

# PAYMENT GATEWAY

## **DONE BY :**

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## **WHAT IS PAYMENT GATEWAY?**

In simple terms, a payment gateway is a network through which our customers transfer funds to us. Payment gateways are very similar to the point-of-sale terminals used at most brick and mortar stores. When using a payment gateway, customers and businesses need to work together to make a transaction.

A Payment gateway plays the role of a third party that securely transfers your money from the bank account to the merchant's payment portal.

## **HOW DOES A PAYMENT GATEWAY WORK?**

**Step 1:** A user fills the details and clicks the pay button on the website.

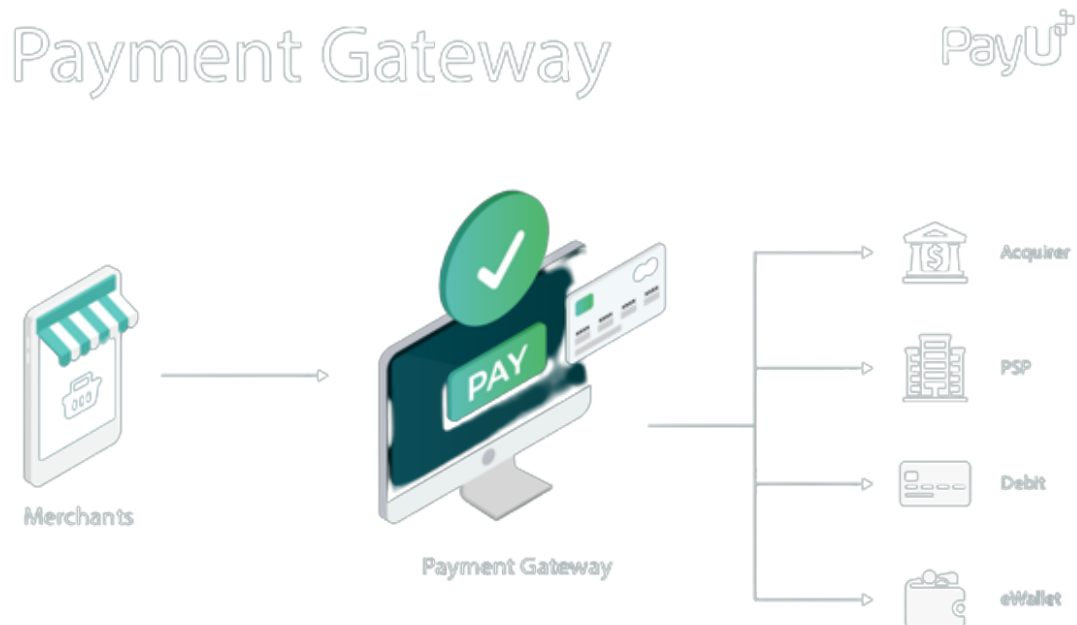
**Step 2:** Once this happens, the website takes the user to a payment gateway where he or she scans the QR code. The PG then takes the user directly to the page of the issuing bank or a 3d secure page, asking for the transaction to be authorised.

**Step 3:** Once the payment gateway gets the approval for the transaction, the bank then checks whether the user has sufficient balance in the account to make this transaction a success or not.

**Step 4:** The payment gateway sends a message to the merchant accordingly. If the reply from the bank is a “NO”, then the merchant subsequently sends an error message to the user, telling them about the issue with the bank account. If the response is a “YES” from the bank portal, then the merchant seeks the transaction from the bank.

**Step 5:** The bank settles the money with the payment gateway, which in turn settles the money with the merchant.

Once this process is completed, the user gets a confirmation message of the payment.



## APPLICATIONS USED

**MERN** - FULL STACK { FRONTEND & BACKEND }.

- **MONGODB** - USED FOR DATABASE CONNECTION ( LIKE CLOUD COMPUTING ).
- **EXPRESS JS** - TO BUILD A SINGLE PAGE, MULTIPAGE AND HYBRID APPLICATION.
- **REACT JS** - TO BUILDING INTERACTIVE USER INTERFACE AND WEB APPLICATIONS QUICKLY AND EFFICIENTLY WITH SIGNIFICANTLY LESS CODE THAN YOU WOULD WITH VANILLA JAVASCRIPT.
- **NODE JS** - TO SERVER-SIDE PROGRAMMING AND PRIMARILY DEPLOYED FOR NON-BLOCKING, EVENT-DRIVEN SERVERS, SUCH AS TRADITIONAL WEB SITES AND BACK-END API SERVICES.

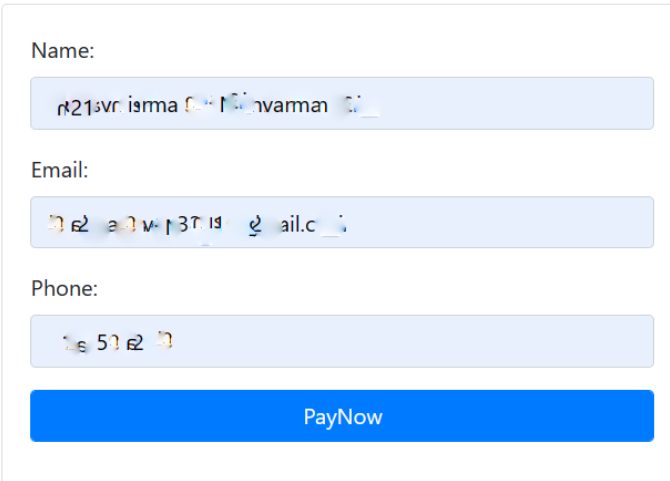
**HTML** - USED TO CREATE THE WEB PAGE.

**CSS** - USED TO STYLE AND LAYOUT WEB PAGES.

## FRONT-END

### Step 1:

At the 1st process we have created a front-end page with the user details of e-mail, name and mobile-no. The details help us and the user to track the details of the



Name:

Rishma

Email:

rishma@gmail.com

Phone:

985012

PayNow

payment.

Name:  
Dune Krishna Sai Manikanta Dora

Email:  
krishnapavan3211@gmail.com

Phone:  
8121501222

[PayNow](#)

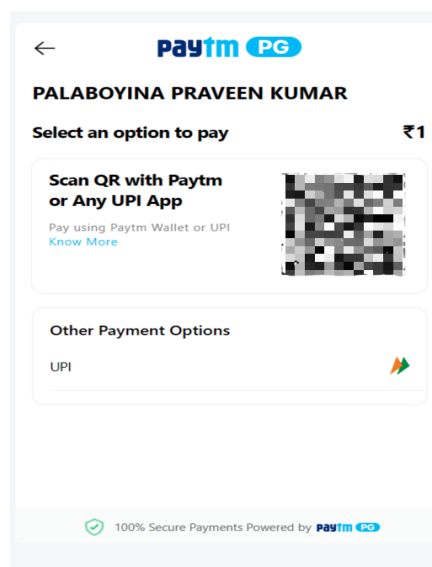
**PLEASE DO NOT  
REFRESH THIS PAGE...**

10

By filling the details page it will take the user to the next step process payment process page.

## Step 2:

At step 2 it's a payment processing page, the page having with a scanning QR code

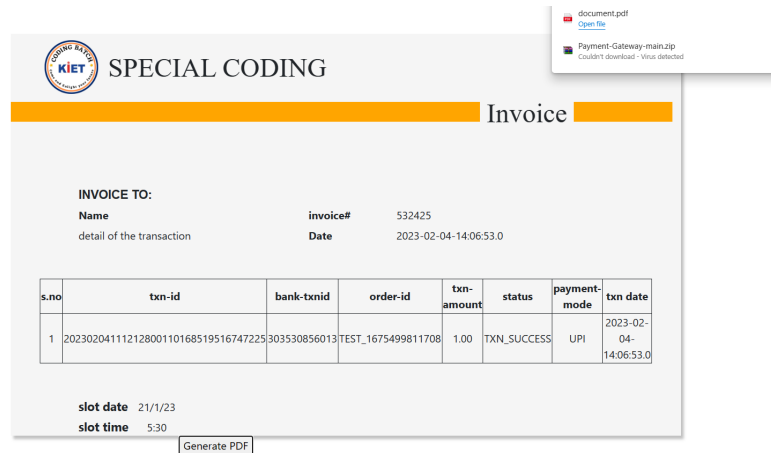


the user can pay the amount by scanning the QR code and with UPI pay.

The user must check the details before confirming the payment. The money is already fixed for the user, the user can't change the payment money.

### Step 3:

After completing the payment successfully an invoice is generated with the user details and the amount that has been paid.



**INVOICE TO:**

**Name** invoice# 532425  
detail of the transaction **Date** 2023-02-04-14:06:53.0

s.no	txn-id	bank-txn-id	order-id	txn-amount	status	payment-mode	txn date
1	20230204111212800110168519516747225	303530856013	TEST_1675499811708	1.00	TXN_SUCCESS	UPI	2023-02-04-14:06:53.0

**slot date** 21/1/23  
**slot time** 5:30

[Generate PDF](#)

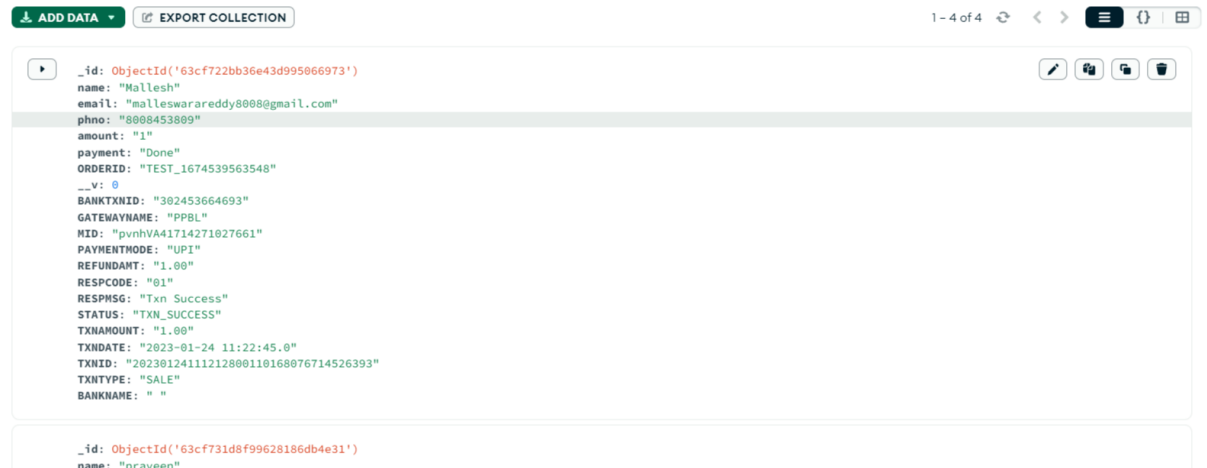
document.pdf  
[Open file](#)  
Payment-Gateway-main.zip  
Couldn't download - Virus detected

Also we have provided a download button to download the receipt by the user in pdf format.

## BACK-END

At the payment scanner page the payment account is connected to the paytm business account for safe and continuous transaction tracking.

In the backend process the user details that are collected from the payment page and the payment he paid will be stored in the mongodb server page safely, even the transaction failed status also stored safely end-to-end.



## ADMIN

Also we have provided an ADMIN page with specific login credentials for viewing the payment details of every user. The mongo-db data is connected to the excel-sheets

UserName:

password:

to download every transaction details in an excel-format by the admin.

Sno	Name	Email	PhoneNO	Amount	Date	Payment Mode	OrderID	GatewayName	BankTXNID	BankName	TXID	status	Mode
1	Mallesh	malleswarareddy8008@gmail.com	8008453809	1	2023-01-24 11:22:45.0	UPI	TEST_1674539563548	PPBL	302453664693		20230124111212800110168076714526393	Success	<a href="#">Edit</a>
2	praveen	praveenkumarpalaboyina@gmail.com	9110791397	1	2023-01-24 11:26:46.0	UPI	TEST_1674539805083	PPBEX	339019687746	State Bank Of India	20230124111212800110168302913825551	Success	<a href="#">Edit</a>
3	praveen	praveenkumarpalaboyina@gmail.com	9110791397	1	2023-01-24 13:28:23.0		TEST_1674547102096				20230124111212800110168070714574299	Failure	<a href="#">Edit</a>
4	Dune Krishna Sai Manikanta Dora	krishnapavan3211@gmail.com	8121501222	1	2023-01-28 19:54:37.0	UPI	TEST_1674915875969	PPBL	302872118235		20230128111212800110168121814770813	Success	<a href="#">Edit</a>
5	Dune Krishna Sai Manikanta Dora	krishnapavan3211@gmail.com	8121501222	1	2023-02-04 14:06:53.0	UPI	TEST_1675499811708	PPBEX	303530856013	Union Bank of India	20230204111212800110168519516747225	Success	<a href="#">Edit</a>

## BENEFITS

- **Faster payments**

As a business owner, we know that it is hard to get paid at all. Instead of having the hassle of agreeing to pay on a certain day and then forgetting to do so, many customers prefer to just pay instantly and get it over with. Payment gateways allow them to do just that, making it a win-win situation for both us and our customers.

- **Convenience**

When we integrate with a payment gateway, it means that our customers can make purchases at any time.

- **Better security**

## DO ONLINE PAYMENTS WORK WITH A PAYMENT GATEWAY?

### Merchant Account

A merchant account is a separate bank account that businesses use for their receivables. During a transaction, our customer's payment is initially transferred to our merchant account, where it stays until we move it to our business' regular bank account. We need both a payment gateway and a merchant account to accept online payments.

### Payment Processor

When a business charges a customer for a purchase, a payment processor is the service that authorises the customer's payment account details to make sure that they have enough funds in their account to pay. If they do, then the payment processor authorises the transaction and the payment is sent to the business' account, and if not, the transaction is rejected.