



Easy Restaurant Case Study

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<https://dogratech.com/>

Easy Restaurant



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1. Introduction & Business Needs:-

The Easy Restaurant was designed to address common operational challenges faced by restaurants. The objective was to build a unified and easy-to-use platform that supports daily restaurant operations across both desktop and mobile devices.

Restaurants required an efficient solution to manage menus, orders, staff, and customers while minimizing manual effort and errors. Key business needs included real-time order processing, quick menu updates, role-based access, and better visibility into sales and operational performance. The system also needed to be scalable to support future growth and adaptable to different restaurant sizes and service models.

The project meets these needs by centralizing operations, improving service efficiency, and enhancing the overall customer experience while enabling informed decision-making.

2. Target Users

This System is designed to serve the following user groups:

- **Restaurant Owners / Managers**
Responsible for overseeing operations, managing menus, staff, and monitoring sales and performance through dashboards and reports.
- **Restaurant Staff**
Includes kitchen and service staff who handle order processing, update order statuses, and ensure smooth day-to-day operations.



- **Customers**

End users who browse the menu, place orders (dine-in or takeaway), and track order status using mobile or desktop devices.

3. Business Challenge

Traditional restaurant operations often rely on fragmented systems or manual processes, leading to:

- Order management errors and delays
- Difficulty in updating menus in real time
- Limited visibility into sales and operational data
- Inefficient coordination between staff and management
- Poor customer experience during peak hours

4. Objectives

- Digitize end-to-end restaurant operations
- Enable role-based access for Owner, Staff, and Customer
- Better co-ordination between Restaurant Management, Staff & Customer
- Provide seamless experience across desktop and mobile
- Improve decision-making through analytics and reports.

5. Solution Provided

Dogra Technologies designed and developed a System to streamline daily operations, improve service efficiency, and support scalable restaurant growth.

Key Solution Highlights

- **Centralized Platform:** A single system to manage users, menus, and orders, reducing manual effort and errors.
- **Role-Based Access:** Secure and clear access for Owners, Staff, and Customers based on responsibilities.



- **Real-Time Operations:** Instant menu updates and live order tracking for faster service and transparency.
- **User-Friendly Web Interface:** User Friendly responsive design across multiple browser & devices

6. Scope of the System

The project covers the following functional areas:

- User and role management
- Menu and pricing management
- Order lifecycle management
- Payment and billing integration
- Reporting and analytics
- Multi-device (desktop & mobile) support

7. User Roles & Responsibilities

7.1 Owner

- Create and manage restaurant profile
- Add, update, or remove menu items
- Manage staff accounts and permissions
- View sales reports and analytics
- Monitor order status and performance metrics

7.2 Staff

- View and process incoming orders
- Update order status (Accepted, Preparing, Ready, Served)
- Manage table or takeaway orders
- Coordinate with kitchen and front desk



7.3 Customer

- Browse menu items with descriptions and prices
- Place dine-in or takeaway orders
- Track order status in real time
- View order history
- Access system via mobile or desktop

8. Core Entities & Data Model

8.1 Users

- User ID
- Name
- Role (Owner / Staff / Customer)
- Contact details
- Login credentials
- Status (Active / Inactive)

8.2 Menu Items

- Item ID
- Item Name
- Category (Starter, Main Course, Beverage, Dessert)
- Description
- Price
- Availability status
- Image URL

8.3 Orders

- Order ID
- Customer ID
- Order Type (Dine-in / Takeaway)
- Ordered Items & Quantity
- Total Amount
- Payment Status
- Order Status
- Timestamp



9. Key Functional Features

9.1 Menu Management

- Real-time menu updates by Owner
- Automatic sync across all devices
- Availability control for sold-out items

9.2 Order Management

- Instant order placement by customers
- Real-time order notification to staff
- Order status tracking
- Error reduction through automation

9.3 Reporting & Analytics

- Daily, weekly, and monthly sales reports
- Top-selling items analysis
- Order volume by time slot
- Staff performance overview

9.4 Device Compatibility

- Responsive web design
- Optimized mobile interface for customers and staff
- Desktop dashboard for owners

10. Core Features

- **User & Role Management:** Secure onboarding and role-based access for Owner, Staff, and Customer.
- **Menu Management:** Real-time creation, update, and availability control of menu items.
- **Order Management:** End-to-end order lifecycle handling from placement to fulfillment.
- **Real-Time Notifications:** Instant order and status updates for staff and customers.
- **Reporting & Analytics:** Automated sales, order, and performance reports.
- **Multi-Device Support:** Responsive design for seamless use on desktop and mobile devices.



11. Technology Stack

Frontend:

- **Framework:** Angular 19.2
- **Language:** TypeScript 5.7
- **UI Libraries:**
- CoreUI 5.4 (admin template)
- Angular Material 19.2
- PrimeNG 19.1
- Bootstrap (via ngx-bootstrap)
- **State Management:** RxJS 7.8
- **Real-time:** Socket.io Client 4.8
- **Firebase:** Angular Fire 19.2 (Firebase 10.12) for messaging/notifications
- **Payment:** Stripe.js 7.9

Backend:

- **Runtime:** Node.js 20.x
- **Framework:** Express.js 4.19
- **Architecture:** Serverless (AWS Lambda)
- **Database:** AWS DynamoDB
- **API Gateway:** AWS API Gateway (HTTP API & WebSocket API)
- **Payment Processing:** Stripe 14.21
- **Email:** Sendinblue (sib-api-v3-sdk)
- **QR Code:** qrcode
- **Real-time:** WebSocket via AWS API Gateway

Security:

- **Authentication:** JWT (jsonwebtoken)
- **Password Hashing:** bcryptjs
- **Firebase Admin SDK:** For server-side Firebase operations
- **CORS:** Configured in API Gateway
- **Authorization Middleware:** Custom JWT verification middleware
- **Environment Variables:** Secure configuration via Serverless Framework



Hosting:

- **Frontend:** AWS Amplify
- **Backend:** AWS Lambda (Serverless Framework)
- **Database:** AWS DynamoDB (ap-south-1)
- **WebSocket:** AWS API Gateway WebSocket API

12. Implementation Approach

1. **Requirement Analysis:** Gathered business and functional requirements by analyzing restaurant workflows and user roles.
2. **Solution Design:** Defined architecture, data models, and role-based access to ensure scalability and security.
3. **Development:** Implemented core modules such as user management, menu management, and order processing using modular design.
4. **Testing & Validation:** Conducted functional, usability, and cross-browser testing to ensure reliability on desktop and mobile.
5. **Deployment:** Deployed the application on a cloud-based environment with secure access controls.
6. **Post-Implementation Support:** Provided monitoring, bug fixes, and scope for future enhancements.

13. Results & Impact

- Reduced order processing time by **30–40%** through automation
- Improved order accuracy and reduced manual errors
- Faster menu updates across all platforms
- Enhanced customer experience with real-time order tracking
- Better operational visibility and decision-making for owners

14. Business Value

- Lowering operational costs through reduced manual intervention
- Increasing revenue potential via faster service and improved customer satisfaction
- Enabling data-driven decisions using real-time sales and performance insights



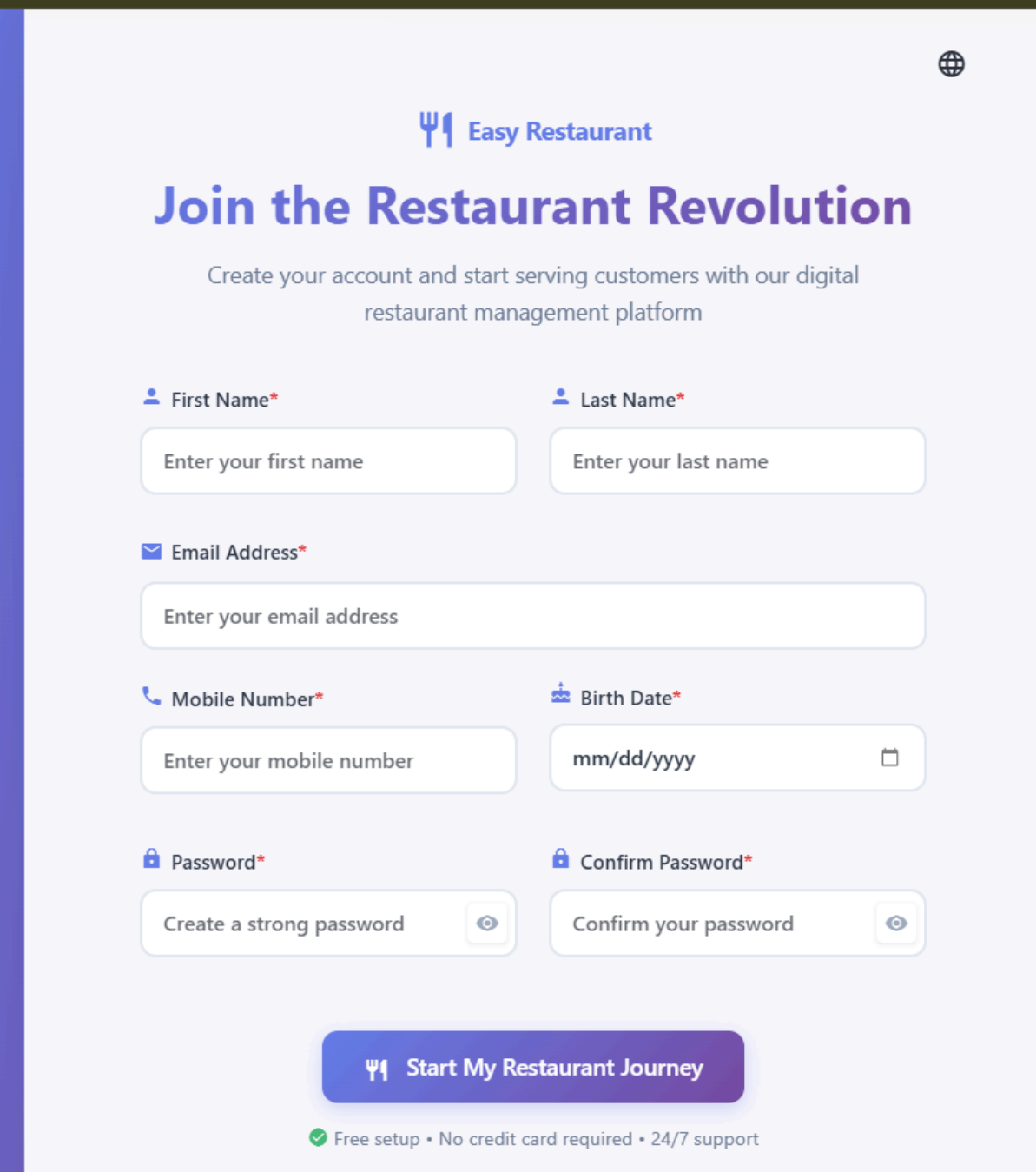
- Improving staff productivity and coordination
- Providing a scalable foundation to support business growth and future digital initiatives

15. Conclusion


The project successfully addresses key operational challenges by providing a unified, role-based, and device-independent platform. The system enhances efficiency, improves customer experience, and lays a strong foundation for future enhancements such as loyalty programs, multi-branch support, and advanced analytics.




16. Screenshots




The screenshot shows a registration form for 'Easy Restaurant'. At the top right is a globe icon. The logo 'Easy Restaurant' with a fork and knife icon is centered. Below it is the heading 'Join the Restaurant Revolution' and a sub-heading 'Create your account and start serving customers with our digital restaurant management platform'. The form consists of several input fields: 'First Name*' and 'Last Name*' (with a person icon), 'Email Address*' (with an envelope icon), 'Mobile Number*' (with a phone icon), 'Birth Date*' (with a calendar icon), 'Password*' (with a lock icon), and 'Confirm Password*' (with a lock icon). Each field has a placeholder text. At the bottom is a large purple button labeled 'Start My Restaurant Journey' with a fork and knife icon. Below the button is a green checkmark icon followed by the text 'Free setup • No credit card required • 24/7 support'.





 Easy Restaurant


Join the Restaurant Revolution


Create your account and start serving customers with our digital restaurant management platform


 First Name*


 Last Name*


 Email Address*


 Mobile Number*

 Birth Date*

 Password*

 Confirm Password*

 Start My Restaurant Journey

 Free setup • No credit card required • 24/7 support





- 1 Restaurant Info
- 2 Staff Info
- 3 Table Setup

Restaurant Information

Create unforgettable dining experiences that inspire connection and joy.

Restaurant Name*
Hotel Raj

Address*
Near D-Mart

City*
Wardha

State*
Maharashtra

ZIP Code*
45123

Phone Number*
215463

Email Address*
newhotel1@yopmail.com



Next



🌐

🔗 Restaurant Info ————— 🔗 Staff Info ————— 3 Table Setup

Restaurant Table Layout
Design your restaurant floor plan by adding and arranging tables.

+ Add Table

1 2 3 4 5 6 7

Reset Layout Save Layout

Back





Welcome Back 🙌

Sign in to continue

Email *

Email is required.

Password *

Password is required.

Login

[Forgot password?](#)

Don't have an account? [Create Account](#)




Easy Restaurant | Hello Giulia! | [Subscribe](#) | [Your subscription expires in 20 days](#)

Dashboard | **Menu Creation** | Orders Management | Staff Setup | Table Management

Menu Creation


Search menu items... [Add Menu Item](#)

1 - Starter



Chicken Kabab
Very yummy
\$25.60


[Edit](#) [Delete](#)



Paneer Tikka
Delicious
\$36.50


[Edit](#) [Delete](#)

2 - Main Course



Paneer Tikka masala
Tasty
\$25.60

[Edit](#) [Delete](#)



Butter Chicken
Hot Spicy
\$12.18

[Edit](#) [Delete](#)

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Dashboard | [Menu Creation](#) | **Orders Management** | Staff Setup | Table Management



Orders Management

Filter: All

Table 8

Waiter: Prajwal Chinchpale

Order Items Pending



	Paneer Tikka x1	\$36.50
	Chicken Kabab x1	\$25.60
Total:		\$62.10

[Deny](#) [Accept](#)

Table 9

Waiter: Prajwal Chinchpale

Order Items Pending

	Chicken Kabab x1	\$25.60
	Paneer Tikka x1	\$36.50
Total:		\$62.10

[Deny](#) [Accept](#)



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Dashboard | Menu Creation | Orders Management | **Staff Setup** | Table Management

Staff setup

Add Your Staff Members

Share this QR code with your staff members to grant them access to the system.

- Create a permanent staff account.
- Request temporary access for shift work.



[Download QR Code](#) [Share Link](#)

Pending Approvals

New staff registration requests will appear here for your approval.

Staff Details

First Name	Last Name	Role	Status	Mobile	Actions
Prajwal	C	TempStaff	Approved		Edit Delete

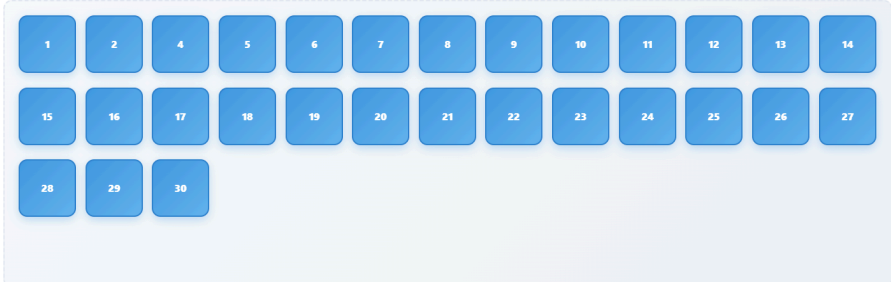
Easy Restaurant | Hello Giulia! | [Subscribe](#) | Your subscription expires in 20 days

Dashboard | Menu Creation | Orders Management | Staff Setup | **Table Management**

Table Management

Here you can manage your restaurant tables.

[+ Add Table](#)




Easy Restaurant | Hello Giulia! | [Subscribe](#) | Your subscription expires in 20 days

Dashboard | Menu Creation | Orders Management | Staff Setup | **Table Management**

Table #1

Status: Open



[Refresh](#) [Download](#)

Assigned Staff

Table No:1

Select Staff

[Assign](#)

Unlock Requests

Table Status: Open

[Open](#) [Close](#)

Private & Confidential





Dogra Technologies Pvt. Ltd.

Customer View

Our Menu

Filter Call Waiter

Your Basket

	Paneer Tikka Size: Regular Price: \$36.50	\$36.50	- 1 +	
	Chicken Kabab Size: Regular Price: \$25.60	\$25.60	- 1 +	



Total Amount: **\$62.10**

PLACE ORDER



Sections

All Items (4) Starter (2) Main Course (2)

Starter

 <p>Paneer Tikka Delicious Price: \$36.50</p> Add to Basket	 <p>Chicken Kabab Very yummy Price: \$25.60</p> Add to Basket
--	--

Main Course

	
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Staff Login

Request Temporary Access

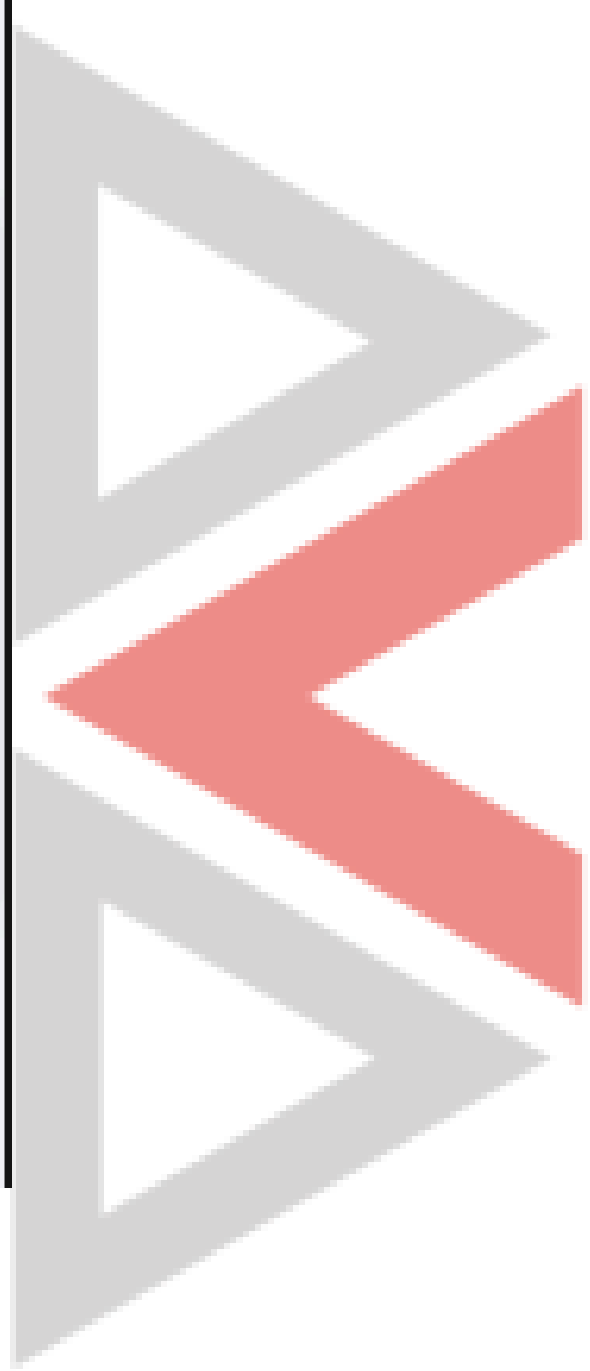
Enter your name & date to request access

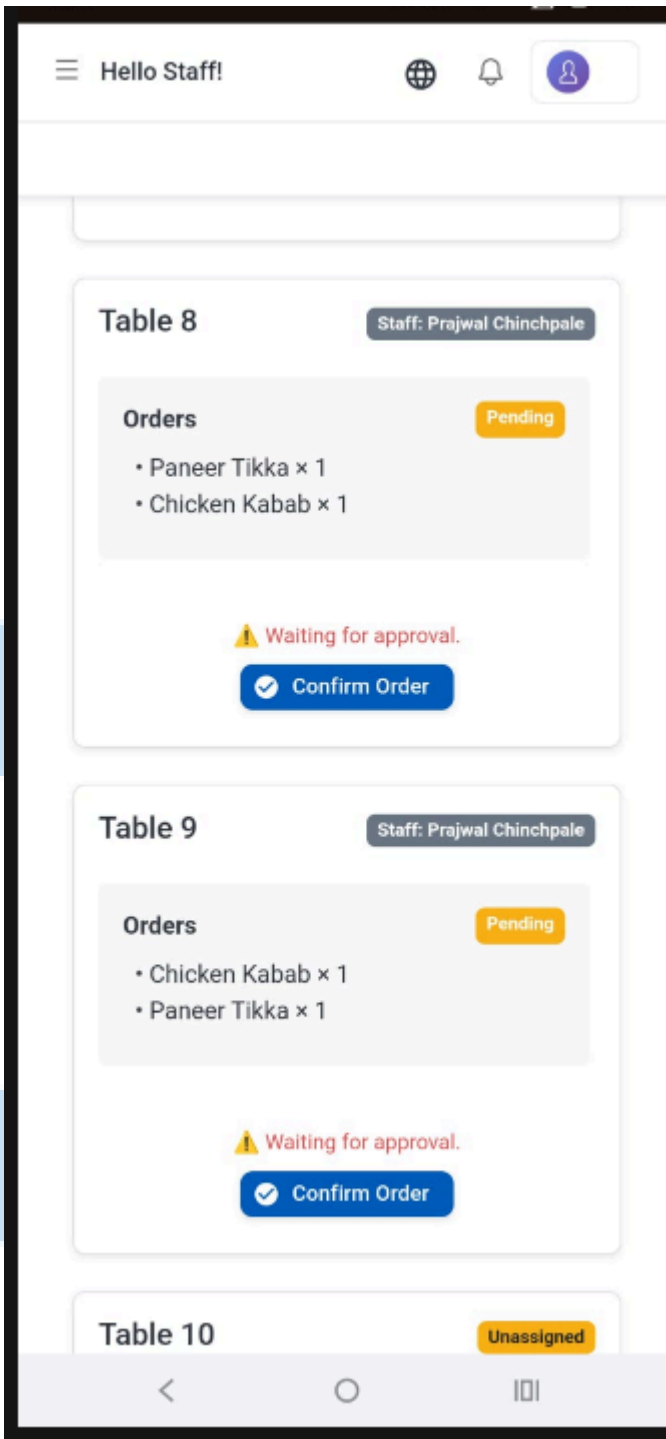
First Name

Last Name

[Submit Request](#)

Having trouble?[Contact Support](#)





Admin Side:-

Easy Restaurant | Hello Admin! | Admin

Admin Dashboard | Referral Management | Subscription Management

Search Owner

Selected Owner Details

First Name	Last Name	Email	Phone	Subscription Start	Plan	Actions
New	Restaurant	newhotel1@yopmail.com	21546312		Trial	
New	Restaurant	newhotel@yopmail.com	254136		Trial	
charles	johnson	bidat77373@lawicon.com	5645677886		Trial	
johnnn	doe	lowis16662@eubonus.com	74567475		Trial	
Daniele	Commentucci	d.commentucci@icloud.com	33333333		Trial	

Items per page: 5 | 1 - 5 of 122

Easy Restaurant | Hello Admin! | Subscription Management

Admin Dashboard | Referral Management | Subscription Management

Subscription Plans | Trial Settings

Subscription Plans

+ Add New Plan

Basic Plan Active

₹ 200 /month

- 2 Staff
- 15 Tables
- 3 Reservations

basic plan

Edit Deactivate Delete

Premium Active

₹ 998 /month

- 101 Staff
- 15 Tables
- 1000 Reservations

Silver Plan

Edit Deactivate Delete

Gold Plan Active

₹ 1999 /month

- 30 Staff
- 60 Tables
- 3000 Reservations

Silver Plan

Edit Deactivate Delete



