



# Who Is The Winner - Web API or WCF



Mukesh Kumar

Oct 10 2015

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At the end you will know the result for who is the winner and who is the loser. So, let's start the race.

As you know there are lots of technologies available that allow you to create services which can be consumed by different clients. The client can be a web application, a window application, a mobile application, etc. A service can be HTTP enabled or support multiple protocols.

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As you know today we will discuss only about the WCF and Web API.

**WCF** stands for Windows Communication Foundation, created by Microsoft with .NET Framework 3.0. It provides us a platform where we can build secure, reliable services that can integrate across the platforms and interoperate smoothly.

**Web API** is also a framework that is used to make HTTP services. As you know, nowadays we are using mobiles, tablets, apps and different types of services, so Web API is a simple and reliable platform to create HTTP enabled services that can reach a wide range of clients. It is used to create complete REST services.

WCF	ASP.NET Web API
<ul style="list-style-type: none"> <li>• Back-end Services</li> <li>• SOAP, WS-*</li> <li>• Transports: HTTP, TCP, UDP, Queues, WebSockets, custom</li> <li>• Message patterns: request-reply, one-way, duplex</li> <li>• Use WCF Web HTTP to add HTTP endpoints to existing WCF services</li> <li>• Use WCF Data Services for full OData support</li> </ul>	<ul style="list-style-type: none"> <li>• Front-end Services</li> <li>• Media Types: JSON, XML, form-URL-encoded, custom</li> <li>• HTTP only</li> <li>• Request-reply only</li> <li>• REST, resource-centric</li> <li>• Use SignalR for asynchronous signaling (polling, long-polling, WebSockets)</li> </ul>

So, let's start the race between Web API and WCF and see at the last that who is the winner.

## SOAP

structured format data or message that can transfer over the internet. SOAP protocol is the main foundation of WCF and uses XML format. Web Service creates WSDL [Web Services Description Language] file which provides the information about the service data, so WSDL file is used by the client to understand the methods available on the service.

## REST

REST stands for **Representational State Transfer**. It is not a protocol like SOAP whether it is architecture design pattern that is used for building and creating Web Services.

Web API used this pattern to build web services. Basically Web API is a resource driven architecture that exposes endpoint to the client. Web API is fully REST supported. It uses GET, PUT, POST, DELETE verbs to communicate with the clients.

## Interoperability

RESTful services like Web API are simple and light weight and easy to access by any client which supports HTTP calls. It is not like to SOAP where client need to understand WSDL to implement the service.

WSDL uses some extra configuration and require some additional logic that might not be available on many devices such as phones, smart TVs, Tablets, etc.

As WCF supports many protocol so it can consumed by lots of client that are using different protocol such as TCP, MSMQ, etc. not only HTTP protocol to access service.



## Configuration Overhead

Client needs to make more configurations as compared to Web API to access WCF Service. WCF uses m



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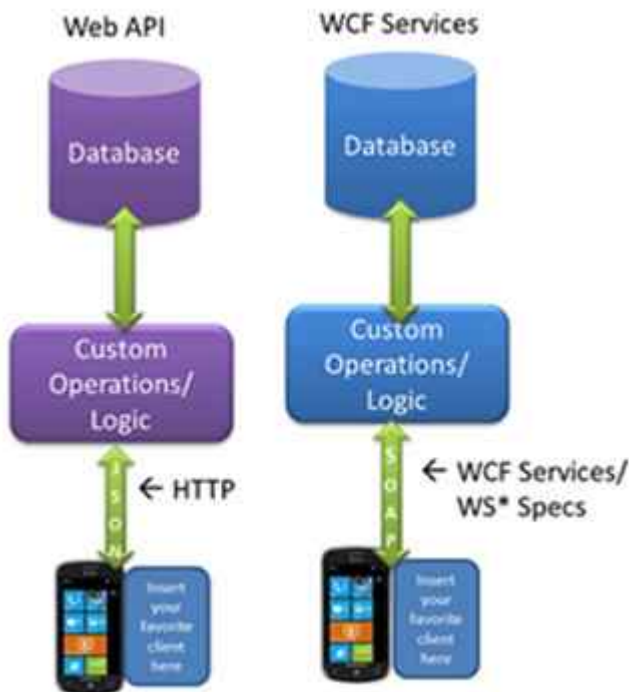
## Speed

As RESTful services use HTTP protocol to access client and HTTP request/response are smaller than a SOAP request, so Web API is the best choice if you are going to create a service for low bandwidth devices or mobile devices to access client. HTTP request/response is also more readable as compared to SOAP because it contains header, body, etc. which makes it complex.

## Security

WCF service provides us high level security framework which provide enterprise level security. It uses WS-I standard to provide secure service.

But Web API uses web standard security such as basic authentication, token authentication and for more complex such as OAuth; Web API provides more flexibility. Then use SOAP when you are going to authenticate with external services such as google, facebook, etc.



## Winner?

So, finally to see the above point, we cannot decide which is better than the other. But I want to focus on the two points. Firstly, if you are going to create a service which would be used on different platforms, then go with WCF. Secondly, if you are creating internet service which is going to use external resource, then go with Web API.


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**Mukesh Kumar** *TOP 100*

I am a software developer, Microsoft MVP, C# Corner MVP, blogger and you can also find me on Asp.Net Forums . I have extensive experience with designing and developing enterprise scale applications on Microsoft technolo... [Read more](#)

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Hi, New to WEB API. Just trying to understand, Is that REST ful services can be implemented by using WEB API? Is this statement correct? Thanks and regards

[Sakti Mohapatra](#)

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Another interesting point to discuss, would be configuration and setup. I have seen organizations use WebAPI simply because it is easier to config and start using. I would argue that WCF allows for more flexibility though.

[Benjamin Drolet](#)

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In WCF also we can create REST based service using WebHttpBinding. and this binding we can use for various devices. Can you please tell how is it different from Web API.

[Vikram Chaudhary](#)

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Web API, it is easier to build REST based service when compared to WCF.

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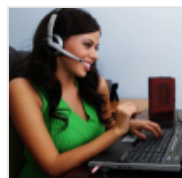
Thanks to all for your valuable comments

[Mukesh Kumar](#)

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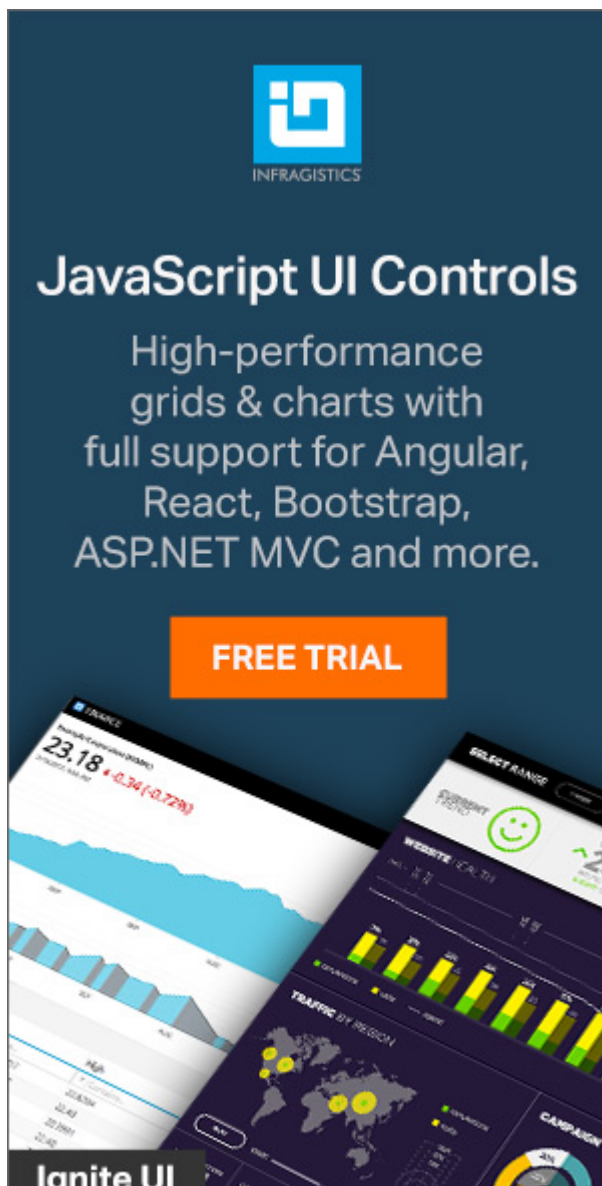
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