

Swagger & API Patterns

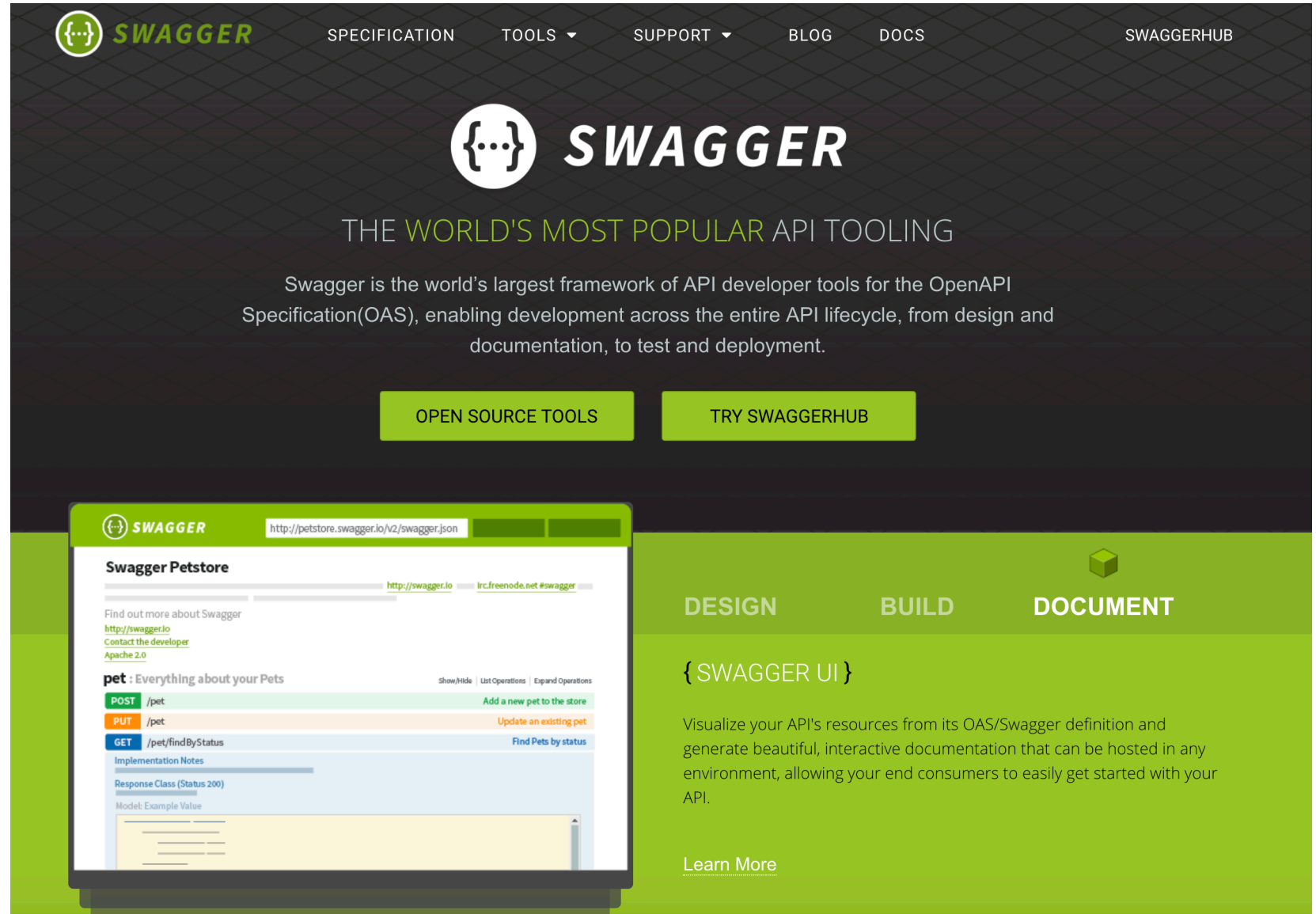
Hybrid Integration Enablement

October 2017



What is Swagger?

- <https://swagger.io/>
 - Open API Specification to define RESTful APIs
 - Aims to understand the capabilities of service without access to source code.
 - Provides consumers to understand remote service with implementation logic
- 2 Design Approaches exist
 - **Top Down**, define API before writing code
 - **Bottom Up**, document code after it's written to document.



The image shows the Swagger website and a sample API definition. The website header includes the Swagger logo, navigation links (SPECIFICATION, TOOLS, SUPPORT, BLOG, DOCS, SWAGGERHUB), and the main heading "SWAGGER THE WORLD'S MOST POPULAR API TOOLING". Below this is a description of Swagger as a framework for API developer tools. Two buttons, "OPEN SOURCE TOOLS" and "TRY SWAGGERHUB", are visible. The bottom section highlights the "DESIGN", "BUILD", and "DOCUMENT" phases, with a focus on the "SWAGGER UI" for visualizing API resources.

Swagger Petstore

Find out more about Swagger
<http://swagger.io>
[Contact the developer](#)
[Apache 2.0](#)

pet: Everything about your Pets

POST /pet Add a new pet to the store

PUT /pet Update an existing pet

GET /pet/findByStatus Find Pets by status

Implementation Notes

Response Class (Status 200)

Model: Example Value

API Designer creates Swagger

- All these options in the left side menu aim to generate the Swagger Documentation for your API
- We have carefully broken down each part into different easy sections to make it user friendly
- IBM takes the default Swagger specification and add a few more fields to make it our own (work with the product).

[← All APIs](#) [🌐 Design](#) [<> Source](#) [⚙️ Assemble](#)

Info

Schemes

Host

Base Path

Consumes

Produces

Lifecycle

Policy Assembly

Security Definitions

Security

Extensions

Properties

Paths

Analytics

Parameters

Definitions

Services

Tags

Categories

Info

Title *

Sample API

Name *

sample-api

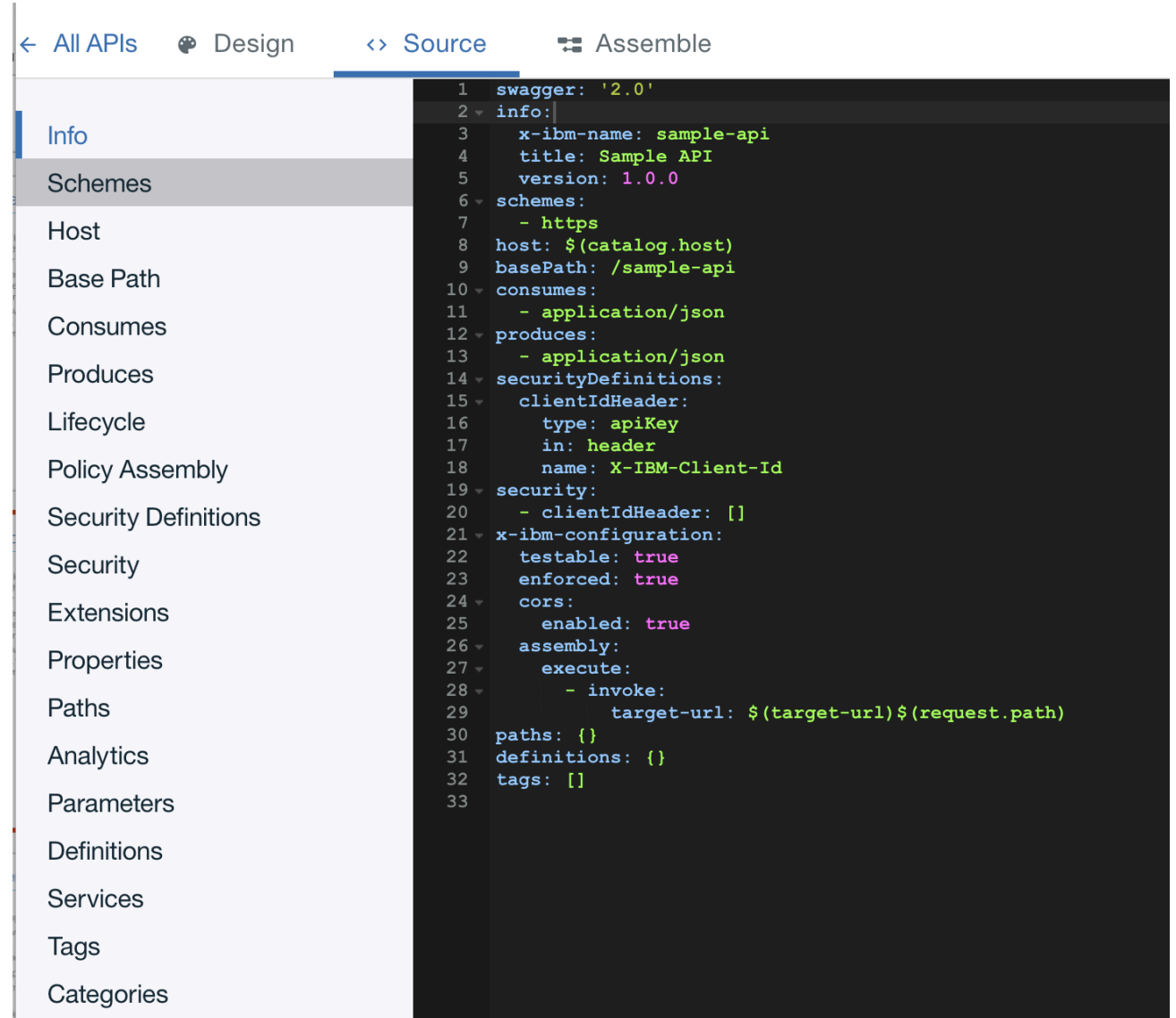
Version *

1.0.0

Description [Edit](#) [Preview](#) ⓘ

API Designer allows Source Code Viewing

- All options in the Design tab generate code in the “Source” tab.
- It also writes to the filesystem as you do operations (same for the Assemble tab too).
- If you know the fields or data you want to edit, you can edit it here and the Design & Assembly will pick it up as well.

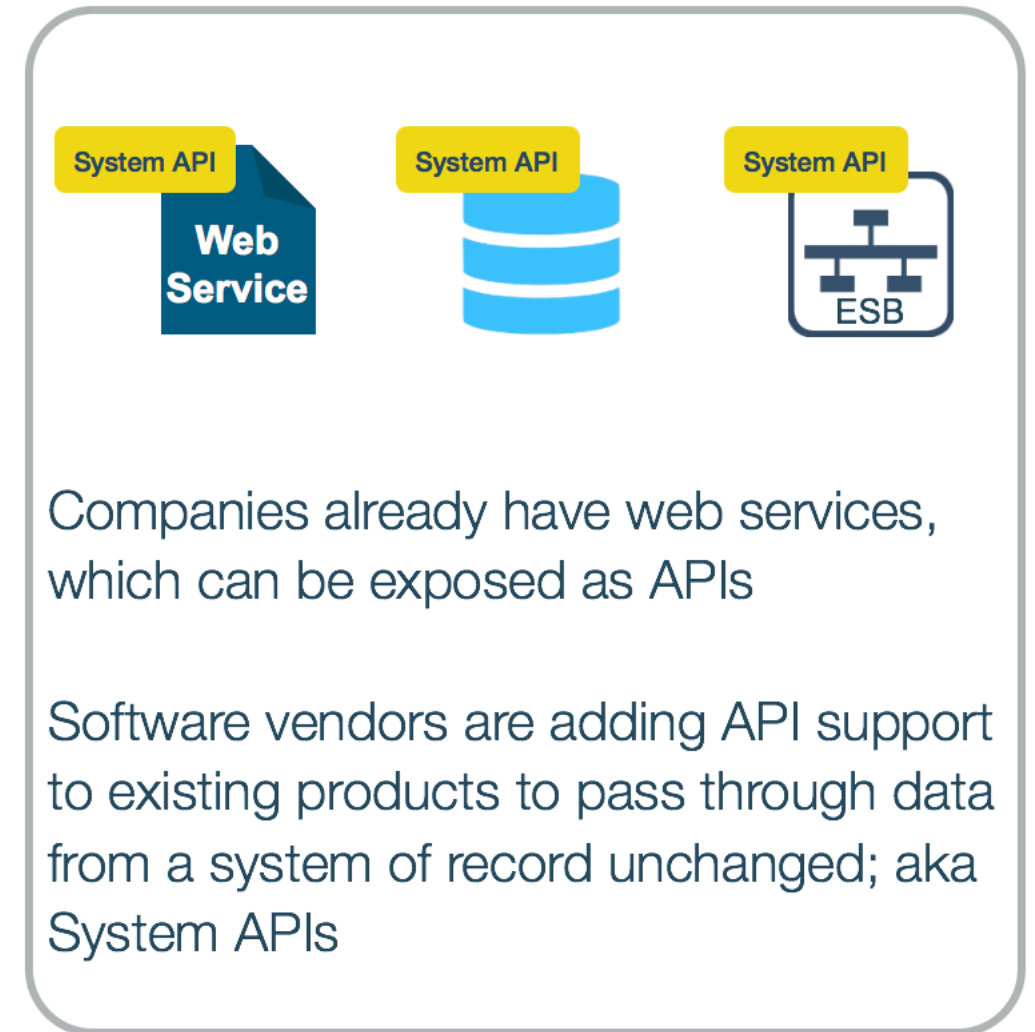


The screenshot shows the API Designer interface with the 'Source' tab selected. The left sidebar contains a list of categories: Info, Schemes, Host, Base Path, Consumes, Produces, Lifecycle, Policy Assembly, Security Definitions, Security, Extensions, Properties, Paths, Analytics, Parameters, Definitions, Services, Tags, and Categories. The main area displays a Swagger/OpenAPI specification in JSON format.

```
1  swagger: '2.0'
2  info:
3    x-ibm-name: sample-api
4    title: Sample API
5    version: 1.0.0
6  schemes:
7    - https
8    host: ${catalog.host}
9    basePath: /sample-api
10 consumes:
11   - application/json
12 produces:
13   - application/json
14 securityDefinitions:
15   clientIdHeader:
16     type: apiKey
17     in: header
18     name: X-IBM-Client-Id
19 security:
20   - clientIdHeader: []
21 x-ibm-configuration:
22   testable: true
23   enforced: true
24 cors:
25   enabled: true
26 assembly:
27   execute:
28     - invoke:
29       target-url: ${target-url}${request.path}
30 paths: {}
31 definitions: {}
32 tags: []
33
```

Defining System APIs

- System APIs work with Systems of Record or SORs
- These are the most common types of services, since they exist everywhere on a heterogeneous network.
- Great to get direct access to the data

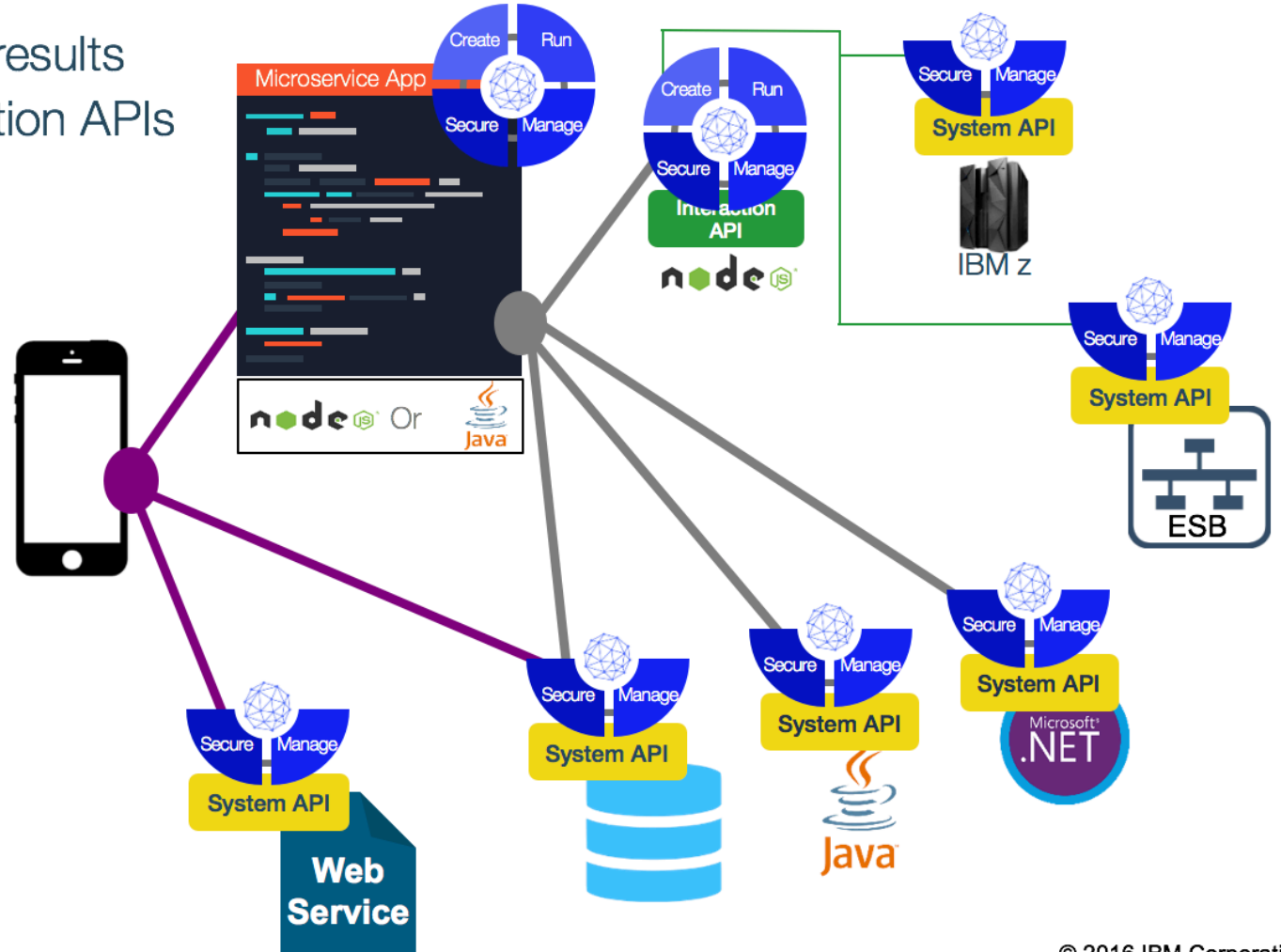


Defining Explaining Interaction APIs

Interaction APIs must be Created & Run

Existing & System APIs are invoked & their results manipulated to create new reusable Interaction APIs

- These orchestrations can be done via the Assembler in the API Designer or Cloud API Manager (DRAFTS).
- The true power of APIs creation can be created using this pattern.



Welcome to the API Ecosystem

- Let's work on the next sessions to see how these two patterns exist with our most common ways to enter API management

REST API
PROXY

SOAP API
PROXY

LOOPBACK
SERVICES

Swagger & API Patterns Questions

- Open Conversation / Questions?

Up Next: REST API Proxy