

Servizi Online vs. Librerie



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Agenda

- A changing world: Libraries vs. APIs
- Using REST APIs from Delphi
- ApiLayer and some of its APIs
- The AWS SDK for Delphi by Appercept



Libraries vs. APIs: Clarifying the Terms

Libraries

Traditionally, you'd add features to an application by writing code or using existing third-party libraries (including component libraries in Delphi).

- Compiling the library source code into the application
- Binding a library binary to your executable file
- Using a dynamic library loaded at runtime



Libraries vs. APIs: Clarifying the Terms

APIs

The Application Programming Interface terms was for many years a reference to a local or platform API (like the Windows API, part of its SDK).

Nowadays, “the term API is often used to refer to web APIs”

<https://en.wikipedia.org/wiki/API>

- Web APIs are generally HTTP(S) based web services you invoke from a client or a server application to perform a very specific common task
- From the application developers perspective, they are just HTTP calls



Libraries Advantages

Using a **local library** has the advantage of:

- Generally faster execution
- No need of an Internet connection
- Possibly the ability of fine tuning and customizing the feature and tying it better with the code and UI
- At the security level, you don't need to worry about the communication being encrypted to avoid someone accessing to application data in transit



REST APIs Advantages

Using a **REST APIs** has the advantage of:

- Keeping the app smaller, as you don't need to distribute extra library code
- Always use the latest version of the library, as it can be updated separately from the client application
- Ability to access real time data, external storage, collaboration information and more
- At the security level, you don't need to worry about updating the library in case any issue is discovered, having to deploy a new version of the application



Libraries vs. APIs: The Economy Side

Finally, there is a difference between the **costs of a library vs. a REST API**:

- Unless the library is free and open source, it would generally have an upfront fixed per-developer cost
- Most REST APIs have a pay per use model, often with a free level you can use for development and testing
- So the REST API might be cheaper for limited use, but become more expensive for extensive use
- Using REST APIs you can offload some of the processing power requirements out of your clients/servers



REST Clients in Simple Terms

- ❑ HTTP(S) as transport protocol
- ❑ XML or JSON for data communication
- ❑ Simple data passing
 - ❑ Plain document or URL with params
 - ❑ Response: plain text or mime



REST Clients in Delphi

- ❑ HTTP/S Connectivity
 - ❑ IdHTTP component (requires external OpenSSL)
 - ❑ HTTP Client Library (native platform APIs and SSL)
 - ❑ REST Client Library (uses HTTP Client Library)
 - ❑ Also SOAP clients support (uses HTTP Client Library)
- ❑ Data Processing
 - ❑ XMLDocument component
 - ❑ JSON processing classes (System.JSON)
 - ❑ REST Data Adapter



REST App Debugger

If you plan using Delphi's REST Client library, start from the REST Debugger

RESTDebugger

REST Debugger 10.5
Embarcadero Technologies

Request

Request Parameters Authentication Connection

Method: GET URL: http://api.weatherstack.com

Content-Type:

Custom body:

Send Request

New Request

Load Request

Save Request

Copy Components



ApiLayer

- ❑ A rich set of APIs including a third party marketplace
 - ❑ <https://apilayer.com/>
 - ❑ Some easy examples:
 - ❑ <https://weatherstack.com/>
 - ❑ <https://vatlayer.com/>
 - ❑ <https://positionstack.com/>
 - ❑ <https://countrylayer.com/>
- ❑ Also from Idera Dev Tools
 - ❑ <https://www.filestack.com/>





Delphi Cloud Clients

- ❏ “Classic” Amazon support (S3 and more)
- ❏ “Classic” Azure support
- ❏ New Appercept AWS SDK for Delphi



Appercept's AWS SDK for Delphi (1/2)

- ❑ Long term distribution deal
- ❑ Included in Enterprise and Architect editions
- ❑ New releases coming at a constant pace

- ❑ Install via GetIt Package Manager
- ❑ Demos on GitHub
 - ❑ <https://github.com/appercept/aws-sdk-delphi-samples>





Appercept's AWS SDK for Delphi (2/2)



❑ APIs available in October 2022

- ❑ Polly
- ❑ Simple Email Service (SESv2)
- ❑ Simple Notification Service (SNS)
- ❑ Simple Queue Service (SQS)
- ❑ Simple Storage Service (S3)
- ❑ Textract
- ❑ Amazon Translate
- ❑ AWS Key Management Service (AWS KMS)
- ❑ AWS Secrets Manager



Some Blog Posts and Links

Using Apilayer REST APIs from Delphi (January 2021)

<https://blog.marcocantu.com/blog/2021-january-apilayer.html>

A Delphi Demo with WeatherStack by APILayer (July 2022)

<https://blog.marcocantu.com/blog/2022-july-delphi-weatherstack.html>

Covers the content of this session, including some of the theory

Embarcadero Blogs Posts about AWS SDK (April 2022 to October 2022)

<https://blogs.embarcadero.com/author/appercept/>

Session source code at

https://github.com/marcocantu/DelphiSessions/tree/master/Ekon26_RestClients

Q&A



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