



## **T18**

API Testing

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1:30 PM

# **What's an API and How Do I Test It?**

**Presented by:**

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# Paul Merrill

## Beaufort Fairmont

Paul Merrill is principal software engineer in test and founder of Beaufort Fairmont Automated Testing Services. Paul works with clients every day to accelerate testing, reduce risk, and increase the value of testing processes with test automation. An entrepreneur, tester, and software engineer, Paul has a unique perspective on launching and maintaining quality products. Check out his webinars on the company website.



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# What's an API & How Do I Test It?

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# Agenda

- ⚙️ What's an API?
- ⚙️ What is REST?
- ⚙️ How do I test an API?

# What's an API?

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*An Application Programming Interface (API) is a public persona for a company, exposing defined assets, data, or services for public consumption. An API is a way for services and products to communicate with each other through a documented interface. APIs allows companies to open up data to external third party developers, to business partners and internal departments within their company. An app developer can leverage an API with ease and invoke it via a web browser, mobile application, or device. Product catalogs, phone listings, insurance cases, order status, and bank loan rates are a few of the services exposed via APIs. ~ IBM API Connect*

# What's an API?

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*APIs are different from websites. The content and the layout of the website is dynamic and change in the content does not affect the website visitors whereas any changes to APIs need to be informed to the developers using the API as it affects the applications built on the APIs. This does not mean that there will be no changes in an API. An API constantly changes to include new functionalities based on business requirements and developers are informed of these changes. Once established, APIs are more of a product than a mere technical capability. ~ IBM API Connect*

# What's an API?

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- ⚙️ Collection of “endpoints” or services
- ⚙️ Exposes functionality internally or externally
- ⚙️ Conventions: SOAP, REST, etc.

# What is REST?

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## 6 Constraints

- ⚙ Uniform Interface
- ⚙ Stateless
- ⚙ Cacheable
- ⚙ Client-Server
- ⚙ Layered System
- ⚙ Code on Demand (optional)



# What is REST?

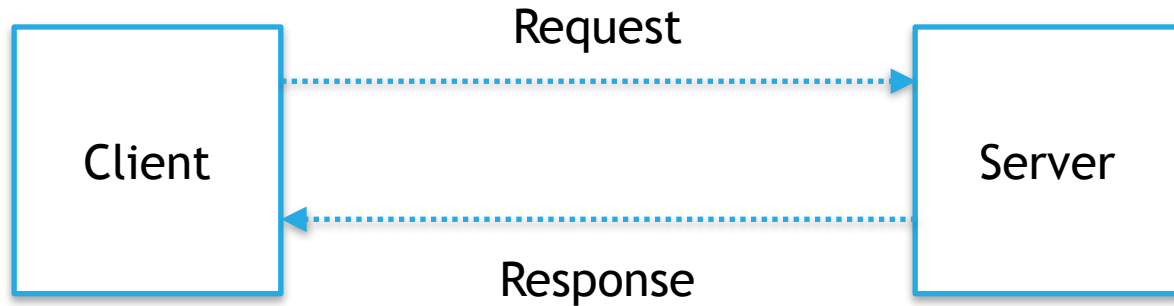
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Usually:

- ⚙ HTTP
- ⚙ JSON

# HTTP

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# HTTP Request Methods

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- ⚙ GET
- ⚙ POST
- ⚙ PUT
- ⚙ DELETE
- ⚙ ...and more

# How Do I Test It?



Let's dive in!

# References

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- ⚙️ [“What is an API? In English, please.”](#) - Peter Gazarov
- ⚙️ [“Send the First Request”](#) - Postman Blog
- ⚙️ [“What is an API?”](#) - IBM API Connect
- ⚙️ [“Architectural Styles and the Design of Network-based Software Architectures”](#) - Roy Thomas Fielding
- ⚙️ [“HTTP Methods”](#) - W3Schools

# Resources

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- ⚙️ Postman
- ⚙️ Newman - command line for Postman
- ⚙️ Curl
- ⚙️ Swagger
- ⚙️ Chrome plugin - JSONView
- ⚙️ Code - [https://github.com/dpm3354/invoices\\_api\\_test](https://github.com/dpm3354/invoices_api_test)

Call me today &  
Talk through your challenges  
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