WCF 4.0 REST Updates

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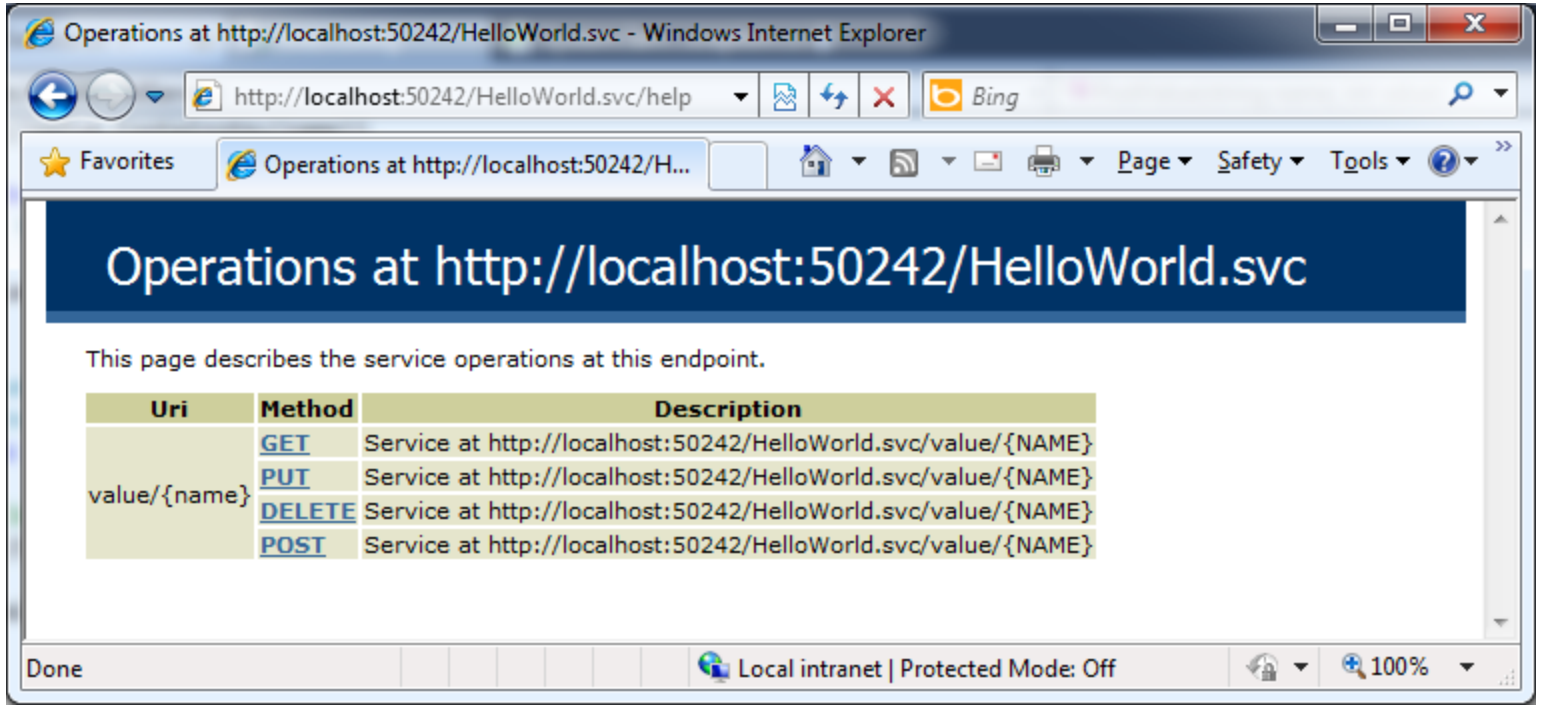
Outline

- Automatic Help
- HTTP Caching
- Message Format Selection
- WebFaultException
- Integration with ASP.NET Routes
- New Project Templates

Automatic Help Page

- **WCF 4 provides an automatic help page for REST services**
  - Configure the <webHttp> behavior with helpEnabled="true"



HTTP caching support

- **WCF 4 provides a simpler model for managing HTTP caching**
  - They built on the ASP.NET caching profile architecture
  - You define an [AspNetCacheProfile] for your GET operations
  - Shields you from dealing with HTTP caching headers yourself

```
[AspNetCacheProfile("CacheFor10Seconds")]
[WebGet(UriTemplate=XmlItemTemplate)]
[OperationContract]
public Counter GetItemInXml()
{
    return HandleGet();
}
```

Message format selection

- **WCF 4 also provides automatic format selection for XML/JSON**
  - This feature is built on the HTTP "Accept" headers

```
<configuration>
  <system.serviceModel>
    <standardEndpoints>
      <webHttpEndpoint>
        <!-- the "" standard endpoint is used for auto
          creating a web endpoint. -->
        <standardEndpoint name="" helpEnabled="true"
            automaticFormatSelectionEnabled="true"/>
      </webHttpEndpoint>
    </standardEndpoints>
  </system.serviceModel>
</configuration>
```

WebFaultException

- **Since REST isn't SOAP, you no longer have SOAP "faults" at your disposal**
  - This has made managing errors more difficult in REST services
- **WCF 4 introduces the WebFaultException to simplify things**
  - You can specify the HTTP status code and a detail type
  - Makes it much easier to return exceptions to your REST clients

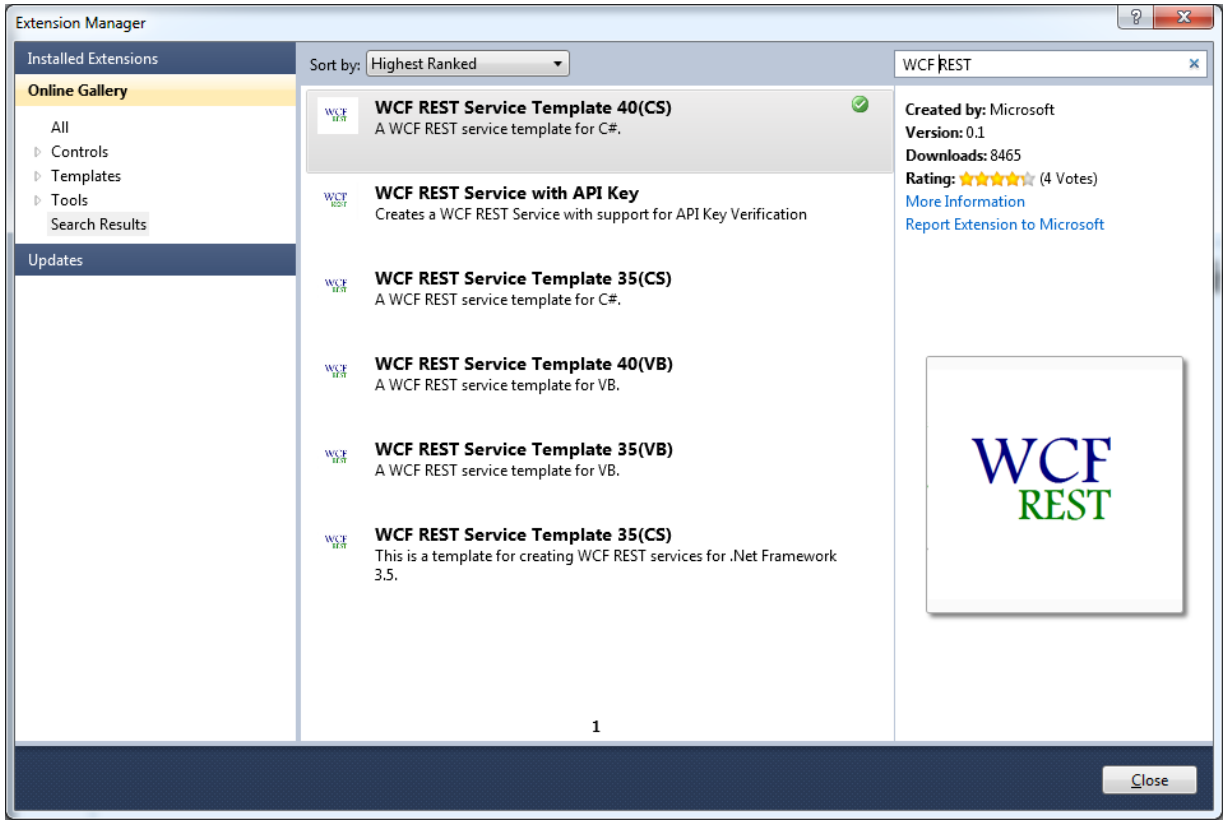
WCF and ASP.NET routes

- **WCF 4 provides the ability to integrate with the ASP.NET routing engine (via System.ServiceModel.Activation.dll)**
  - You implement RegisterRoutes in Global.asax, add ServiceRoute mappings
  - ServiceRoute allows you to map a URL to a WCF 4 service class
- **Ultimately this gives you a URL space that maps to multiple WCF classes**

```
private void RegisterRoutes()
{
   WebServiceHostFactory factory = new WebServiceHostFactory();
   RouteTable.Routes.Add(new ServiceRoute("Bookmarks", factory,
      typeof(BookmarkService)));
   RouteTable.Routes.Add(new ServiceRoute("Users", factory,
      typeof(UserService)));
}
```

REST project templates

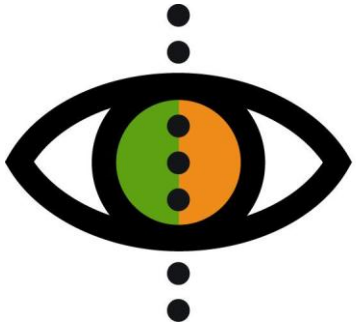
- Download the new REST project templates via the new Visual Studio 2010 Extension Manager (Tools | Extension Manager)



Summary

- Automatic Help page now exists to make testing easier.
- HTTP Caching gives REST services the same capabilities as ASP.NET caching.
- Message Format Selection. No more putting the content type in the query-string or taking over the output. Only differentiates between XML and JSON. For more formats, still need to inspect the Accept-Type.
- WebFaultException allows for more natural error handling. More like what devs use elsewhere to raise an error.
- Integration with ASP.NET Routes to allow for URL structures that don't scream "I'm a WCF service!!!"
- New VS 2010 templates to ease development.

For more in-depth online developer training visit



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