

Asia's Largest

# Al & Cloud Conference 2024

15 - 16, November 2024

Chennai Trade Center, Chennai





# Micro Frontends Breaking Monoliths





### It's me

## Bipul Kumar

Principal Engineer @ Intuit

### About Me

I am a software architect with over 22 years of experience in the tech industry, dedicated to building complex software applications from the ground up, with a strong focus on full-stack development, big data and Al. I am currently working as a Principal Engineer at Intuit, leading TurboTax and Professional Tax product development. I am passionate about exploring the latest industry trends and sharing my knowledge in various technical forums.



### It's me

### Neetu SN

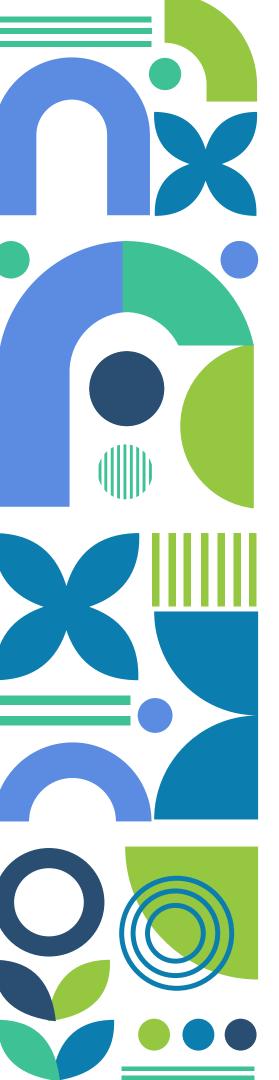
**Engineering Manager @ Saviynt** 

### About Me

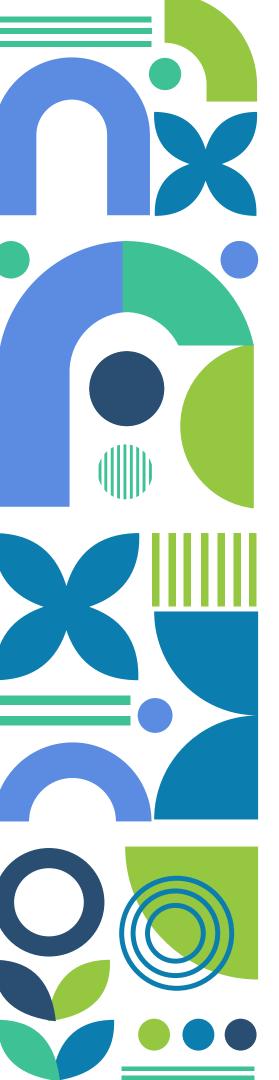
I am an Engineering Manager with over 16 years of experience in the tech industry. Expertise in managing the full spectrum of UI design and development, from conceptualization to optimization. Skilled in leveraging emerging technologies and industry best practices to deliver cutting-edge solutions that exceed project objectives. One of my key strengths is building collaborative environments that empower teams to perform at their best. I take pride in mentoring talent and fostering a culture of growth and learning, which has consistently led to exceptional results.

### What are Micro Frontends?

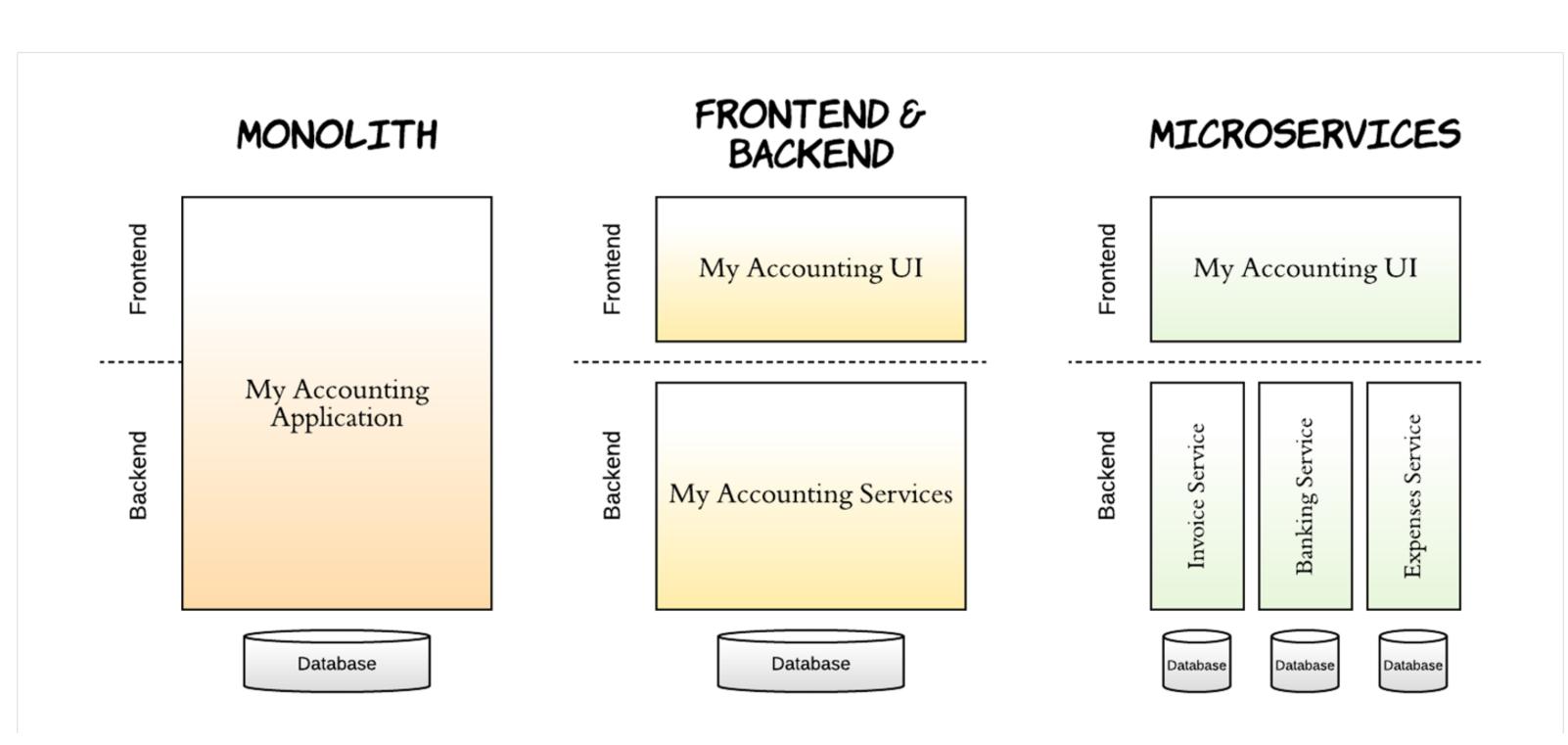


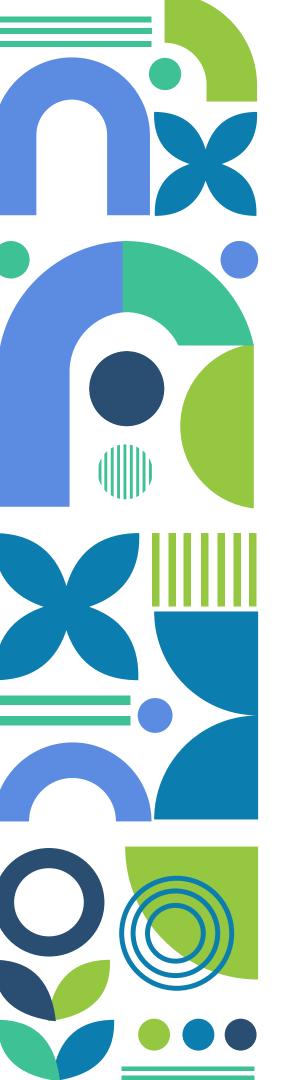


"It's an architecture pattern that breaks down the user interface of a web application into smaller, independently deployable units."



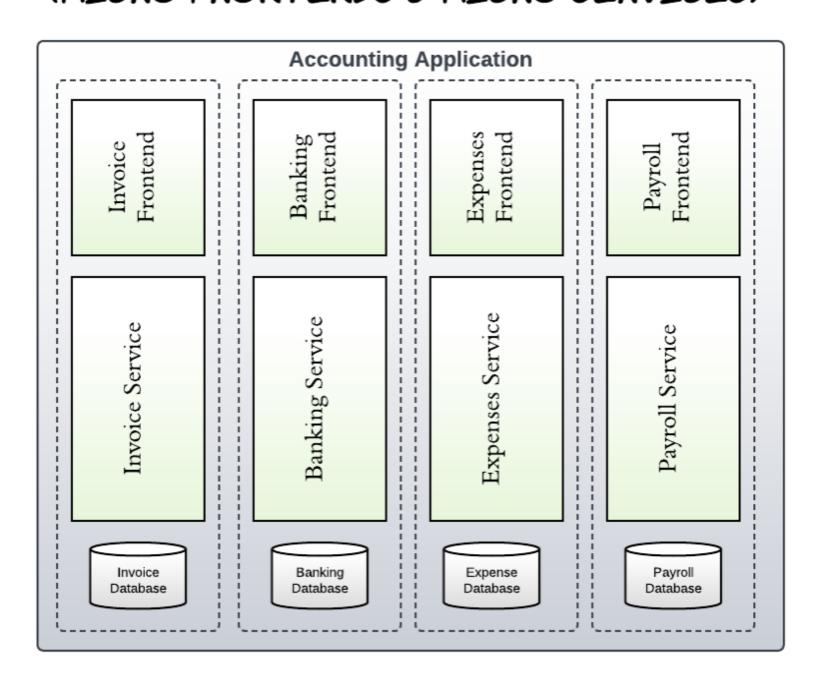
### Architecture

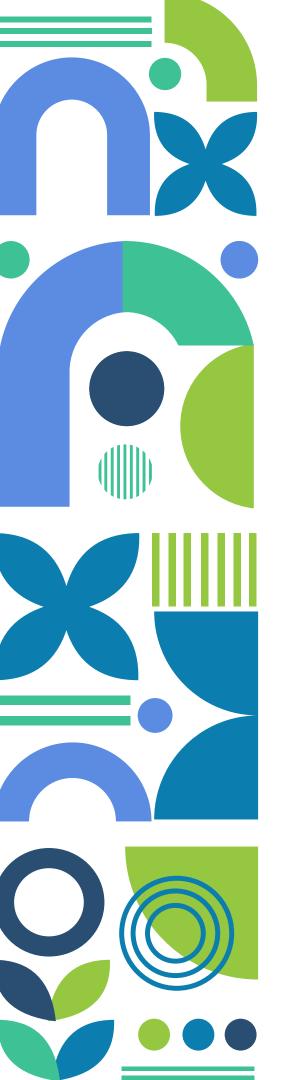




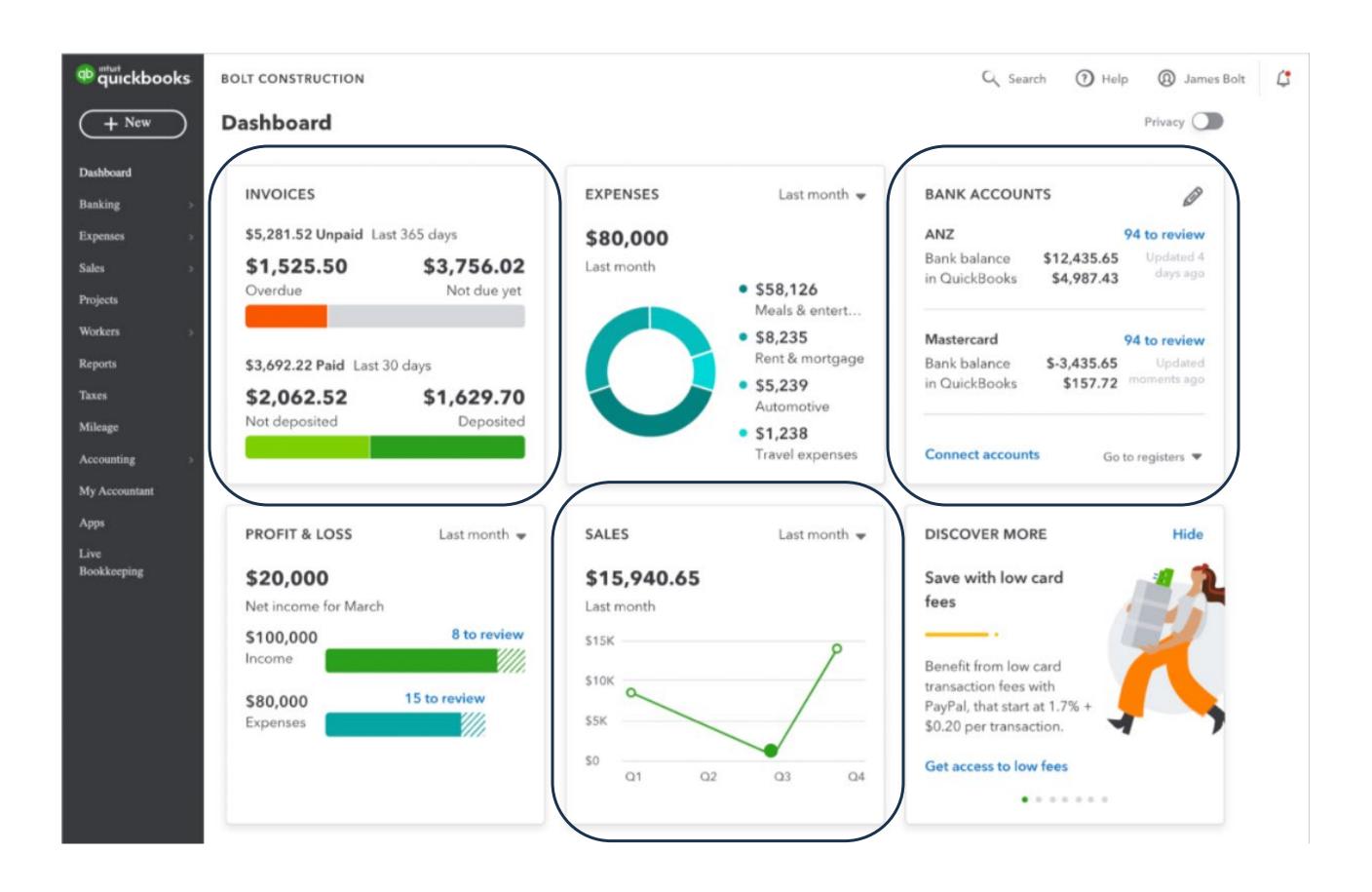
### Architecture (Contd.)

### MICRO APPS (MICRO FRONTENDS & MICRO SERVICES)



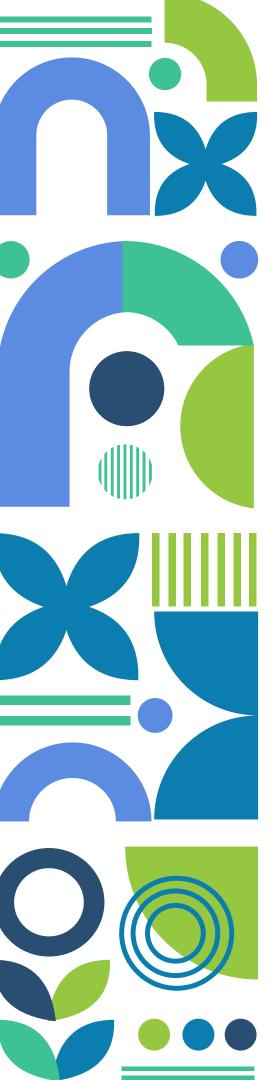


### Micro Frontends in Action

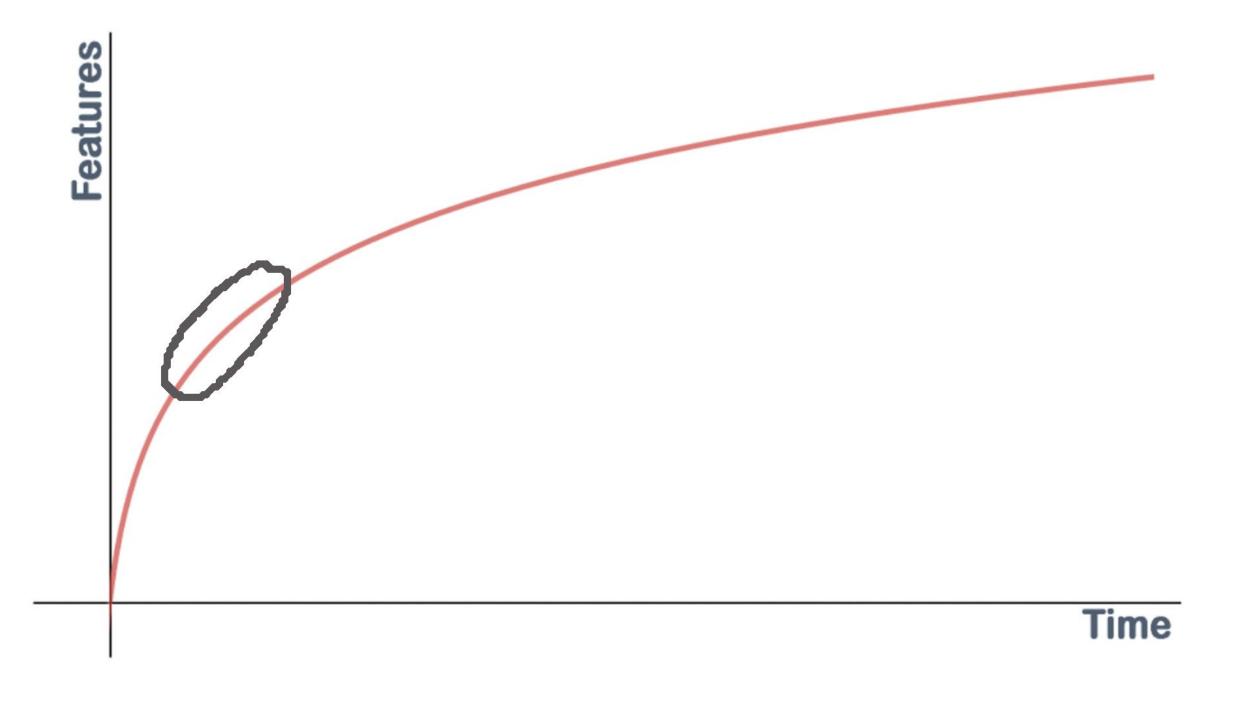


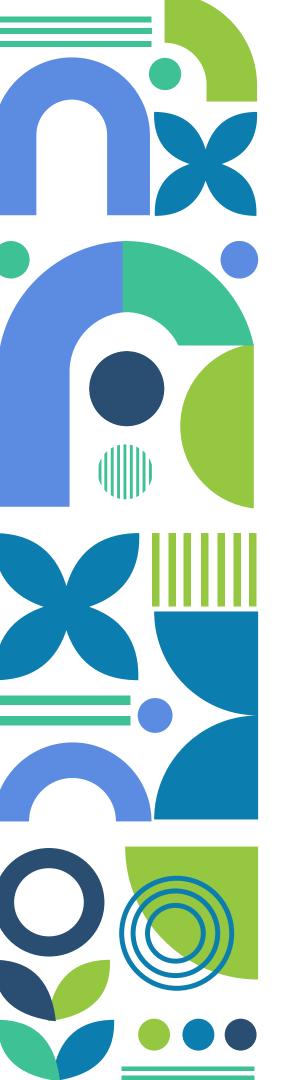
# Why Micro Frontends?



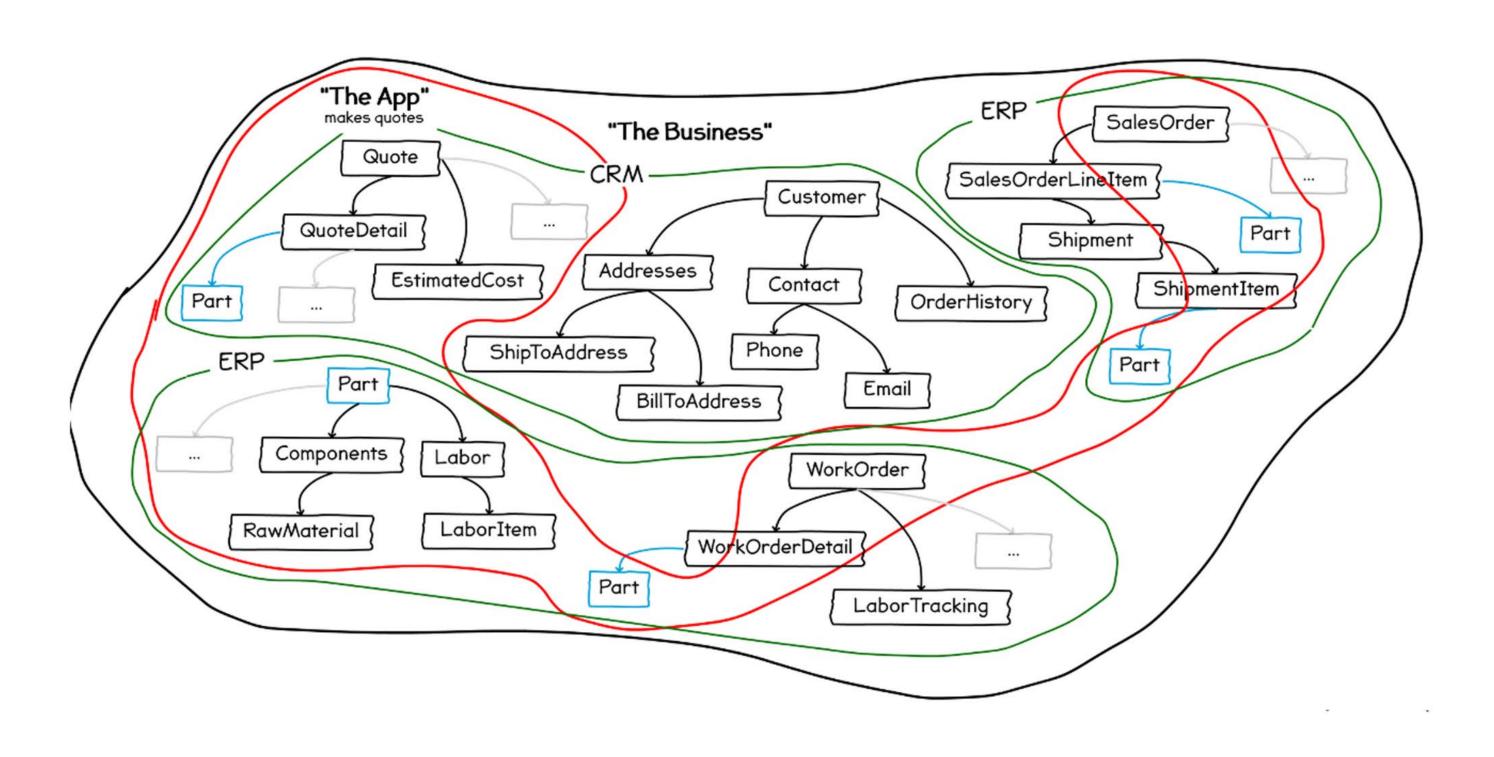


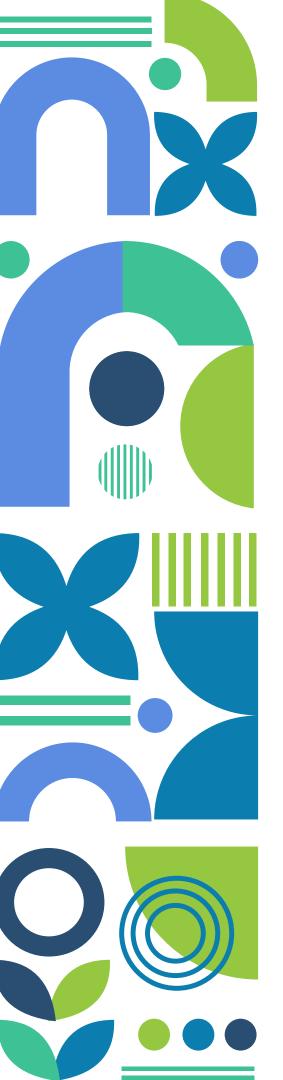
### Features vs Time



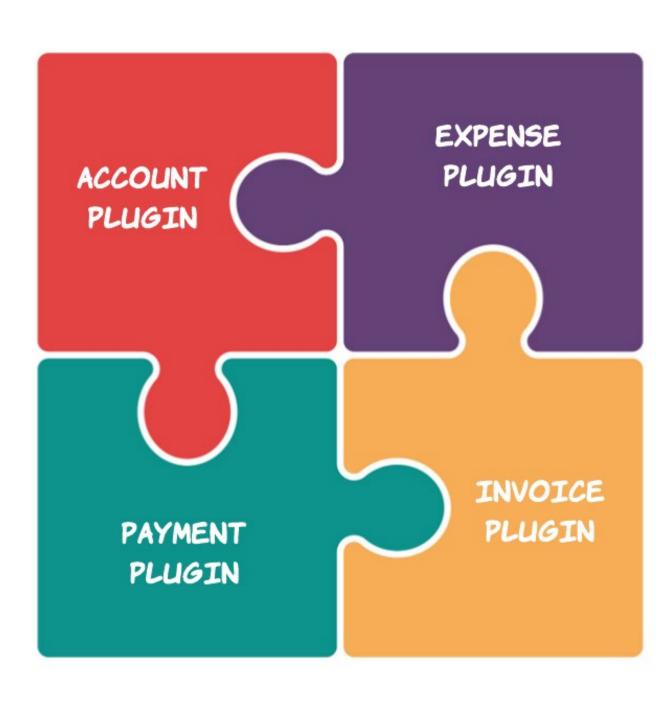


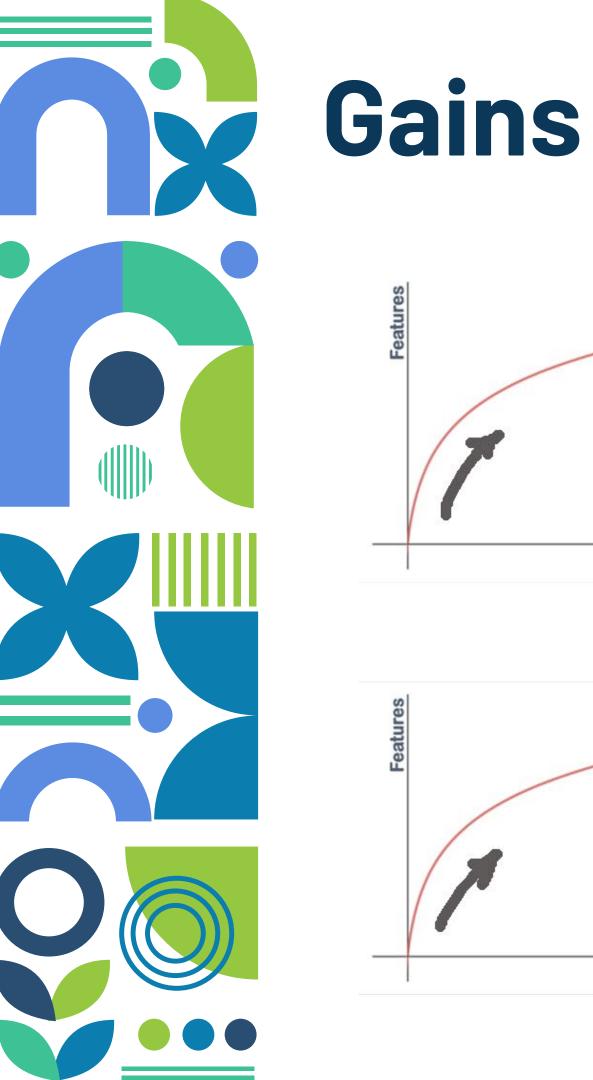
# Big Ball of Mud

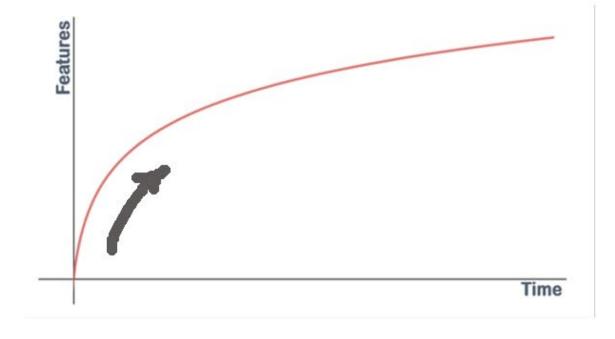


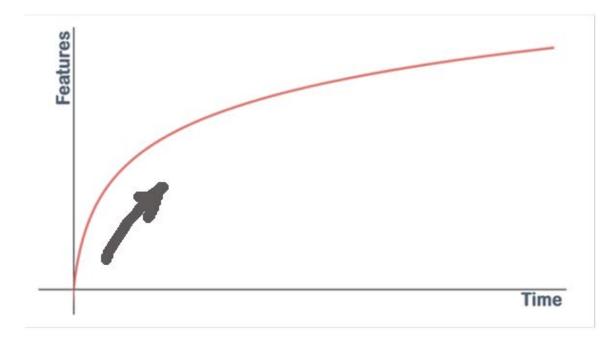


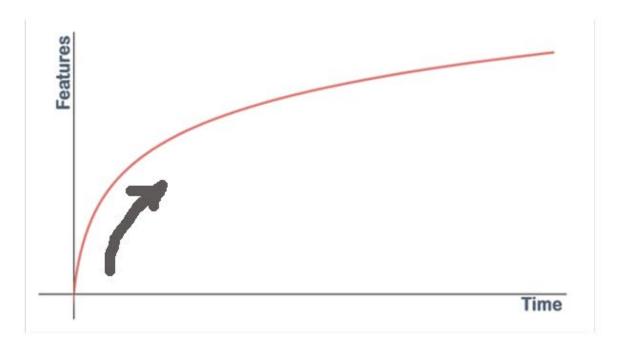
### Modularize

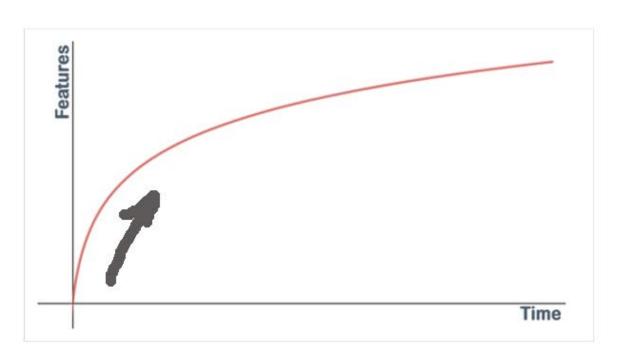


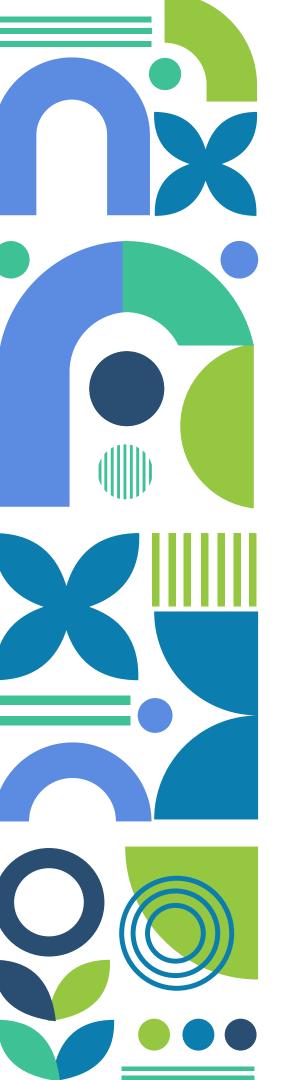










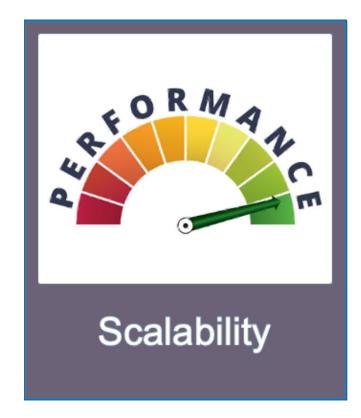


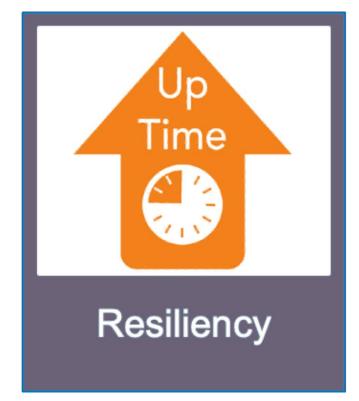
### All Benefits

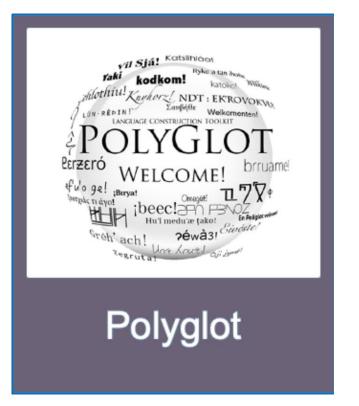






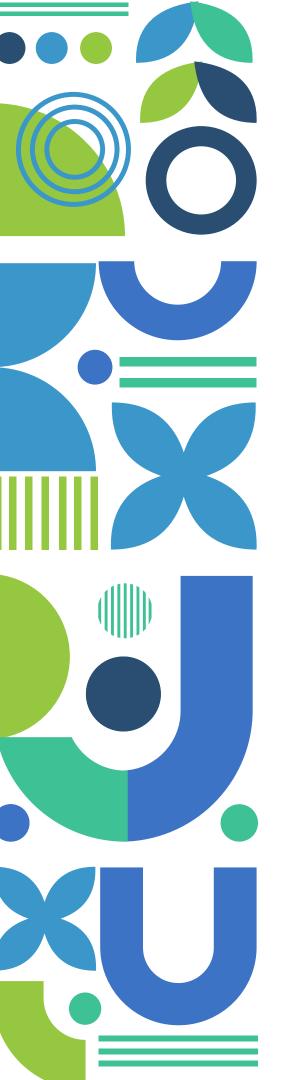






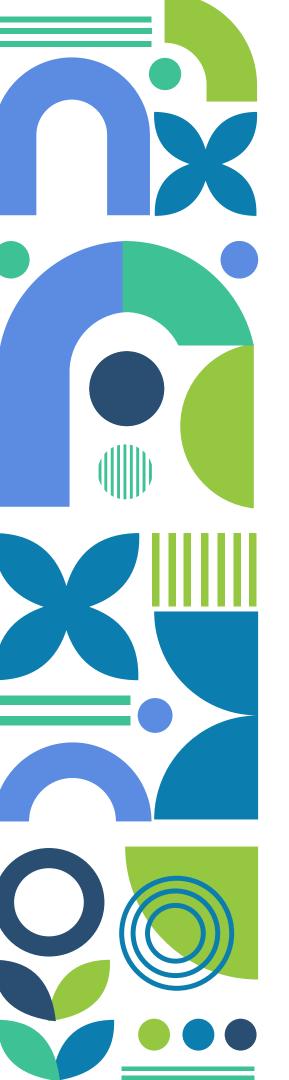
### How to build Micro Frontends?



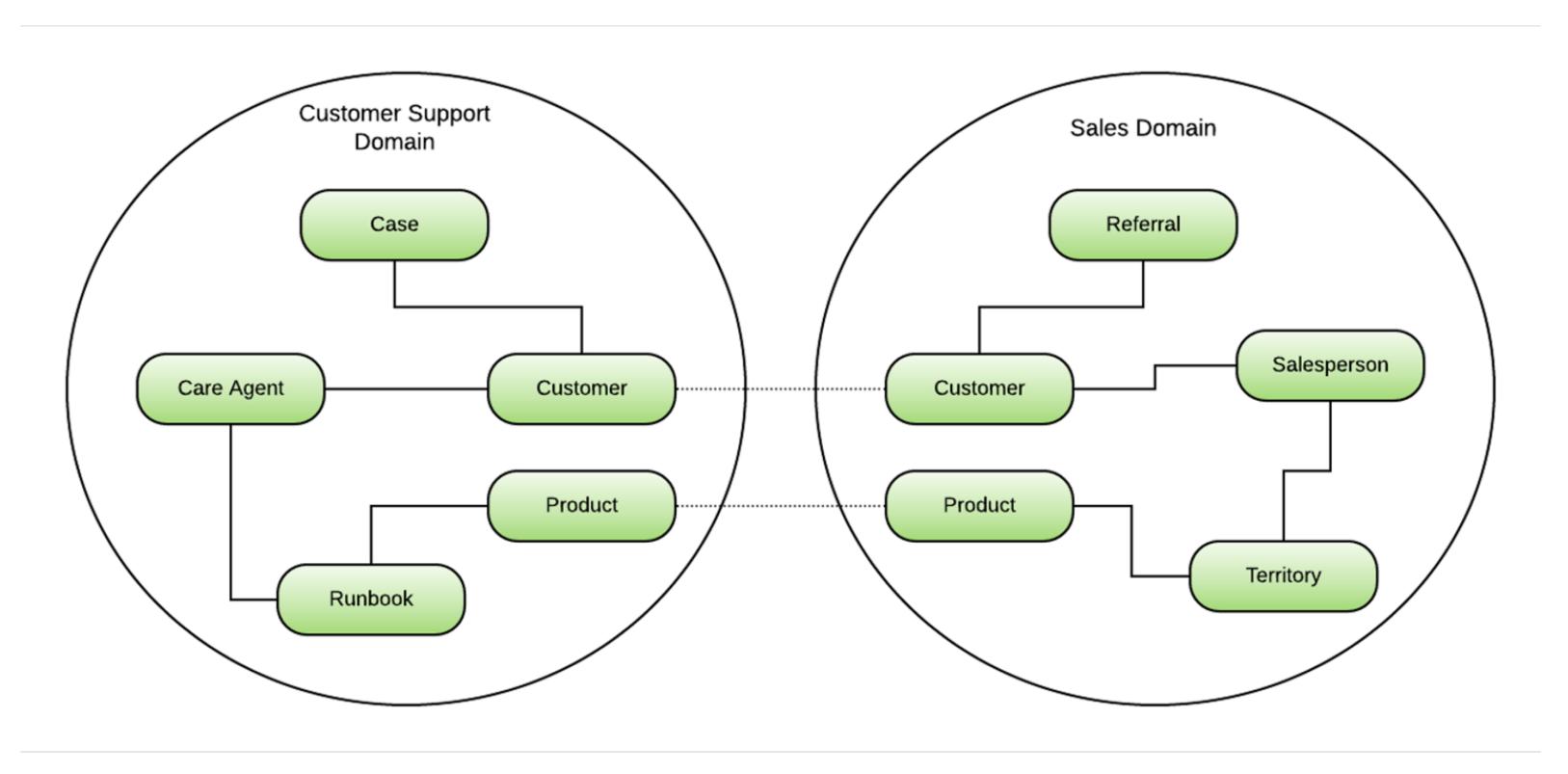


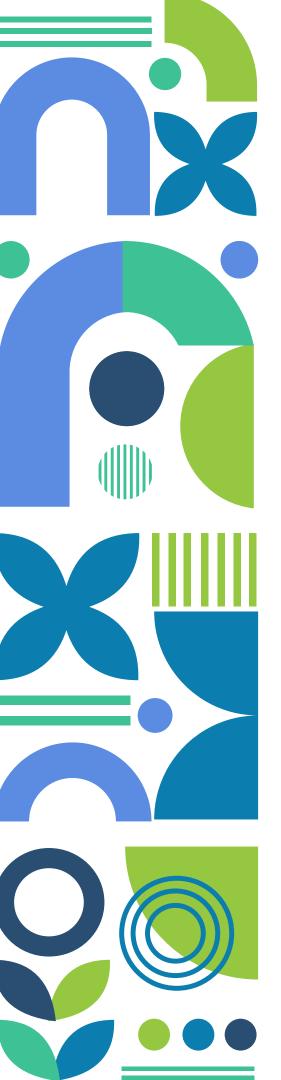
# Approaches

- Build time integration
- Server-side integration
- Run-time integration
  - o <iframe>
  - JavaScript
  - Web Components

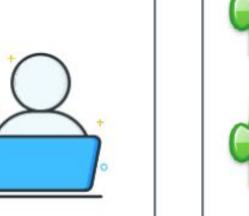


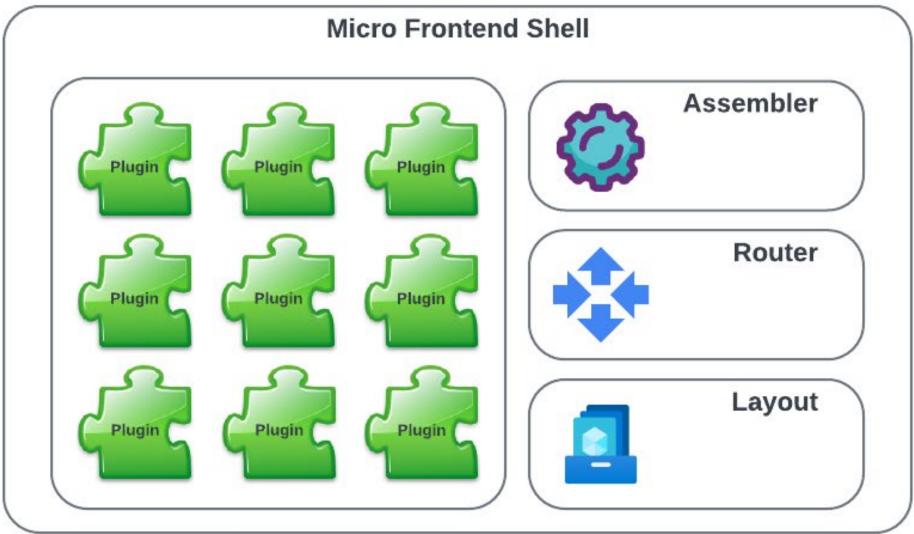
# Domain Driven Design

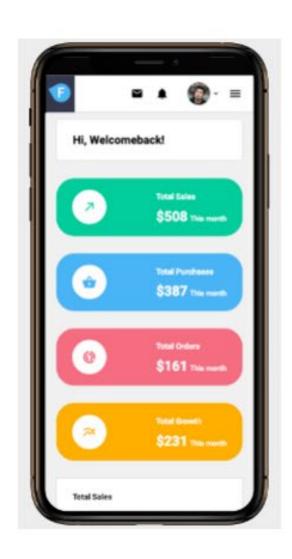


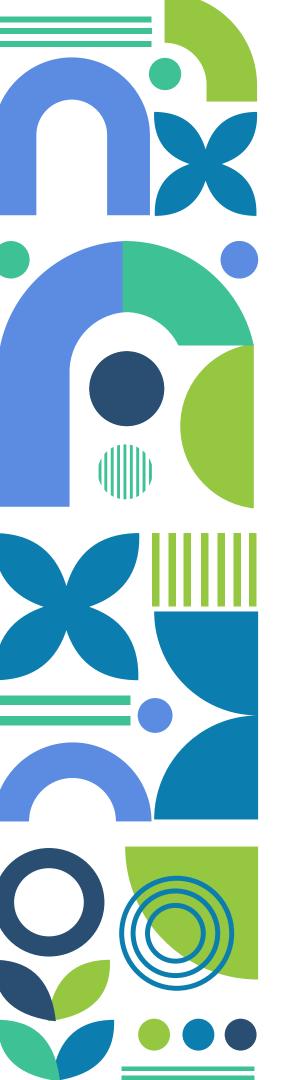


### Architecture



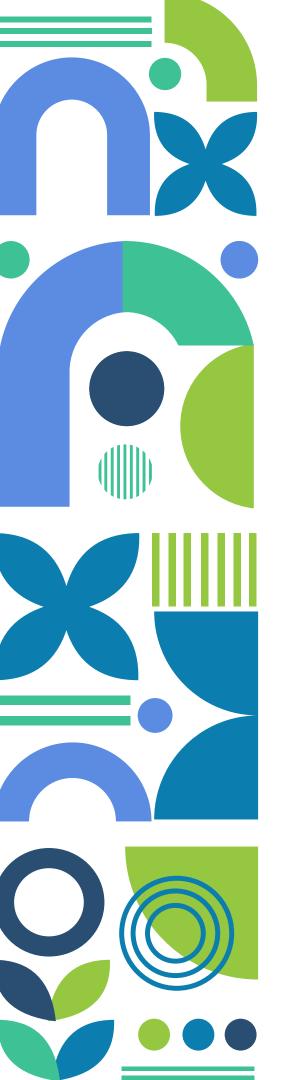




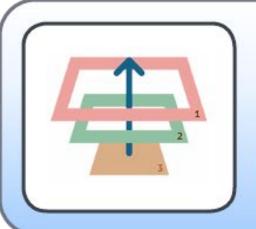


# Design System

Primer Design System					Brand About	Q Search Primer
Rails	~					
React	~	Foundations / Primitives / Colo	or			On this page
Component lifecycle						Foundational
Component status		Color				Pattern
Accessibility	~	Color				rattern
Contribute	~	An overview of all available color CSS variables				
Foundations		Farmalation of				
Color	~	Foundational				
Primitives	^	Foreground				
Getting started		Foreground				
Token names		Theme: Light →		\	View in Storybook [2	
Color						
Size		Sample	Token	Output value		
Typography		Aa	fgColor-default ☐	#1f2328		
Migrating Responsive		Aa	fgColor-muted ┌☐	#59636e		
CSS utilities	~	Aa	fgColor-onEmphasis ☐	#ffffff		
Layout			fgColor-onInverse	#ffffff		
Typography Icons and visuals	~	Aa	fgColor-white ☐	#ffffff		
Content		Aa	fgColor-black □	#1f2328		
UI patterns		Aa	fgColor-disabled ☐	#818b98		
Data visualization		Aa	fgColor-link ☐	#0969da		
https://primer.style/foundations/	primitives/color					



# Data Sharing



### **Custom Events**

Use DOM event propagation mechanism



### **Backend**

Share data via backend microservices that could store information in a database.

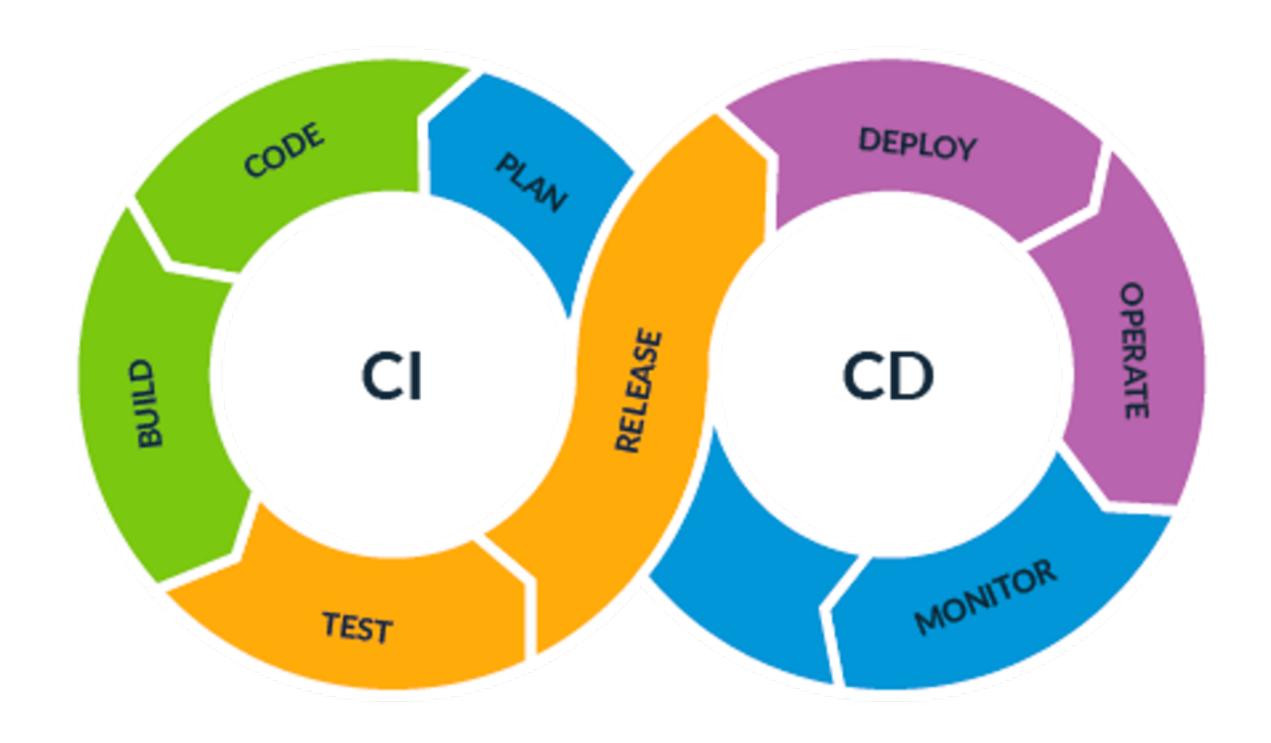


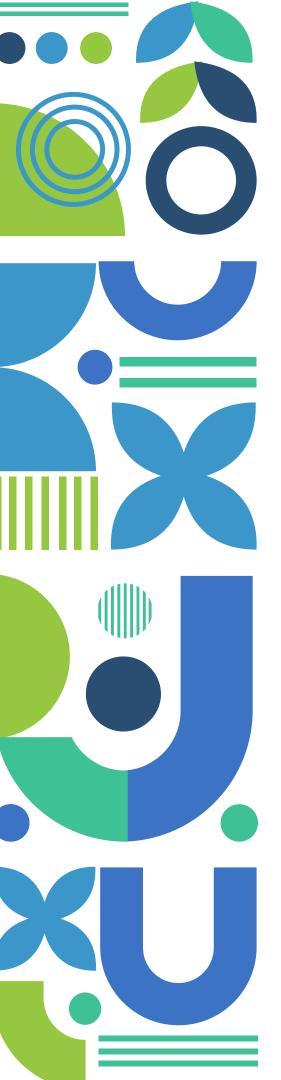
### **Browser Storage**

Application, Session, Cookie, Redux etc









### Frameworks

- Single SPA
- OpenComponents
- Bit
- Piral
- Luigi
- Qiankun

### Demo







### THANK YOU!

