

# WCF Data Services Interview Questions And Answers Guide.



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# WCF Data Services Job Interview Preparation Guide.

## Question # 1

Explain Duplex WS binding?

### Answer:-

Offered by the `WSDualHttpBinding` class, this is similar to the WS binding except it also supports bidirectional communication from the service to the client.

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## Question # 2

Do you know message contracts?

### Answer:-

Allow the service to interact directly with messages. Message contracts can be typed or untyped, and are useful in interoperability cases and when there is an existing message format we have to comply with.

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## Question # 3

Explain what is the difference WCF and Web services?

### Answer:-

Web services can only be invoked by HTTP (traditional webservice with .asmx). While WCF Service or a WCF component can be invoked by any protocol (like http, tcp etc.) and any transport type.

Second web services are not flexible. However, WCF Services are flexible. If you make a new version of the service then you need to just expose a new end. Therefore, services are agile and which is a very practical approach looking at the current business trends.

We develop WCF as contracts, interface, operations, and data contracts. As the developer we are more focused on the business logic services and need not worry about channel stack. WCF is a unified programming API for any kind of services so we create the service and use configuration information to set up the communication mechanism like HTTP/TCP/MSMQ etc

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## Question # 4

Tell me what is three major points in WCF?

### Answer:-

We Should remember ABC.

Address --- Specifies the location of the service which will be like `http://Myserver/MyService`. Clients will use this location to communicate with our service.

Binding --- Specifies how the two parties will communicate in term of transport and encoding and protocols

Contract --- Specifies the interface between client and the server. It's a simple interface with some attribute.

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## Question # 5

Explain WCF Basic binding type?

### Answer:-

Offered by the `BasicHttpBinding` class, this is designed to expose a WCF service as a legacy ASMX web service, so that old clients can work with new services. When used by the client, this binding enables new WCF clients to work with old ASMX services.

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## Question # 6

Explain WCF?

### Answer:-

Windows Communication Foundation (WCF) is an SDK for developing and deploying services on Windows. WCF provides a runtime environment for services, enabling you to expose CLR types as services, and to consume other services as CLR types.

WCF is part of .NET 3.0 and requires .NET 2.0, so it can only run on systems that support it.



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### Question # 7

Explain Service contracts?

#### Answer:-

Describe which operations the client can perform on the service.

There are two types of Service Contracts.

ServiceContract - This attribute is used to define the Interface.

OperationContract - This attribute is used to define the method inside Interface.

```
[ServiceContract]
interface IMyContract
{
    [OperationContract]
    string MyMethod();
}
class MyService : IMyContract
{
    public string MyMethod()
    {
        return "Hello World";
    }
}
```

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### Question # 8

Explain Data contracts?

#### Answer:-

Define which data types are passed to and from the service. WCF defines implicit contracts for built-in types such as int and string, but we can easily define explicit opt-in data contracts for custom types.

There are two types of Data Contracts.

DataContract - attribute used to define the class

DataMember - attribute used to define the properties.

```
[DataContract]
class Contact
{
    [DataMember]
    public string FirstName;
    [DataMember]
    public string LastName;
}
```

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### Question # 9

Tell me what was the code name for WCF?

#### Answer:-

The code name of WCF was Indigo .

WCF is a unification of .NET framework communication technologies which unites the following technologies:-

NET remoting

MSMQ

Web services

COM+

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### Question # 10

What is WCF TCP binding type?

#### Answer:-

Offered by the NetTcpBinding class, this uses TCP for cross-machine communication on the intranet. It supports a variety of features, including reliability, transactions, and security, and is optimized for WCF-to-WCF communication. As a result, it requires both the client and the service to use WCF.

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### Question # 11

Explain WCF IPC binding type?

#### Answer:-

IPC binding

Offered by the NetNamedPipeBinding class, this uses named pipes as a transport for same-machine communication. It is the most secure binding since it cannot accept calls from outside the machine and it supports a variety of features similar to the TCP binding.

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### Question # 12

Tell me what is service and client in perspective of data communication?

**Answer:-**

A service is a unit of functionality exposed to the world.  
The client of a service is merely the party consuming the service.

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**Question # 13**

Do you know what is address in WCF and how many types of transport schemas are there in WCF?

**Answer:-**

Address is a way of letting client know that where a service is located. In WCF, every service is associated with a unique address. This contains the location of the service and transport schemas.

WCF supports following transport schemas

HTTP

TCP

Peer network

IPC (Inter-Process Communication over named pipes)

MSMQ

The sample address for above transport schema may look like

http://localhost:81

http://localhost:81/MyService

net.tcp://localhost:82/MyService

net.pipe://localhost/MyPipeService

net.msmq://localhost/private/MyMsMqService

net.msmq://localhost/MyMsMqService

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**Question # 14**

Can you explain fault contracts?

**Answer:-**

Define which errors are raised by the service, and how the service handles and propagates errors to its clients.

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**Question # 15**

Do you know what is endpoint in WCF?

**Answer:-**

Every service must have Address that defines where the service resides, Contract that defines what the service does and a Binding that defines how to communicate with the service. In WCF the relationship between Address, Contract and Binding is called Endpoint.

The Endpoint is the fusion of Address, Contract and Binding.

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**Question # 16**

Do you know what is the address formats of the WCF transport schemas?

**Answer:-**

Address format of WCF transport schema always follow

[transport]://[machine or domain][:optional port] format.

for example:

HTTP Address Format

http://localhost:8888

the way to read the above url is

"Using HTTP, go to the machine called localhost, where on port 8888 someone is waiting"

When the port number is not specified, the default port is 80.

TCP Address Format

net.tcp://localhost:8888/MyService

When a port number is not specified, the default port is 808:

net.tcp://localhost/MyService

NOTE: Two HTTP and TCP addresses from the same host can share a port, even on the same machine.

IPC Address Format

net.pipe://localhost/MyPipe

We can only open a named pipe once per machine, and therefore it is not possible for two named pipe addresses to share a pipe name on the same machine.

MSMQ Address Format

net.msmq://localhost/private/MyService

net.msmq://localhost/MyService

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**Question # 17**

Explain what is Transport and Message Reliability?

**Answer:-**

Transport reliability (such as the one offered by TCP) offers point-to-point guaranteed delivery at the network packet level, as well as guarantees the order of the packets. Transport reliability is not resilient to dropping network connections and a variety of other communication problems.

Message reliability deals with reliability at the message level independent of how many packets are required to deliver the message. Message reliability provides for end-to-end guaranteed delivery and order of messages, regardless of how many intermediaries are involved, and how many network hops are required to deliver the message from the client to the service.



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### **Question # 18**

Explain what are the main components of WCF?

#### **Answer:-**

The main components of WCF are

1. Service class
2. Hosting environment
3. End point

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### **Question # 19**

Explain WCF Web Service (WS) binding type?

#### **Answer:-**

Offered by the WSHttpBinding class, this uses HTTP or HTTPS for transport, and is designed to offer a variety of features such as reliability, transactions, and security over the Internet.

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### **Question # 20**

Explain WCF Federated WS binding type?

#### **Answer:-**

Offered by the WSFederationHttpBinding class, this is a specialization of the WS binding, offering support for federated security.

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### **Question # 21**

Tell me what is Proxy and how to generate proxy for WCF Services?

#### **Answer:-**

The proxy is a CLR class that exposes a single CLR interface representing the service contract. The proxy provides the same operations as service's contract, but also has additional methods for managing the proxy life cycle and the connection to the service. The proxy completely encapsulates every aspect of the service: its location, its implementation technology and runtime platform, and the communication transport.

The proxy can be generated using Visual Studio by right clicking Reference and clicking on Add Service Reference. This brings up the Add Service Reference dialog box, where you need to supply the base address of the service (or a base address and a MEX URI) and the namespace to contain the proxy.

Proxy can also be generated by using SvcUtil.exe command-line utility. We need to provide SvcUtil with the HTTP-GET address or the metadata exchange endpoint address and, optionally, with a proxy filename. The default proxy filename is output.cs but you can also use the /out switch to indicate a different name.

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### **Question # 22**

What is WCF Peer network binding type?

#### **Answer:-**

Peer network binding

Offered by the NetPeerTcpBinding class, this uses peer networking as a transport. The peer network-enabled client and services all subscribe to the same grid and broadcast messages to it.

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### **Question # 23**

What is MSMQ binding?

#### **Answer:-**

Offered by the NetMsmqBinding class, this uses MSMQ for transport and is designed to offer support for disconnected queued calls.

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### **Question # 24**

Explain MSMQ integration binding?

#### **Answer:-**

Offered by the MsmqIntegrationBinding class, this converts WCF messages to and from MSMQ messages, and is designed to interoperate with legacy MSMQ clients.

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### **Question # 25**

Do you know where we can host WCF services?

#### **Answer:-**

Every WCF services must be hosted somewhere. There are three ways of hosting WCF services.

They are

1. IIS
2. Self Hosting



3. WAS (Windows Activation Service)

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### **Question # 26**

Can you explain how to define a service as REST based service in WCF?

#### **Answer:-**

WCF 3.5 provides explicit support for RESTful communication using a new binding named WebHttpBinding.

The below code shows how to expose a RESTful service

```
[ServiceContract]
interface IStock
{
    [OperationContract]
    [WebGet]
    int GetStock(string StockId);
}
```

By adding the WebGetAttribute, we can define a service as REST based service that can be accessible using HTTP GET operation.

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