

Operations

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Types of Operations

- Request/Response
- One-Way Operations
- Callbacks (Duplex Calls)
- Async Calls

Request/Response

- **Standard operation calls**
- **What we've been doing all along**
- **Request AND Response SOAP message**
 - Even for void-operations
- **Client blocks until call is complete**
 - Even for void-operations
- **Full support for fault handling as explained in earlier module**
- **No need for demo – you've been seeing during the whole course**

One-Way Operations

- **Fire-and-forget calls**
 - For the most part
- **MUST have void-return-type**
- **Marked with the IsOneWay property in OperationContract**
- **No SOAP response message**
 - No support for fault-handling
- **When transport session present, and proxy closes, client will block until call complete**

Demo Time

Callbacks (Duplex Calls)

- **Ability for service to call back to the client**
- **Requires a transport session**
 - NetTcp, IPC, WS with Reliability or Security
- **Setup similar to normal WCF usage**
 - Roles reversed but all rules apply (contracts, channels, etc.)
- **Because of different proxy base class, considered serious commitment**
- **Very useful for reporting progress back to client**
- **Callback can update UI**
 - Must consider threading issues
 - Need to marshal
 - Need to async the call
 - All will be explained 😊

Demo Time

Async Calls

- Client-side pattern to execute WCF calls asynchronously
- Service has no knowledge it's being called asynchronously
- Uses Task pattern
- Also support for legacy Begin/End pattern
- Client makes async call and returns immediate UI control
- Can define callback (not the same as previous callback section) to be called when operation completes
- Great pattern to use instead of the Thread pattern in the previous example
- Get return values a little different
- Handle faults a little different

Demo Time