

CommandLineRunner:

- It is a functional interface which is provided by SB
- It allows us to execute the code after the SB application has started
- It has @Bean annotation it registers the CLR as Spring Bean.

- Creating db tables from java code

Previously we created db tables by running a SQL script.

JPA/Hibernate provides an option to create db tables automatically.

Configurations:

Application.properties:

`Spring.jpa.hibernate.ddl-auto = create`

When we run our application, JPA/Hib will drop tables then create them for us

NOTE: When database tables are dropped, all data is erased.

`Spring.jpa.hibernate.ddl-auto = update`

If we want to create table once and then keep the data

What are REST services?

REpresentational SState TTransfer

- Used for building web services which interact over HTTP.

Uses of HTTP Methods:

1. GET: retrieve data
2. POST: create new data
3. PUT: update the existing data
4. DELETE: Delete data

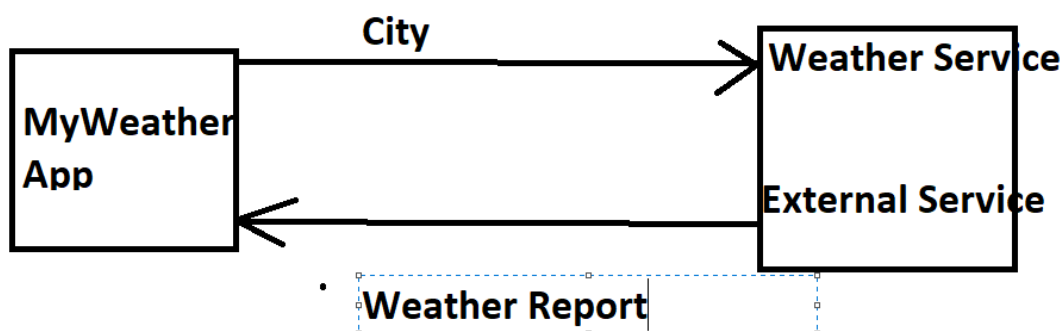
What is data format: JSON

/students -> represents all the students

/student/{id} -> Represents a single student by id

Business Problem?

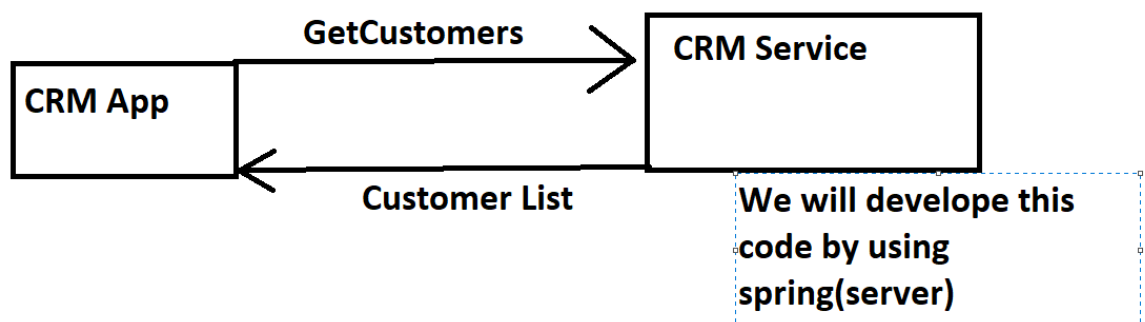
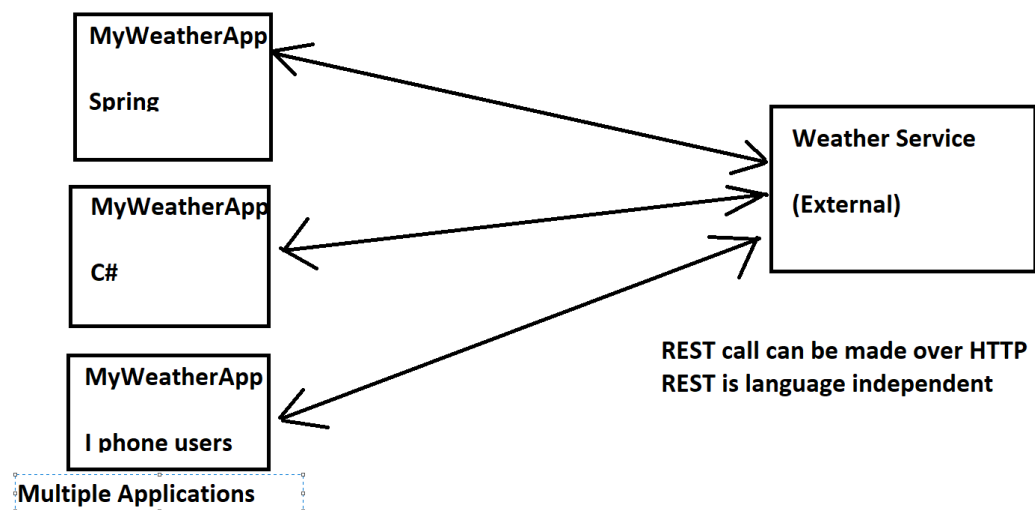
- Build a client application that can provide the weather report for a city
- To get this I have to have an external service



1. How we are going to connect to weather service?
 - We can make REST API calls over HTTP
 - Representational State Transfer

- Lightweight approach for communicating between applications.
2. Which programming language we are going to use?
 - REST is language independent
 - The client and server application can use any programming language.
 3. What will be the data format?
 - Rest can use any data format
 - Commonly used is XML or JSON
 - JSON is most popular
 JavaScript Object Notation

Response – Weather report



CRM application

What is JSON?

- lightweight data format for storing and exchanging the data
 - Language independent....not only for javascript
 - Nothing but a plain text data

Example:

```
{  
  "Id" : 1,  
  "firstName": "Krishna",  
  "lastName" : "Yadav",  
}
```

Curly braces define the object is JSON

Object Members are name/value pairs

REST HTTP Methods:

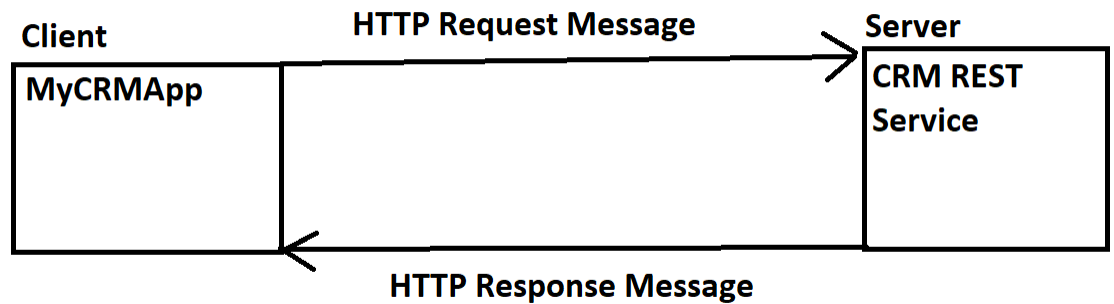
POST: create a new entity

GET: Read a list of entity or list of entity

PUT: update an existing entity

DELETE: delete existing entity

- HTTP Message



HTTP Request Message:

It has 3 parts




1. Request Line: the HTTP command
2. Header variables: request metadata
3. Message Body: (actual payload) contents of message

HTTP Response Message:

It has 3 parts

1. Response line: status code
2. Header variables: response metadata
3. Message body: contents of message

HTTP Response Status Codes

	Informational	1xx (100 – 199)
	Success	2xx (200 – 299)
	Redirection	3xx (300 – 399)
	Client Error	4xx (400 – 499)
	Server Error	5xx (500 – 599)

Client Tool:

We need client tool to send HTTP requests to REST WEB service/ API : Curl, Postman

Web Browser Vs Postman:

- For simple REST testing for GET requests
WebBrowser and postman act the same
- For advanced REST testing : POST, PUT,etc