

Developing with Esri® Business Analyst™ Server



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Developing with Esri Business Analyst Server

An Esri White Paper

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Developing with Esri Business Analyst Server

Esri® Business Analyst™ Server provides several APIs for integrating business logic with GIS into an enterprise application environment. You can easily develop, share, and integrate business data, maps, analyses, workflows, and reports throughout your organization with desktop, server, Web, and mobile applications. An integrated and collaborative approach can expose new trends and patterns in business performance as well as lower the total cost of ownership by deploying applications via browser-based or rich client architectures.

Business Analyst Server offers numerous options to programmatically access and leverage rich data and powerful analysis through the Business Analyst Server APIs. These include SOAP and REST services and Flex/Flash-based and Silverlight-based Web APIs. These options include documentation for each task; complete code samples; and live sample viewers with corresponding code samples and out-of-the-box, template-style applications to help you quickly become productive developing with the Business Analyst Server APIs.

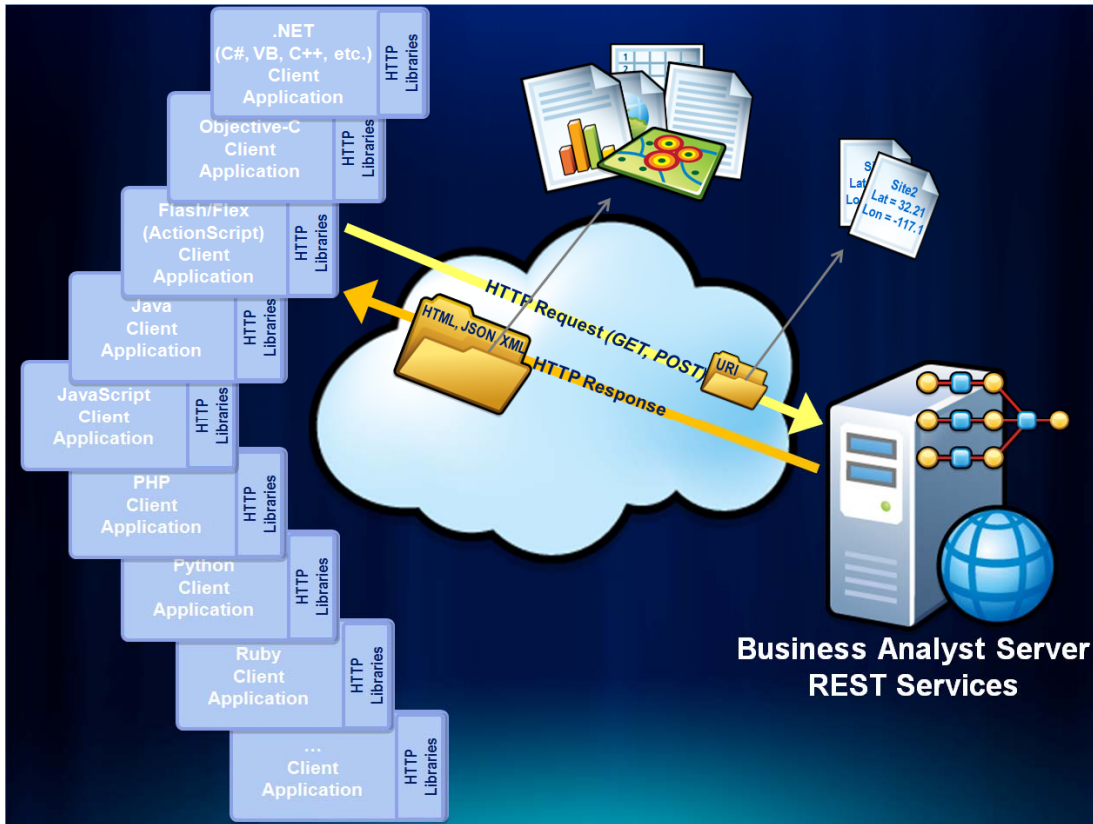
The most current and up-to-date documentation and developer resources are available on the Business Analyst Server Resource Center Web site:

- resources.arcgis.com/ba-server

Here, you will find links to the following developer resources and more:

- **REST**—Business Analyst Server API REST Services
- **SOAP**—Business Analyst Server API SOAP Services
- **Flex and Silverlight**—Business Analyst Server APIs for Adobe® Flex™ and Microsoft® Silverlight®
- **Other Resources**—Additional developer resources

The following is an overview of each of these resources:

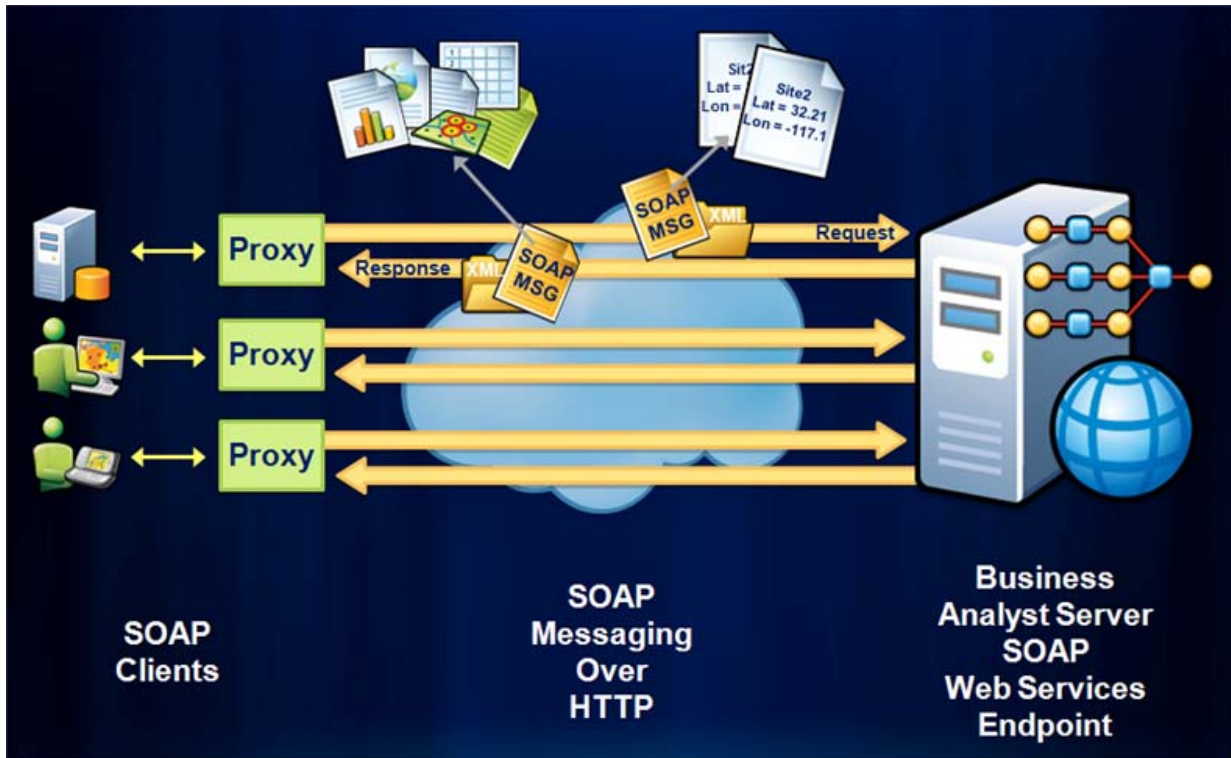


REST REST is a Web services architecture style that consists of loosely coupled Web service endpoints that can be accessed over HTTP. Essentially, REST leverages the same underlying technology that makes the Web browser such a useful tool for accessing multiple resources across various platforms, operating systems, and applications. Almost all Business Analyst Server API tasks can be accessed through the REST services. Each REST service may be accessed through an out-of-the box Web-based interface or from any client application through HTTP—this includes Web browsers and associated JavaScript™ functions and libraries. The ArcGIS® API for JavaScript, which is a customized and feature-packed implementation of the Dojo Ajax framework, is an attractive option to develop JavaScript-based applications that consume Business Analyst REST services. Additionally, most modern object-oriented programming languages have HTTP libraries that can be used for consuming the Business Analyst Server REST services.

The Business Analyst Server Resource Center includes links to the REST Reference Guide, which contains a brief overview, information on quickly getting started, a discussion of REST security, and comprehensive support documentation for each Business Analyst Server REST service. This support documentation includes information describing the service's functionality and purpose, the endpoint address, request and response syntax/formats, and complete request and response samples.

By leveraging REST, you can be assured of multiplatform and multisystem support, easy integration into existing systems and workflows, and rapid application development and testing with a gentle learning curve and intuitive functionality.

SOAP SOAP is a Web services protocol for exchanging XML-formatted information over HTTP. SOAP is a very mature Web services protocol and is supported in most development environments on a variety of systems and platforms through SOAP toolkits. SOAP toolkits are available in many integrated development environments (IDEs) and for a number of different programming languages, including Visual Studio® (C#, Visual Basic® .NET, and other .NET languages), NetBeans (Java™, C/C++, PHP, Python™, Ruby, and others), Eclipse (Java, C/C++, PHP, and others), and Flash® Builder (ActionScript). Through the use of a standards-based Web Service Description Language (WSDL) endpoint URL, development environments can automatically generate a programmatic binding or proxy class that can be used to access all Business Analyst Server API tasks. After generating and referencing the Business Analyst Server SOAP proxy, many IDEs will enable source code autocompletion, which is known as IntelliSense® in Microsoft's Visual Studio IDE. Source code autocompletion will facilitate and accelerate learning and developing with the Business Analyst Server APIs since it provides inline or ToolTip-style access to Business Analyst Server API task or method names and their associated parameters. Additionally, autocompletion can shorten the number of keystrokes required to write the application in an IDE.



The Business Analyst Server Resource Center includes links to the SOAP Reference Guide. The guide includes an overview, options for and a walk-through of consuming Business Analyst Server SOAP services, a discussion of SOAP security, and comprehensive support documentation for each Business Analyst Server SOAP service method. This support documentation for each SOAP service method includes information describing the service's functionality and purpose, parameters, and sample values as well as complete sample code to execute the method.

Business Analyst Server SOAP services provide an attractive option to consume the Business Analyst Server API tasks given the SOAP protocol's maturity and stability as well as support for rapid application development with IDEs on many platforms and in many programming languages.

Flex and Silverlight

Adobe Flex/Flash and Microsoft Silverlight are also attractive options that are available to developers of applications that consume Business Analyst Server APIs. Unlike the REST and SOAP services, which expose and provide extremely flexible programmatic access to Business Analyst Server API tasks, Flex and Silverlight are specifically targeted at developing complete Web applications along with their user interfaces (UIs). These applications are sometimes called rich Internet applications for their desktop application-like UI look and feel. As of August 2010, approximately 97 percent of browsers have some kind of Flash/Flex support, while approximately 55 percent of browsers have Silverlight support.¹ Flex and Silverlight rely on Web browser plug-ins or stand-alone runtimes that provide a software framework on the host system to support the associated application. With the use of the Business Analyst Server Web APIs for Flex or Silverlight, Business Analyst Server tasks can quickly and easily be implemented in Flex/Flash Builder (ActionScript) or Visual Studio (C#, Visual Basic .NET, and other .NET languages) IDEs, respectively. While the APIs mirror the functionality exposed in the REST and SOAP services, they consist of a slightly smaller subset of Business Analyst Server API tasks. They extend the ArcGIS Server APIs for Flex and Silverlight, which gives users and developers access to the rich Web mapping data and capabilities of the core frameworks.

The Business Analyst Server Resource Center includes links to Flex and Silverlight reference guides. These guides include overviews, information on getting started, live interactive sample viewers with well-documented code, sample code templates, Object Model Diagrams (OMDs), detailed developer documentation, and links to the component object libraries.

Flex and Silverlight are attractive options for organizations that want to leverage a browser-based architecture for desktop-like application delivery throughout their organization or to the public on a variety of systems or platforms.

Other Resources

To get the most from the Business Analyst Resource Center, be sure to view the application and code samples provided in the Code Gallery. They are an invaluable resource to quickly learn how to develop applications that leverage the Business Analyst Server APIs.

¹ StatOwl (2010). Web Browser Plugin Market Share: Web Browser Plugin Market Penetration and Global Usage. Retrieved August 23, 2010, from StatOwl: http://www.statowl.com/plugin_overview.php.

The Resource Center also has links to videos, the Knowledge Base, patches, and service packs.

Business Analyst Server Web/E-mail Support Request

To ensure that your support request reaches the right team of analysts, please follow these instructions when submitting a Web/e-mail-based support request for Business Analyst Server:

1. Navigate to support.esri.com/en/.
2. Click New Support Request.
3. Enter your Esri Customer Number and your phone number.
4. In the Select Your Product Web form, select the following:
 - Product Category: All other issues
 - Product: Business Products including Business Analyst Online or Business Analyst Server
 - Extension: Business Analyst Server
5. Fill out the form as completely as possible and click Submit request.

Business Analyst Server Telephone Support Request

To ensure that your support request reaches the right team of analysts, please follow these instructions when submitting a telephone-based support request for Business Analyst Server:

1. Call 1-888-377-4575.
2. Press 2 for software technical support.
3. Press 1 for a new support request.
4. Enter and confirm your Esri Customer Number, followed by the # sign.
5. Enter and confirm the last four digits of your telephone number, followed by the # sign.
6. Enter and confirm your four-digit telephone extension, followed by the # sign.
7. Press 5 for All other issues.
8. Press 2 for Business Products including Business Analyst Online or Business Analyst Server.
9. Press 1 for Business Analyst Server.



About Esri

Since 1969, Esri has been helping organizations map and model our world. Esri's GIS software tools and methodologies enable these organizations to effectively analyze and manage their geographic information and make better decisions. They are supported by our experienced and knowledgeable staff and extensive network of business partners and international distributors.

A full-service GIS company, Esri supports the implementation of GIS technology on desktops, servers, online services, and mobile devices. These GIS solutions are flexible, customizable, and easy to use.

Our Focus

Esri software is used by hundreds of thousands of organizations that apply GIS to solve problems and make our world a better place to live. We pay close attention to our users to ensure they have the best tools possible to accomplish their missions. A comprehensive suite of training options offered worldwide helps our users fully leverage their GIS applications.

Esri is a socially conscious business, actively supporting organizations involved in education, conservation, sustainable development, and humanitarian affairs.

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