

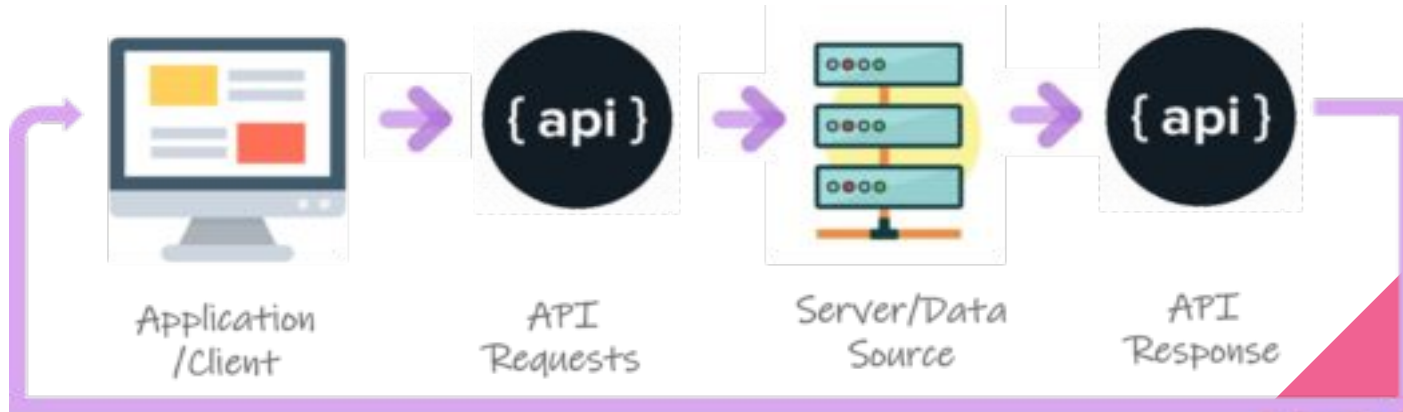
# Understanding API's and Usage

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# What is an API ?

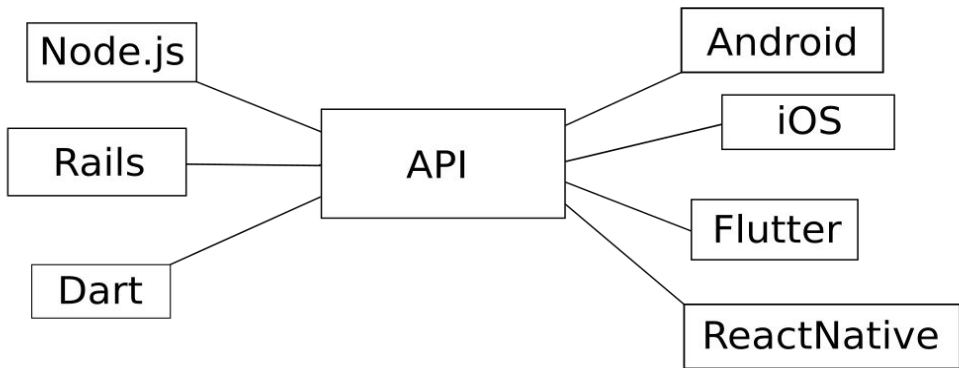
API is the acronym for Application Programming Interface, which is a software intermediary that allows two applications to talk to each other.

In other words, an API is the messenger that delivers your request to the provider that you're requesting it from and then delivers the response back to you.



# What is an API ?

The API is the set of methods that we will handle on the server. It's our own personal protocol for communicating between the client and the server. Once we have our API defined, it doesn't matter what is running on the server or who the clients are.



# What is an API ?

Each time you use an app like instagram, airbnb, makemytrip etc send an instant message, or check hotel availability on your phone/website, you're using an API.

Let us look at an example use to explain what API is?




# Types of API

## 1. Representational State Transfer (REST)

REST, on the other hand, is an architectural style. REST relies on 6 guiding principles that are ultimately simpler to follow than a prescribed protocol.

## 2. Simple Object Access Protocol (SOAP)

SOAP was developed to help standardize message formats and requests—it is a protocol specification that makes it easier for apps in different environments or written in different languages to communicate.



# SOAP (1/2)

- Simple Object Access Protocol
- Protocol
- Can work on almost any internet protocol
- Permits only XML
- SOAP support SSL and WS-Security
- Envelope
- Requires more bandwidth



# SOAP (2/2)

Endpoint URI

```
<GetTVDetails>  
  <modelName>SCX-100</modelName>  
</GetTVDetails>
```

Service Consumer

SOAP Request

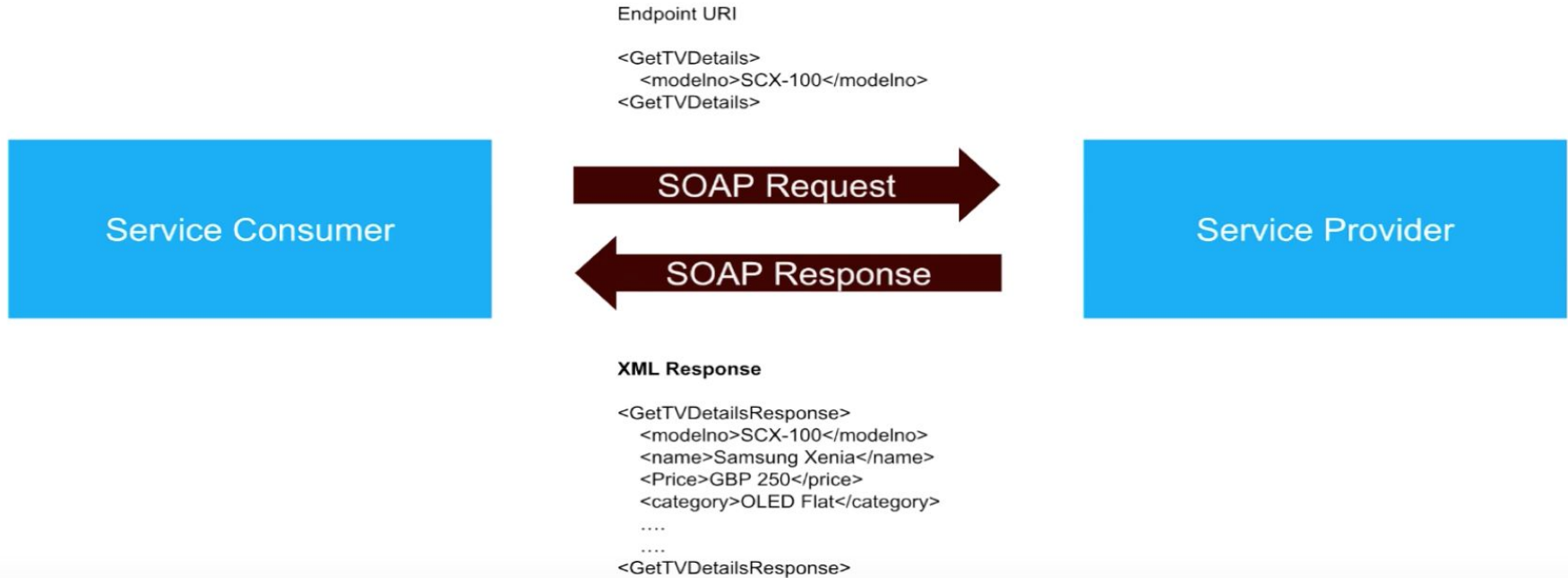
SOAP Response

Service Provider

**XML Response**

```
<GetTVDetailsResponse>  
  <modelName>SCX-100</modelName>  
  <name>Samsung Xenia</name>  
  <Price>GBP 250</price>  
  <category>OLED Flat</category>  
  ....  
  ....  
</GetTVDetailsResponse>
```

# SOAP (2/2)



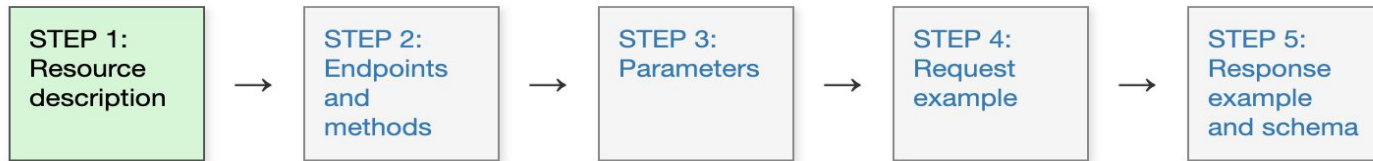


# REST API - Basic methods

**C** → Create → **POST**  
**R** → Read → **GET**  
**U** → Update → **PUT**  
**D** → Delete → **DELETE**

} HTTP  
Methods

# REST API example



## store Access to Petstore orders

GET

**/store/inventory** Returns pet inventories by status

POST

**/store/order** Place an order for a pet

GET

**/store/order/{orderId}** Find purchase order by ID

DELETE

**/store/order/{orderId}** Delete purchase order by ID

# How to use an API demo



# STUDY JAM ACTIVITY

## Objective

To build an app that demonstrates the use of API's

## Your app should include

1. You have to use all the API's that is exposed by the topic you choose
2. It should have an interactive UI that interacts with API based on the actions performed by the users

## How to implement it ?

- Use the API's exposed by <https://rapidapi.com/>. It gives a well-curated collection of APIs
- Pick up APIs for a category - food, travel, finance etc.
- The pick up a frontend template through codepen or jsfiddle and work on showing the data to the user.

## Design Elements to be present

1. Grids/ Tables
2. Action buttons which initiates the API calls

