Introduction to Micro Frontends

In this lesson, we will define micro frontends

We'll cover the following

- What are micro frontends?
- Micro frontends e-commerce application example

What are micro frontends?#

Micro frontends are separate loosely coupled components of an application's user interface developed applying the principles of microservices on the front end.

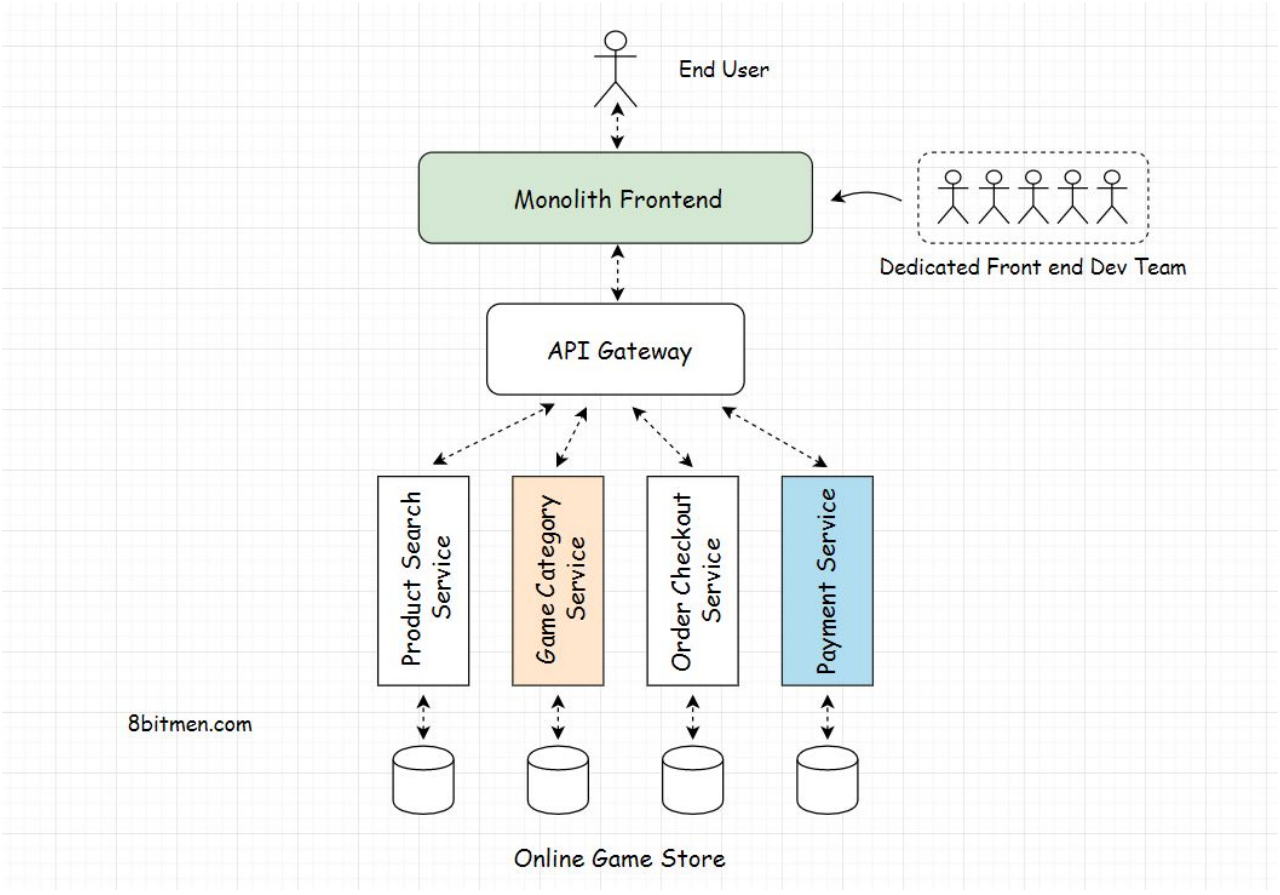
Writing micro frontends is more of an architectural design decision and a development approach as opposed to it being a technology.

What does applying the principles of microservices to the front end mean?

Microservices provide complete autonomy to the teams developing them. They are loosely coupled, provide fault isolation, and offer the freedom to pick the desired technology stack to the individual teams to develop a certain service.

Micro frontends offer the same upsides to front-end development.

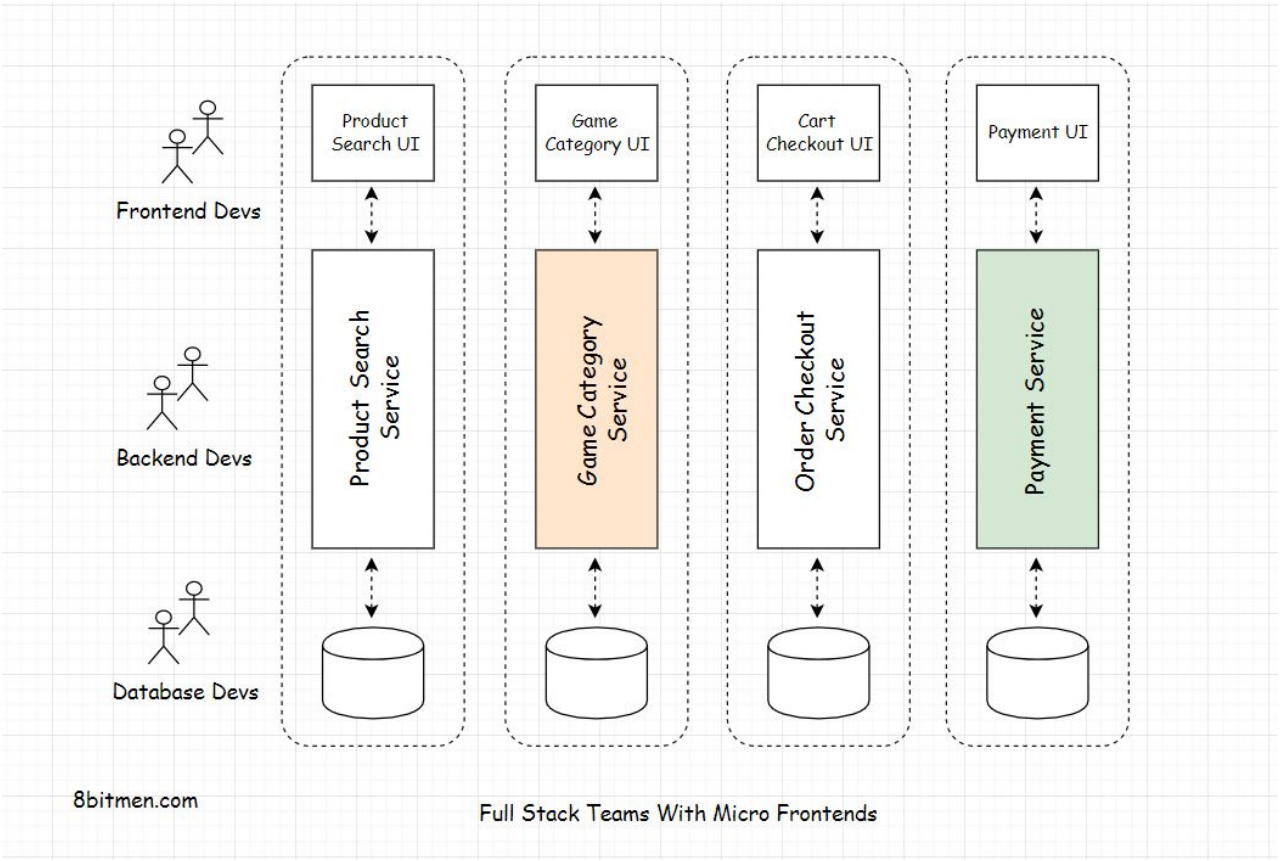
Generally, in application development, despite having a microservices architecture on the backend, our front end is a monolith that is developed by a dedicated front-end development team.



However, with the micro frontends approach, we split our application into vertical slices, where a single slice goes end to end right from the user interface to the database.

Every slice is owned by a dedicated team. Besides the back-end devs, the team also includes the front-end developers who have the onus of developing the user interface component only of that particular service.

Every team builds its own user interface component choosing their desired technology, and later all these components are integrated together, forming the complete user interface of the application. This micro frontend approach averts the need for a dedicated centralized user interface team.



Let’s break this down further with the help of an example.

Micro frontends e-commerce application example#

I’ve taken the example of an e-commerce application because the micro frontends approach is pretty popular with e-commerce websites.

Let’s imagine an online game store that delivers video games for desktops and consoles such as *Xbox, Nintendo Switch, PlayStation*, and their related hardware.

_Our online gaming store will have several different UI components. A few key components are:

The search component – This is a search bar at the top center of the

website that enables the users to search games based on the keywords they enter.

Once the user runs a search, the component enables the user to filter their search results based on several options, including the price range, type of console, game genre, and so on.

The Game Category Component – This component displays the popular and widely searched games for different categories on the homepage of the website.

Add to cart and checkout component – This user interface component enables users to add games of their liking to their cart and proceed to the checkout filling in their address and other required information to make the final payment.

During the checkout, the website may recommend related games to the user as upsells. Also, a user can apply for coupons and gift cards if they have any.

The Payment Component – The payment *UI* component offers different payment options to the user and facilitates the order payment once the user enters their card details on the page.

Every *UI* component has a dedicated microservice running on the backend powering that particular user interface component. All these different components are developed and managed by dedicated full-stack teams.

The application's complete user interface is rendered combining all these different individual UI components, also called *micro frontends*.

Let's continue this discussion in the next lesson.

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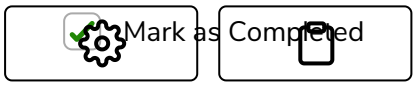
The need For Micro Frontends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