM
HTTP RESPONSE (HTML CONTENT)
PORT 80
BROWSER CLIENT


WEB SERVER
JVM
+
SERVER APP
RUNNING
OUR
WEB AP
APACHE HTTPD
80
ORACLE DB SERVER
1521
CUSTOM SERVER APPLICATION
3456
HOST OPERATING SYSTEM
HTTP RESPONSE (HTML CONTENT)
PORT 80
BROWSER CLIENT


CLIENT
INDIGO
(WEB APP
USING .NET)
SOAP
web service
using C#
CLIENT
(HUMAN)
MAKE
MY
TOURS.COM
WEB APP
USING JAVA
SOAP
Web service client
using Java
SPICEJET
(WEB APP
USING PHP)
SOAP
web service
using PHP
CLIENT
PYTHON PROGRAM
SOAP
WEB SERVICE
CLIENT


JAVA APPLICATION AS A CLIENT TO THE WEB SERVICE
REF
JAVA VIRTUAL MACHINE
APPLICATION WRITTEN IN .NET
C# OBJECT WITH FUNCTIONS
CLR IN .NET


JAVA APPLICATION AS A CLIENT TO THE WEB SERVICE
JAVA METHOD CALL
REF
JAVA OBJECT
JAVA VIRTUAL MACHINE
SOAP ENGINE IN JAVA
CREATED USING WSDL
SOAP REQUEST IN XML CONTAINS METHOD AND PARAMS INFO
SOAP RESPONS IN XML CONTAINS ACTUAL RESPONSE DATA
SOAP ENGINE IN .NET
exposes WSDL
APPLICATION WRITTEN IN .NET
C# OBJECT WITH FUNCTIONS
CLR IN .NET

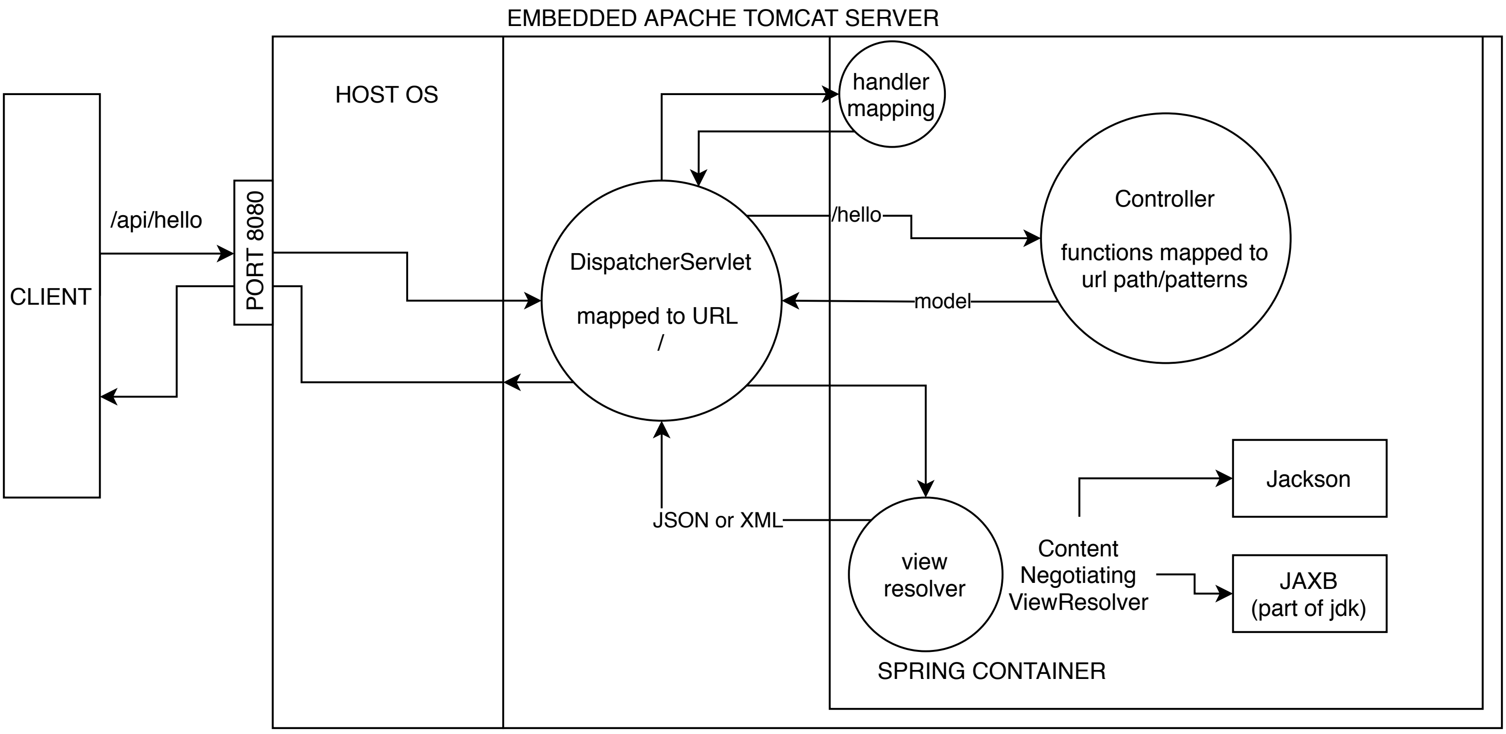
REST

Representational State Transfer

Transferring State (information) in different representations (XML/**JSON**/CSV/HTML/TEXT/...)
There is standards like WSDL (for SOAP) in REST
Client and server exchange data in the form of (mostly) JSON
Clients are typically JavaScript application (or mobile apps), which run directly on the end-user's browser (or mobile)

State (or data) is represented on the server --> resource
A Resource is identified using a URI (~URL) --> **http://example.com/api/products**
A Resource can be manipulated using HTTP request methods **(GET/POST/PUT/PATCH/DELETE)** <-- VERBS
Client and Server can negotiate for the kind (representation) of data (CONNEG)
CONNEG is done using HTTP request/response headers called '**Accept**' and '**Content-Type**'

The concept of RESTful services is based on 6 constraints laid out by Roy Fielding, creator of HTTP protocol:
1. Client/server application
2. Stateless
3. Uniform interface
4. Layered system
5. Cacheable
6. Code on demand (OPTIONAL)



ContentNegotiatingViewResolver

is the default view resolver used by handler function's return value for all @RestControllers. This resolver checks the header "Accept" and based on the value, it will make use of either Jackson API (to generate JSON output) or JAXB API (to generate XML output)

JAXB is an official JSR-222 api for marshalling java objects to XML and vice versa.

JAXB can automatically convert any entity object into a valid XML text, but has a very strict security policy.

According to JAXB, only classes that are permitted by the author (using annotations), can be converted (marshalled) into XML or vice versa (unmarshalled)