

## Overview:

The project involved developing a vacation rental and property management services application. It helps to integrate property bookings and various tasks. The aim of the application is to fetch bookings from multiple platforms like Operto, Trip advisor and provide a solution to manage these bookings via a PWA platform where staff can work on tasks assigned to them and create issues related to the property, upload images/videos, etc.

## Client details:

**Name:** Confidential | **Industry:** Real Estate | **Location:** USA

## Technologies:

ColdFusion, MS SQL Database, Symfony, REST, GIT, CI/CD, React, Redux, Workbox, Service Workers, QuickBooks, Aglio documentation.

## Project Description:

The portal interacts with QuickBooks accounting software to manage invoices, estimates, sales orders, and payrolls for the staff, customers, and vendors. After analyzing the client's need, team@Mindfire offered to develop an application which is built on two servers (ColdFusion/Lucee & React/Symfony/LAMP). They share a centralized Microsoft SQL Server database. Some salient features of the application:

- The entire application is divided into 3 modules i.e. QuickBooks integration, Public APIs and Mobile Dashboard (PWA).

### 1. QuickBooks Integrations

- QuickBooks provides solutions for accounting needs like billings, invoices, payrolls, time tracking, etc.
- The application uses versions for both cloud and desktop with the below products.
  - QuickBooks Desktop
    - QuickBooks Premier
    - QuickBooks Enterprise
  - QuickBooks Cloud:
    - QuickBooks Online
- QuickBooks provides APIs for all accounting entities. This application consumes those APIs to make bidirectional communication with QuickBooks and Symfony application. It uses an SDK that enables the Symfony app to make rest calls.
- The application provides a portal that helps customers to fetch data (like customers, employees, items, etc.) from QuickBooks and performs mappings with the property booking information. This mapped information is then pushed to QuickBooks in the form of Sales Orders, Invoices, time tracking, etc.

## **2. Public APIs:**

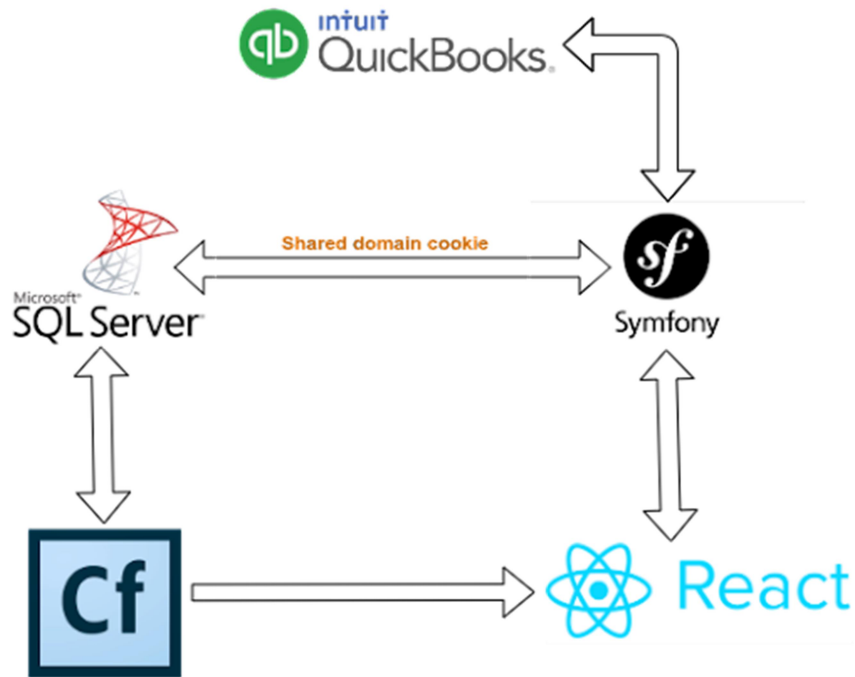
- They help expose certain REST APIs related to property bookings and management information like tasks, bookings, properties, etc., so that customers can consume these APIs and integrate them into their applications.
- The API Playground is built using Swagger. The app also provides API documentation which is built using a tool called Aglio. All the APIs are allowed to consume within a throttling limit which is managed using Symfony's cache component.

## **3. Mobile Dashboards (PWA):**

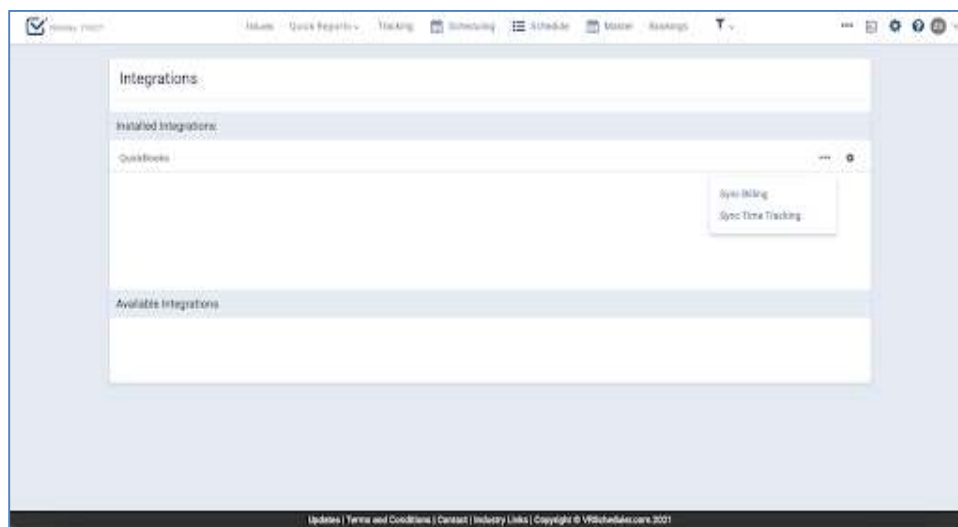
- The staff can work on different properties and tasks. PWA enables the staff to create issues, upload images/videos, manage checklists, etc.

- This application uses Google's workbox library which enables working with service workers.
- It can work both online and offline on any device.
  
- Certain tasks are cached automatically during the initial page load. When the connection goes off, the API request data are stored in the Indexed DB and the service worker automatically fetches these requests from Indexed DB to make network requests. Strategies like network-first and cache-first are used.
  
- The client staff/executives can work on tasks assigned to them and create issues related to the property, upload images/videos, etc.
  
- Features were implemented to auto-create tasks for each new booking based on customized rules.
  
- The ColdFusion and LAMP client interacts via a shared domain cookie (a JWT Token). This token is created on the ColdFusion server using a shared secret which is passed onto the LAMP server and verified using the same shared secret.

## Architecture:



## Screenshots:



**Screenshot 1:** QuickBooks Integration

Quickbooks Online - Billing Approve

Back Actions Filter Sync Approved

COMPLETED	DATE	PROPERTY	TASK	LABOR AMOUNT	MATERIAL AMOUNT	STATUS	ACTION
<input type="checkbox"/>	8/1/21	Chapel Hill	Check Out Clean	\$125	0	Approved	...
<input type="checkbox"/>	8/1/21	Holloway Cabin	Check Out Clean	\$125	0	Approved	...
<input type="checkbox"/>	8/2/21	Greenside	Check Out Clean	\$125	0	New	...
<input type="checkbox"/>	8/5/21	Bay View Bungalow	Check Out Clean	\$125	\$18	Approve Exclude New	...
<input type="checkbox"/>	8/5/21	White Woods	Check Out Clean	\$125	0		...
<input type="checkbox"/>	8/5/21	Brace House	Check Out Clean	\$150	\$18		...
<input type="checkbox"/>	8/5/21	Holloway Cabin	Check Out Clean	\$125	0	New	...
<input type="checkbox"/>	8/5/21	Raymore Road - CHSUS	Check Out Clean	\$125	0	New	...
<input type="checkbox"/>	8/5/21	Holloway Cabin	Check Out Clean	\$125	0	New	...
<input type="checkbox"/>	8/5/21	Brace House	Check Out Clean	\$150	\$18	New	...
<input type="checkbox"/>	8/7/21	Greenside	Check Out Clean	\$125	0	New	...
<input type="checkbox"/>	8/8/21	Holloway Cabin	Check Out Clean	\$125	0	New	...

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Screenshot 2: QuickBooks Billing

Dashboard Task Calendar Booking Calendar Check In/Out Booking List Future Tasks Reports

Exit Starting Message Click It

4 Unscheduled Task or Issue

Monday, November 1, 2021

Monday Notes

Downloaded

Chapel Hill

Monday Job

Start After: 8AM  
Complete By: 12D

Accept Decline

Property Status: Occupied

Monday, November 8, 2021

Monday Notes

Downloaded

Chapel Hill

Monday Job

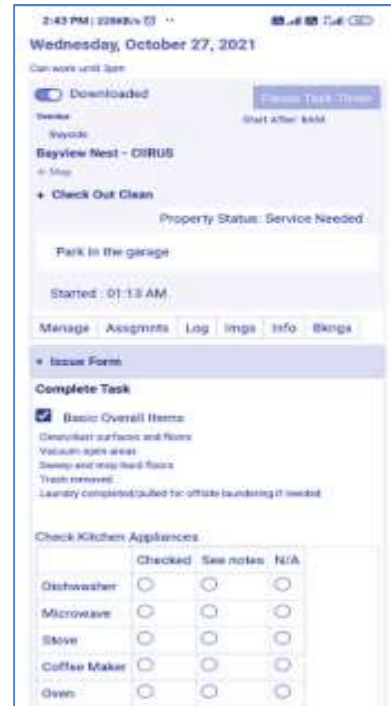
Start After: 8AM  
Complete By: 12D

Accept Decline

Screenshot 3: Mobile Dashboard (PWA)



Screenshot 4: View Tasks



Screenshot 5: Manage tasks/timer



Screenshot 6: Upload images