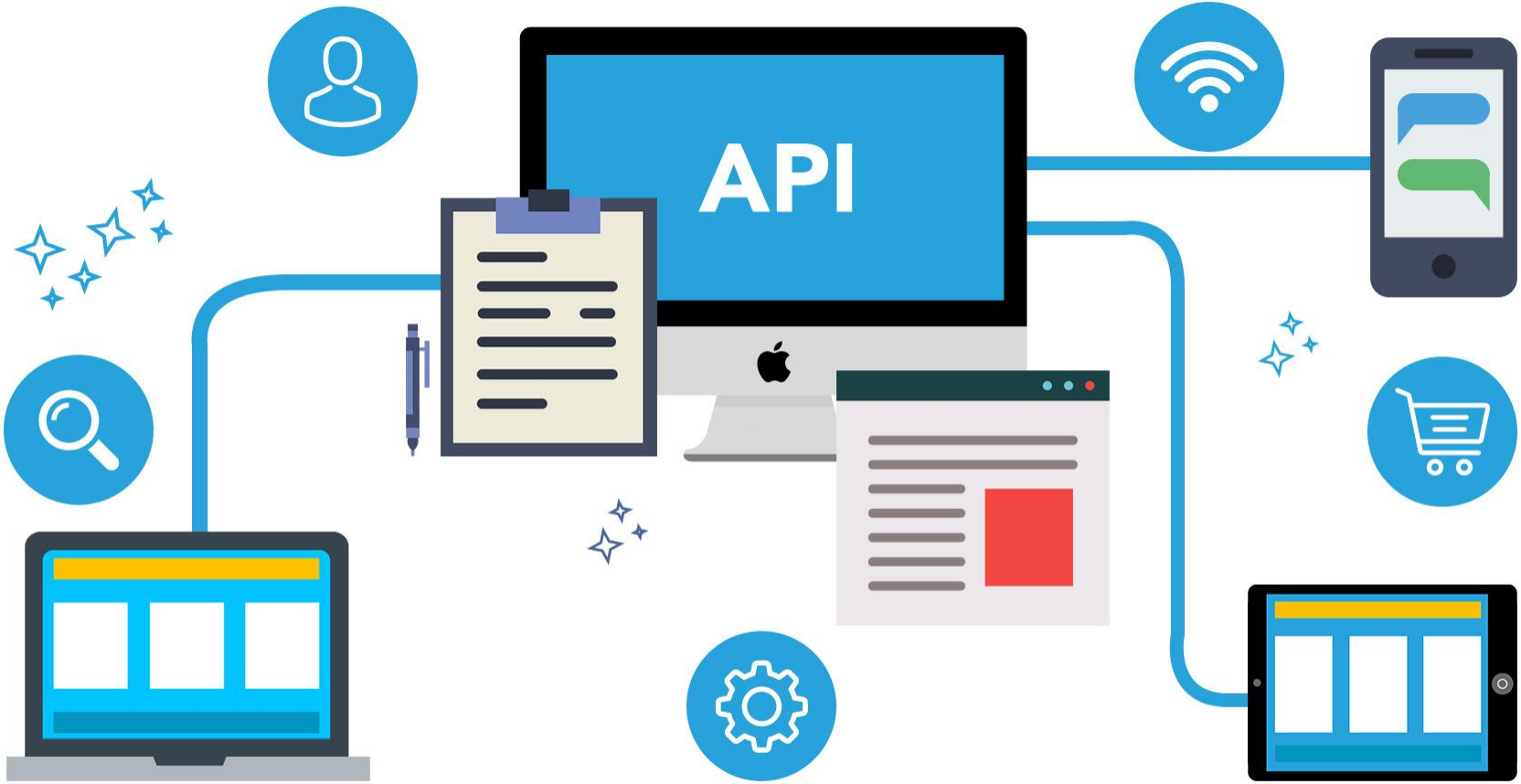
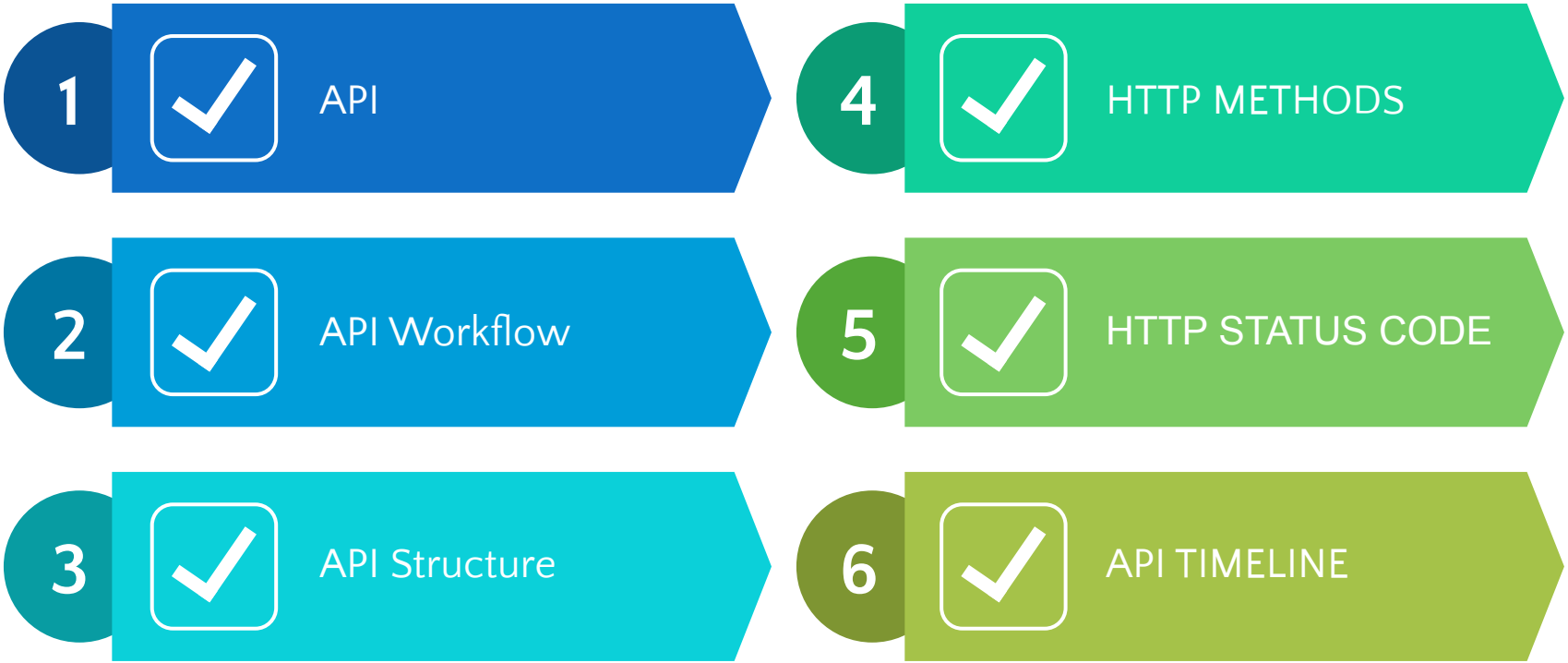


API Testing

CONTENT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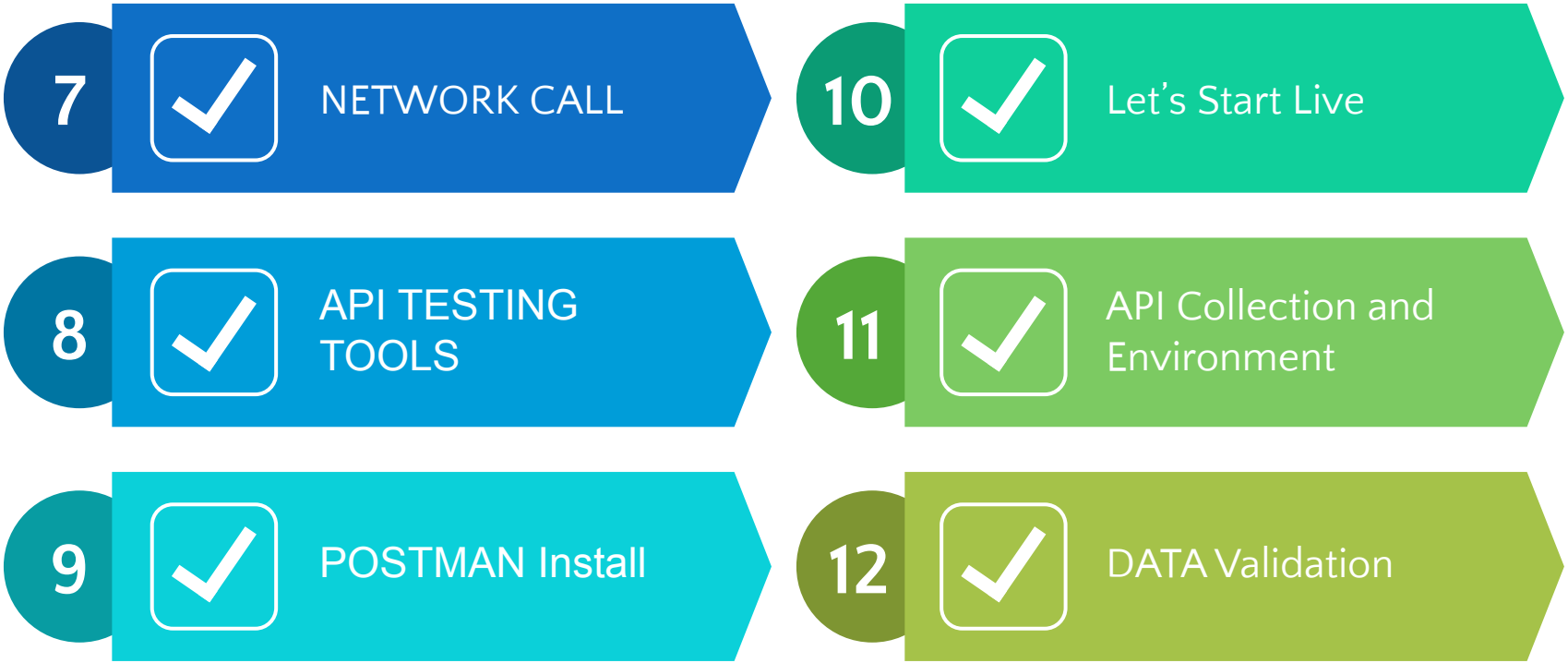
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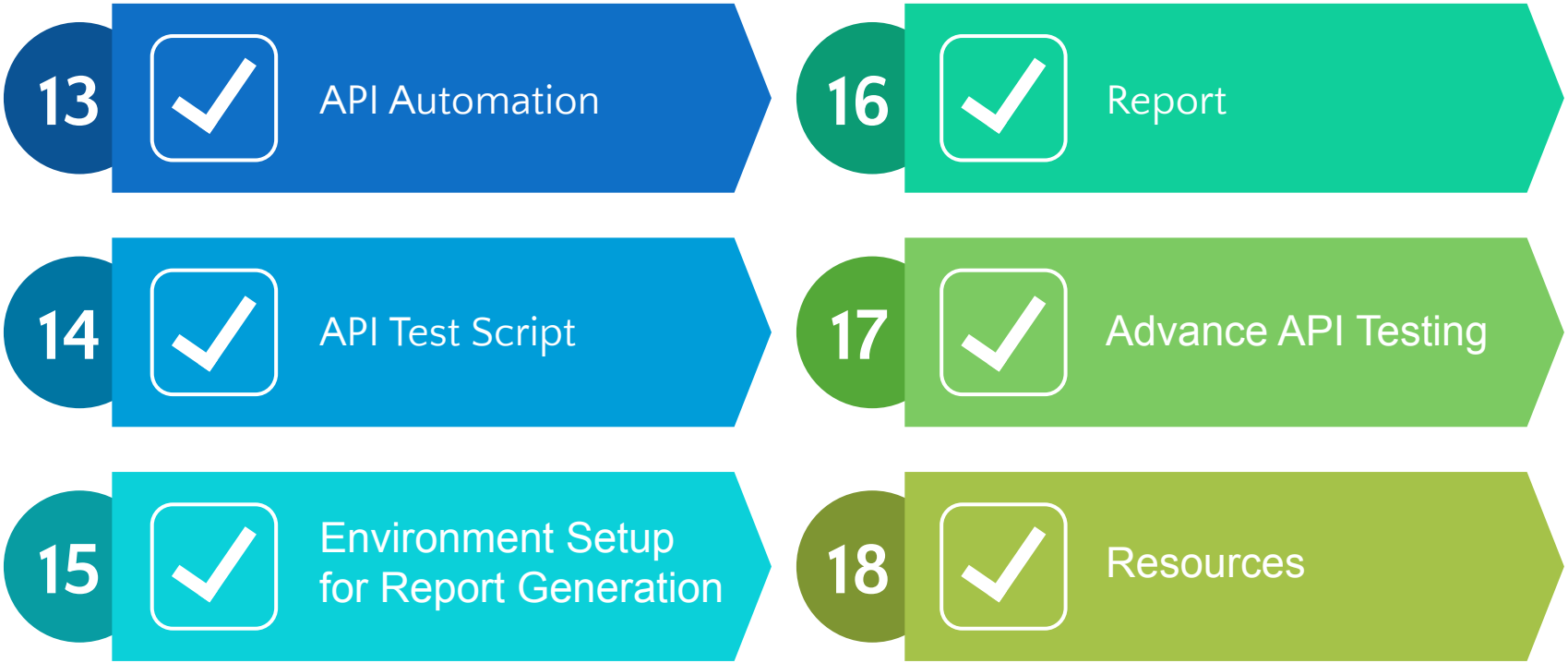
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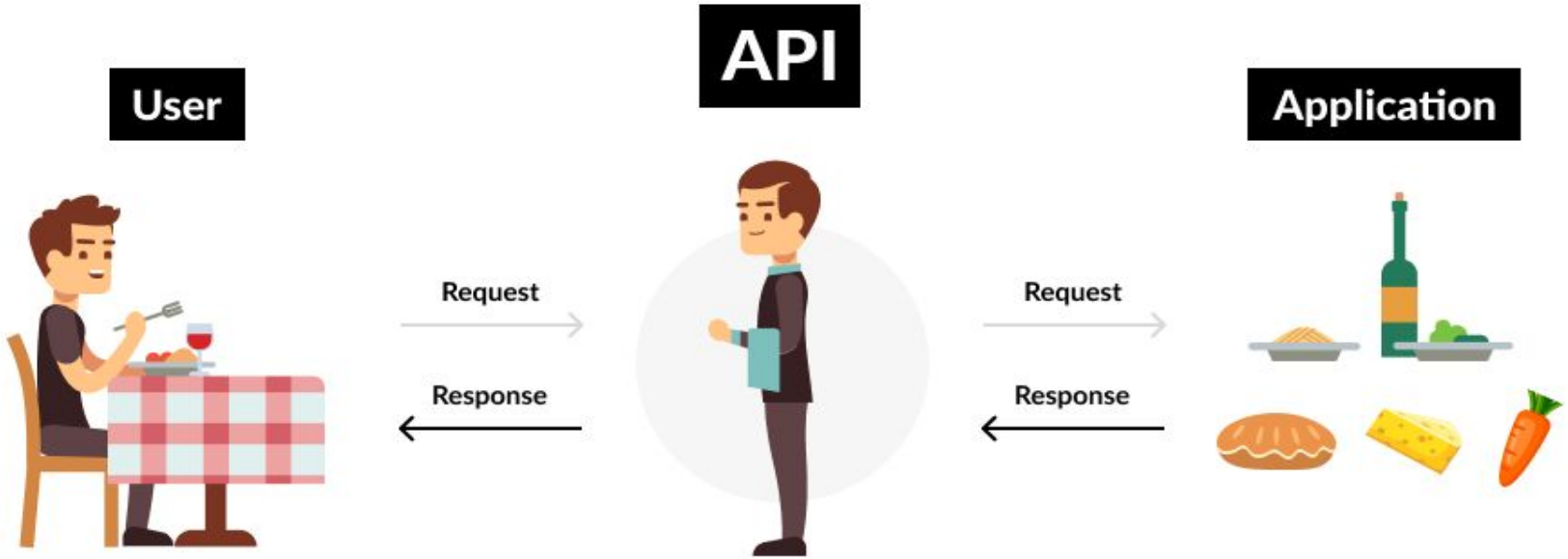
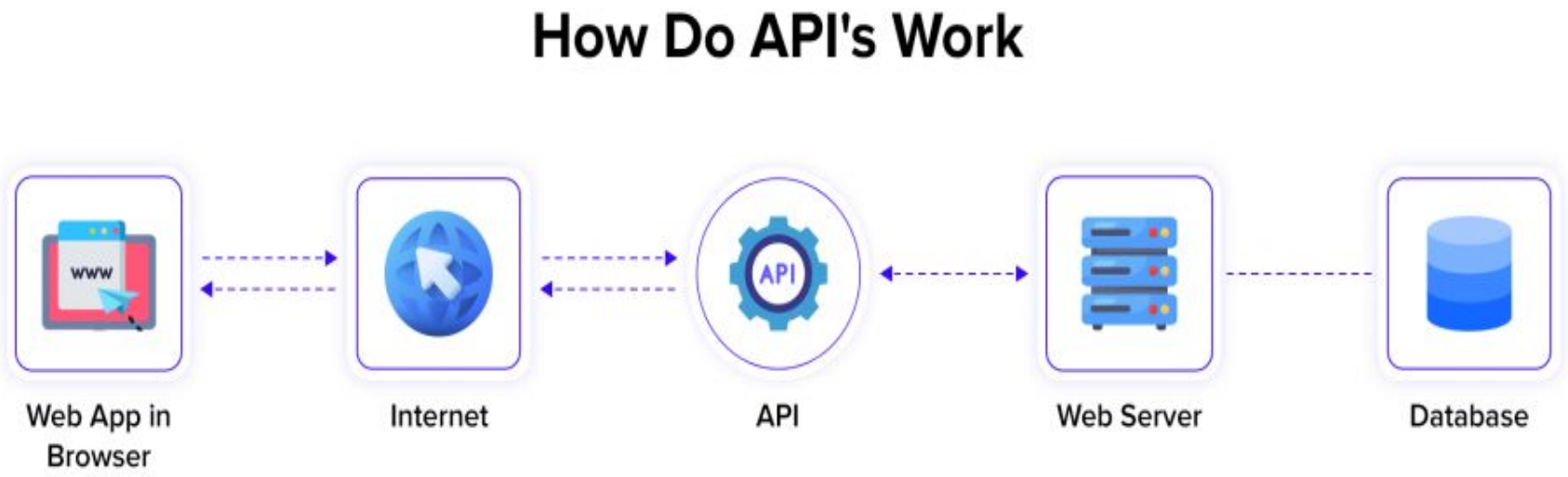
What is API?

API testing is a type of software testing that involves testing the application programming interfaces (APIs) directly. APIs are the communication protocols and tools that allow different software applications to communicate with each other. API testing ensures that the APIs work as expected in terms of functionality, reliability, performance, and security.

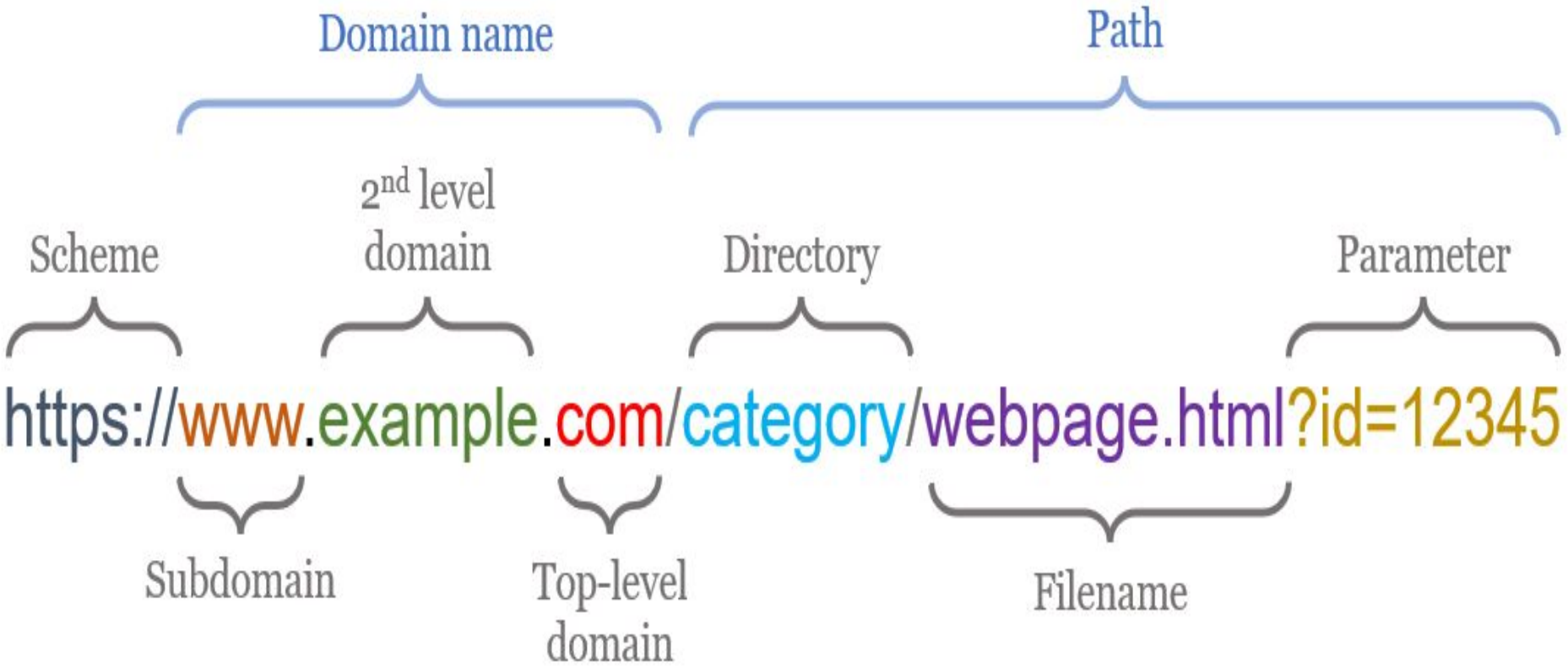
API Testing Workflow - Real life example



API Testing Workflow - Real life example



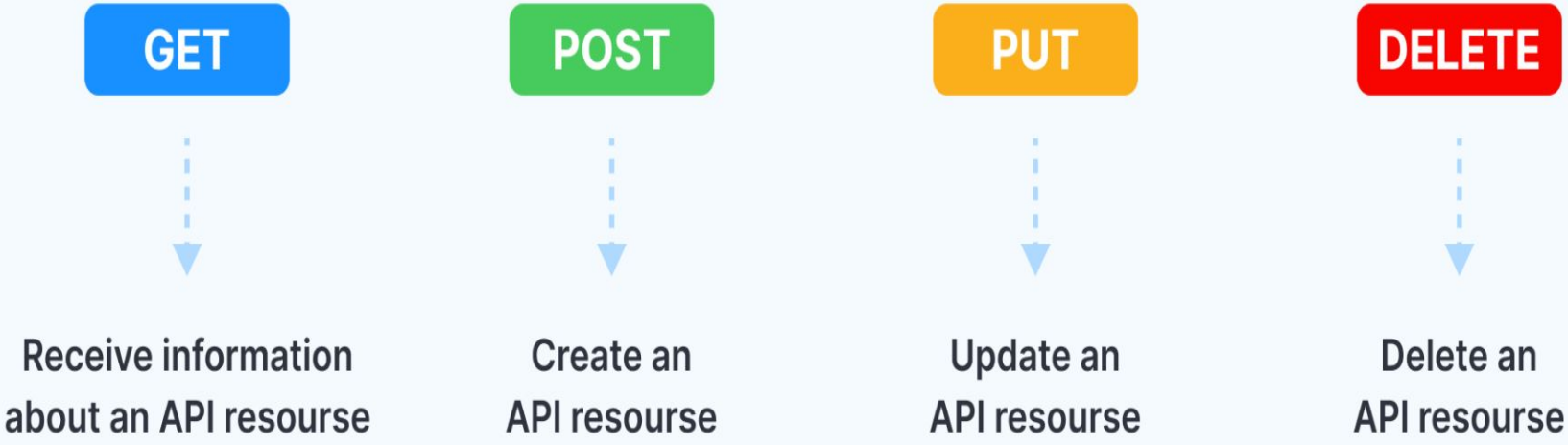
API Structure



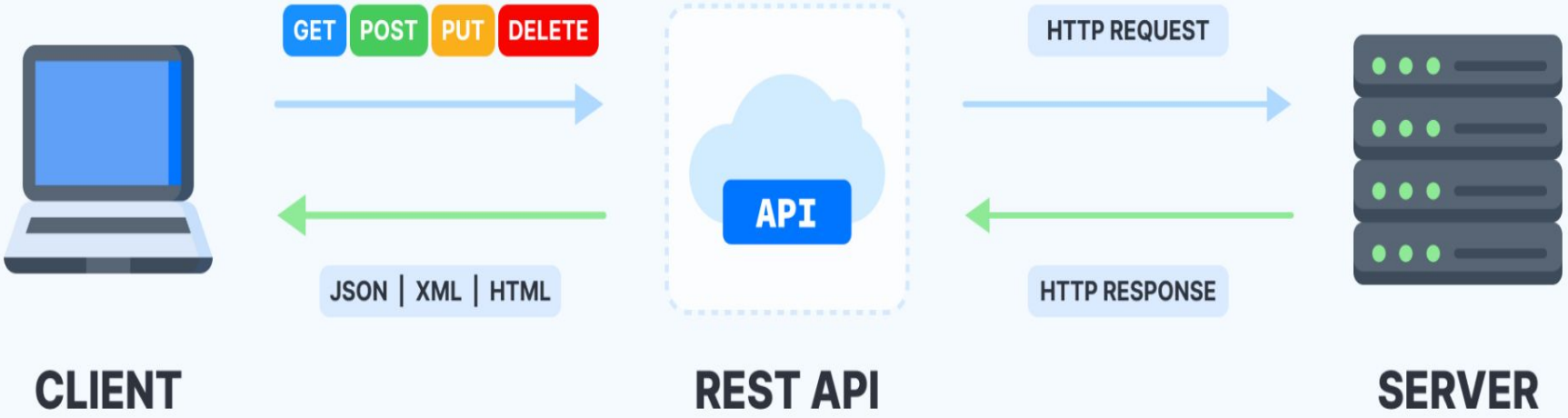
MOST COMMON HTTP STATUS CODES

Common HTTP Status Codes with Real-Life Scenarios

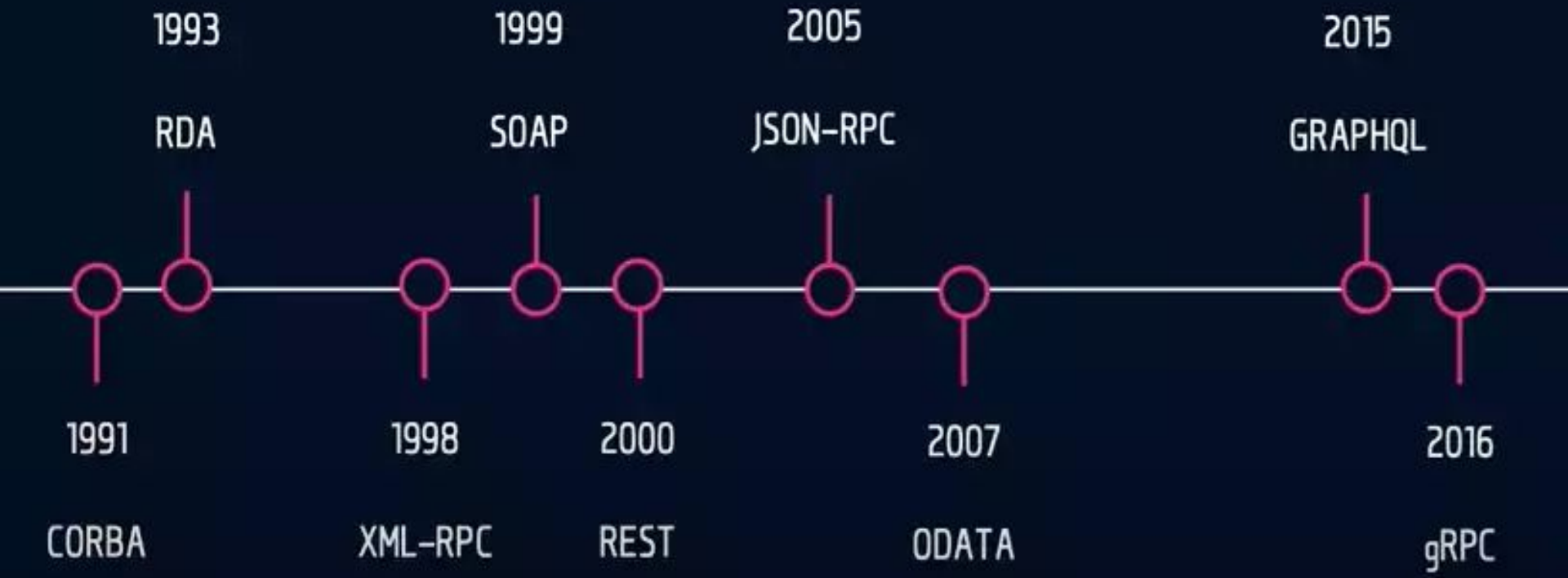
HTTP Methods

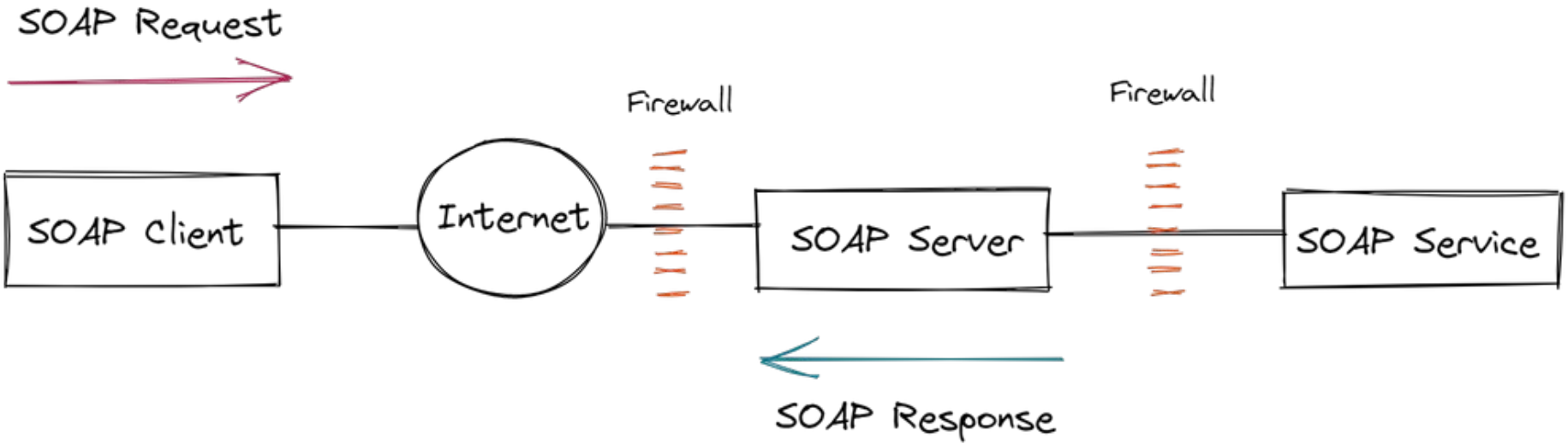


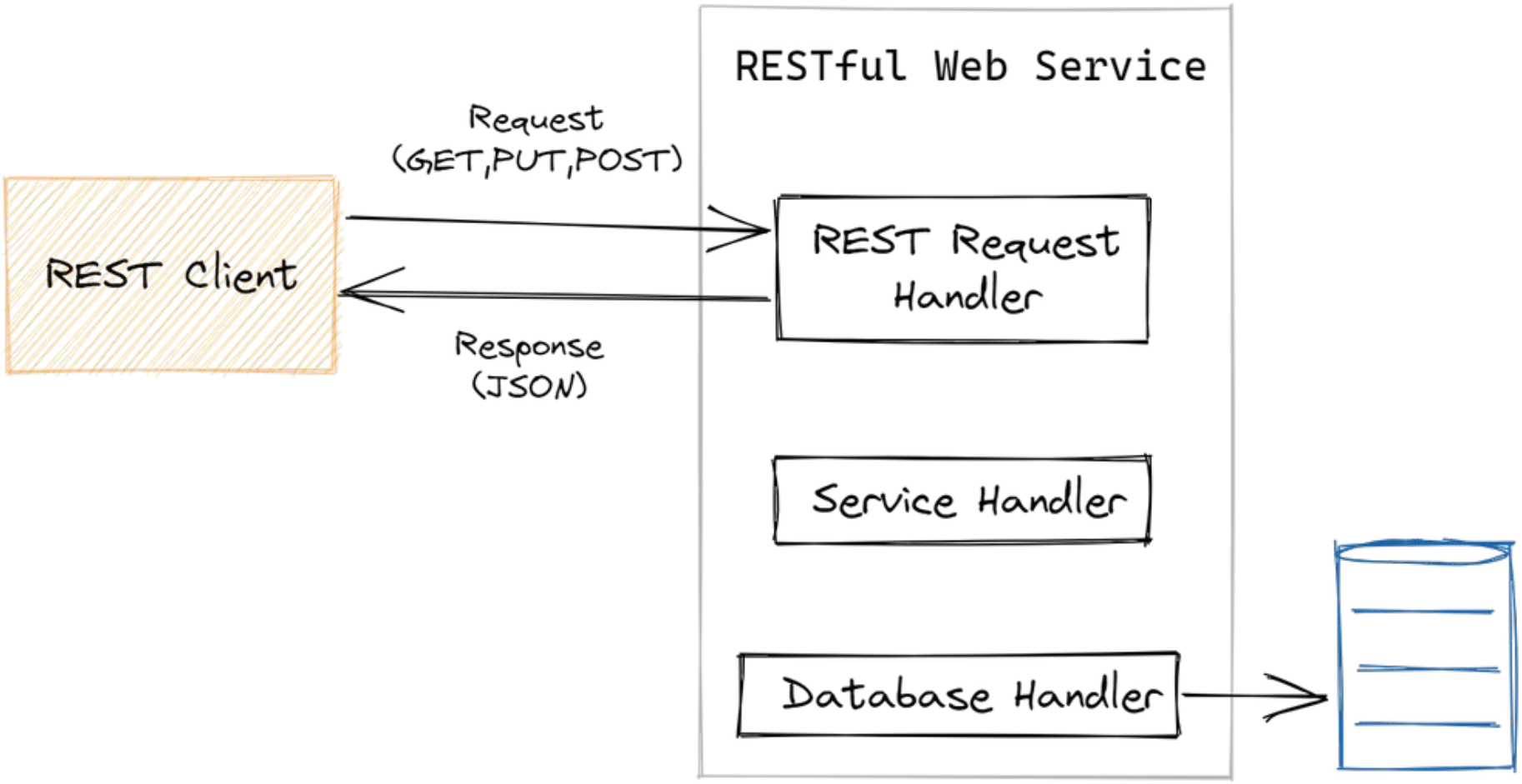
REST API Model



API TIMELINE




SOAP Request
Firewall
Firewall
SOAP Client
Internet
SOAP Server
SOAP Service
SOAP Response

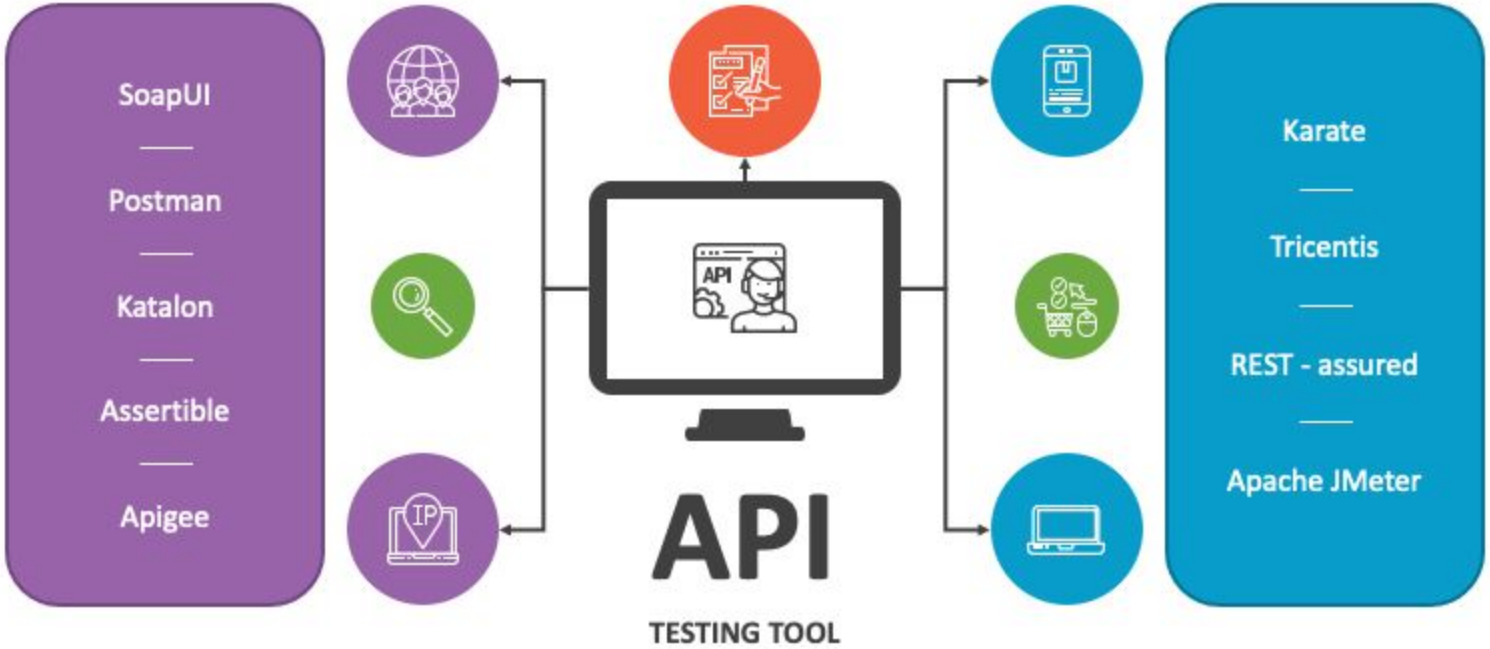

RESTful Web Service
Request
(GET,PUT,POST)
REST Client
REST Request
Handler
Response
(JSON)
Service Handler
Database Handler

```
<?xml version="1.0"?>
<soap:Envelope
    xmlns:soap="http://www.w3.org/2003/05/soap-envelope/"
    soap:encodingStyle="http://www.w3.org/2003/05/soap-encoding">
  <soap:Body xmlns:m="https://www.superglobamegacorp.example/stock">
    <m:GetStockPriceResponse>
      <m:StockSymbol>AAPL</m:Price>
      <m:Price>170.41</m:Price>
    </m:GetStockPriceResponse>
  </soap:Body>
</soap:Envelope>
```

```
{
  "stockSymbol": "AAPL",
  "price": 170.41
}
```

API TESTING

Top API Testing Tools



Report Configure

Newman

Install Command: **npm install -g newman**

Run Command:

1. newman run “Path/CollectionName.json” -e Path/EnvironmentName.json
2. newman run “Collection Link” -e “Path”/EnvironmentName.json

Links:

1. https://www.npmjs.com/package/newman
2. https://www.npmjs.com/package/newman-reporter-html
3. https://www.npmjs.com/package/newman-reporter-htmlextra

Report:

Install: `npm install -g newman-reporter-html`

`npm install -g newman-reporter-htmlextra`

Run Command:

1. newman run CollectionName.json -e EnvironmentName.json `-r html`

   newman run CollectionName.json -e EnvironmentName.json `-r htmlextra`

API Testing Resources

API Documentation:
https://docs.google.com/document/d/1YyzPMbEu6eEMFrvp-WHiJW-SvDTJvikqx1QGyyFgRXw/edit?usp=sharing

For Practice:
https://docs.google.com/document/d/1LF3FeN4obAZTn-QeuWZzteLn8X1m8ww2/edit?usp=sharing&ouid=107740915407819043042&rtpof=true&sd=true

Software:
Postman (Link: https://www.postman.com/)
Node JS Install (Link: https://nodejs.org/en/)

GitHub:
https://github.com/ebrahimhossaincse/Automated-Testing-of-Rest-Booking-API-with-Newman-Report