



Let's Solve

Whitepaper

API: Design-First Approach

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What is an API and what is the Need for API?

API stands for Application Programming Interface. API can be defined as an interface using which two applications talk to each other. It acts as door or window for an application which allows other applications to interact without the need for the entire application code to be exposed to the integrating application. APIs also gives the flexibility to develop an application block by block. These blocks can then be put together to build the application.

In today's connected world, the application cannot exist in a silo. There will always be a need to share data and functionalities to applications inside or outside of an organization.

What Defines a Good API?

Many organizations build their web and mobile applications, only to realize that they need to build APIs for integrating with other applications inside or outside the organization. Most times, this results in building duplicate or similar APIs. An ideal approach would be to build the APIs first, and build the applications on top of these APIs.

There are two ways in which an API can be built - the Design-First and the Code-First approach.

Code-First is the traditional way to build the API,

where business requirements are identified and defined, and then the API code built, and finally the API documentation. Whereas, in Design-First approach, before building the API code, the API contract is defined.

There are pros and cons of each approach. Let us understand few of these:

Code-First Approach

This results in faster API development life cycle, where developers start to build the APIs once the requirements are defined. This approach is also helpful when developing the APIs for use within the organization, with fewer consumers.

Design-First Approach

When we know that the API consumers are mostly outside the organizations like customers or partners of the organization, API becomes the key channel through which these customers and partners will communicate with the organization. In these cases, the API needs to be designed in such a way that application developers understand the functionality offered by the API, which in turn will reduce the development time required to integrate using these APIs.

The Design-First Approach

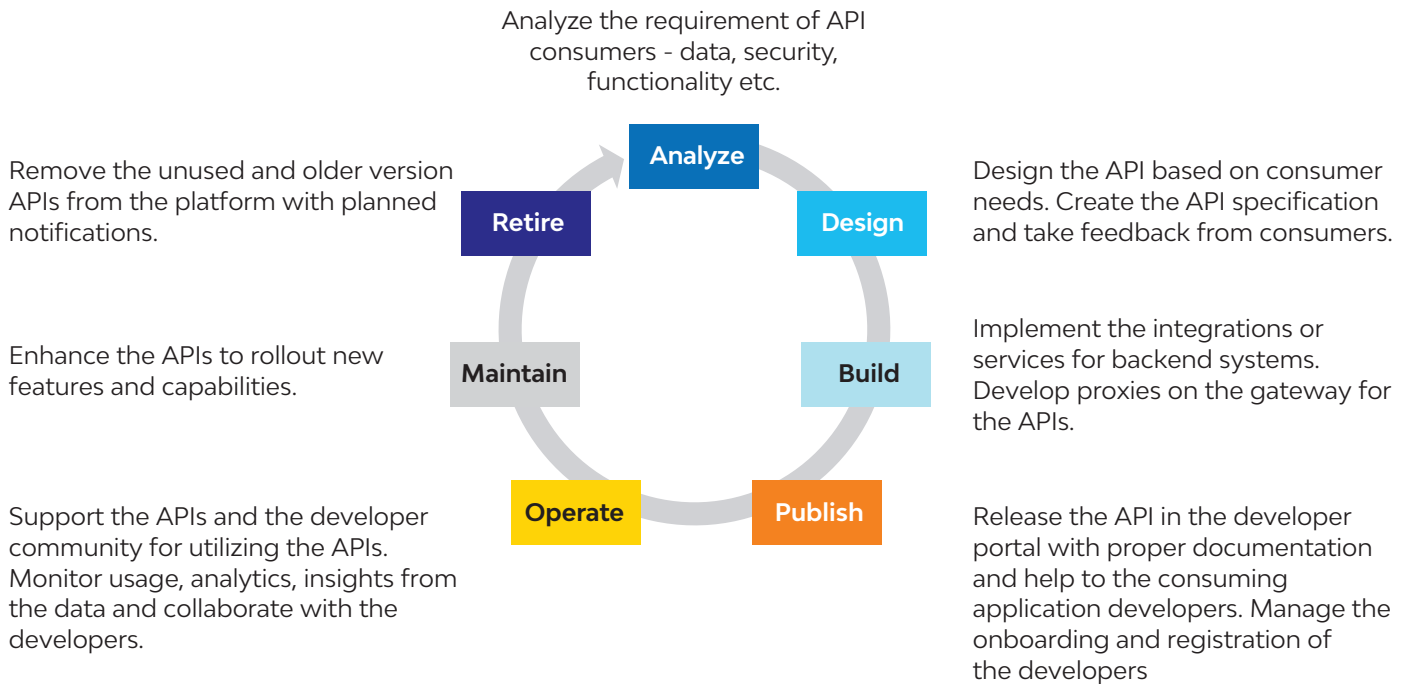
As against the traditional approach of taking project or provider specific view, the Design-First approach takes a consumer-centric view. Even before any implementation is started, designers seek feedback from the API consumers, then incorporate the feedback into the design, and develop the APIs to get the support from consumers.

The API contract defines the API's functionality, and how the resources are processed. It is easy to identify the gaps in the APIs by going through the API contract in detail. The API should be minimal and complete and consider the target consumer application developers interest. This approach also requires facilitating discussions between the teams - the API development team and the

consumers - before the API is built. This will help create a consumer-centric API and the API documentation which clearly defines the API functionality that is being developed.

APIs are created as mock-ups, and the contract is shared with all the teams. Then the back-end and front-end teams (System API developers and Experience API developers) start working with the mock APIs. Finally, when the API is ready, all the teams including consumers switch to the actual API. This helps ensure the correct direction of the API journey before the API itself is built. There are plenty of tools in the market that support the API Design-First approach. The API contract can be defined using API Blueprint or Swagger. These contracts can later be used to generate API documentation and API mocks.

API development lifecycle using "API design first approach"



Summary

For the investments in API to pay off and to ensure that your digital platform count, the focus should be on giving flight to your APIs. The APIs should be clear in explaining what it wants to achieve and easy on consumers. API should also accommodate new consumers without disturbing the existing consumers. Let APIs drive the agenda of your digital transformation journey.

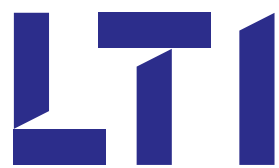
About the Author



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Bidyut has 18 years of experience in Enterprise Integration and leads the API & MicroServices portfolio within the LTI Digital Integration practice.



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