

PAYMENT GATEWAY

BLOCKCHAIN DEVELOPMENT

Time: 60 mins

Introduction

In this class, the student/s will learn to integrate the wallet with the Volt mills website and display the receiver address and transaction amount.

New Commands Introduced

- `window.open("URL","name")` Opens a new browser window, or new tab, depending on the browser settings and parameter values.

Vocabulary

- **Payment gateway** is a page that handles the transaction between the seller and the buyer.

Learning Objectives

Student/s should be able to:

- **Recall** app route and function definitions to perform a task.
- **Explain** the uses of a payment gateway.
- **Demonstrate** the integration of the wallet with an e-commerce website.

Activities

1. Class Narrative: (3 mins)

- Brief the student/s that the real value of a wallet is when it is used in a real-time payment management.
- Introduce the student/s to a payment gateway by giving an example of an e-commerce website.

2. Concept Introduction Activity: (4 mins)

- Let the student/s undertake the explore-activity to observe how the payment integration works with an e-commerce website. Also, to observe how clicking on the "Place Order" button redirects to the payment gateway and displays the receivers name and amount.

Note: Run the payment gateway before ordering from the Volts Mills website.

- Explain how the payment gateway works and how the wallet needs to be integrated to the merchant website using a server URL.
- Using the slides, explain that the student/s will learn:
 - to redirect to the wallet
 - to print receiver's address and amount
 - to display receiver's address and amount on gateway

3. Activity 1: Redirect to the Wallet (14 mins)

Teacher Activity: (7 mins)

- Explain how the Volt mills website should redirect to the wallet page on clicking the Place Order button.
- Explain the different values of "window.open("URL","name")".
- Demonstrate how to redirect to the wallet page from the cart page of the Volt Mills website.

Student Activity: (7 mins)

- Guide the student/s to redirect to the wallet page from the cart web page by passing the server URL within window.open() method.

4. Activity 2: Print Receiver's Address and Amount (12 mins)

Teacher Activity: (6 mins) .

- Recall creating app routes and defining functions to fetch details from a website.
- Demonstrate how to print the receiver's address and the amount to be paid.

Student Activity: (6 mins)

- Guide the student/s to print the receiver's address and amount by defining a function and routing the app to it.

5. Activity 3: Display Receiver's Address and Amount on Gateway (12 mins)

Teacher Activity: (6 mins)

- Make the students notice that the payment account address and amount is visible on the console and not on the wallet webpage.
- Demonstrate how to display the receiver's address and amount to be paid on the payment gateway.

Student Activity: (6 mins)

- Guide the students to globally access the account address and the amount to display the receiver's address and amount on the gateway and then display the details.

6. Introduce the Post class project: (2 min)

- Send the payment status back to the website Volts Mill webpage admin to confirm that the payment has been made.

7. Test and Summarize the class learnings: (5 mins)

- Check for understanding through quizzes and summarize learning after respective missions.
- Summarize the overall class learning towards the end of the class.

8. Additional activities:

- Encourage the student/s to display the sender's and receiver's address for the list of transactions.
- Encourage the student/s to make the payment secure by replacing "GET" request with "POST" request method.

9. State the Next Class Objective: (1 min)

- In the next class, student/s will you will create the payment confirmation functionality.

U.S. Standards:

CSTA: 2-AP-11, 2-AP-12, 2-AP-13, 2-AP-14, 2-AP-19

Links Table		
Activity	Activity Name	Link
Class Presentation	Payment Gateway	https://s3-whjr-curriculum-uploads.whjr.online/ec0fa2c9-7338-4fe2-a7c5-50c431670888.html
Explore Activity	Payment Gateway	https://github.com/Tynker-Blockchain/TNK-M13-C102-SAS-BP
Teacher Activity 1	Redirect to the Wallet	https://github.com/Tynker-Blockchain/TNK-M13-C102-TAS-BP
Teacher Reference: Teacher Activity 1 Solution	Redirect to the Wallet	https://github.com/Tynker-Blockchain/TNK-M13-C102-TAS
Student Activity 1	Redirect to the Wallet	https://github.com/Tynker-Blockchain/TNK-M13-C102-SAS-BP
Teacher Reference: Student	Redirect to the Wallet	https://github.com/Tynker-Blockchain/TNK-M13-C102-SAS

Activity 1 Solution		
Teacher Activity 2	Print Receiver's Address and Amount	https://github.com/Tynker-Blockchain/TNK-M13-C102-TAS-BP
Teacher Reference: Teacher Activity 2 Solution	Print Receiver's Address and Amount	https://github.com/Tynker-Blockchain/TNK-M13-C102-TAS
Student Activity 2	Print Receiver's Address and Amount	https://github.com/Tynker-Blockchain/TNK-M13-C102-SAS-BP
Teacher Reference: Student Activity 2 Solution	Print Receiver's Address and Amount	https://github.com/Tynker-Blockchain/TNK-M13-C102-SAS
Teacher Activity 3	Display Receiver's Address and Amount on the Gateway	https://github.com/Tynker-Blockchain/TNK-M13-C102-TAS-BP
Teacher Reference: Teacher Activity 3 Solution	Display Receiver's Address and Amount on the Gateway	https://github.com/Tynker-Blockchain/TNK-M13-C102-TAS
Student Activity 3	Display Receiver's Address and Amount on the Gateway	https://github.com/Tynker-Blockchain/TNK-M13-C102-SAS-BP
Teacher Reference: Student Activity 3 Solution	Display Receiver's Address and Amount on the Gateway	https://github.com/Tynker-Blockchain/TNK-M13-C102-SAS
Student's Additional Activity 1	Display Transaction Addresses	https://github.com/Tynker-Blockchain/TNK-M13-C102-SAS-BP
Teacher Reference: Student's Additional Activity 1 Solution	Display Transaction Addresses	https://github.com/Tynker-Blockchain/TNK-M13-C102-SAS
Student's Additional Activity 2	Secure the Payment	https://github.com/Tynker-Blockchain/TNK-M13-C102-SAS-BP
Teacher Reference: Student's Additional Activity 2 Solution	Secure the Payment	https://github.com/Tynker-Blockchain/TNK-M13-C102-SAS
Post Class Project	Share the Payment Confirmation	https://github.com/Tynker-Blockchain/TNK-M13-C102-PCP-BP
Teacher Reference: Post Class Project Solution	Share the Payment Confirmation	https://github.com/Tynker-Blockchain/TNK-M13-C102-PCP