What is Payment Tokenization?

In the simplest terms, the word "tokenize" means to substitute something or to turn it into something else.

Tokenization isn't a new concept by any means. Think about the times when you go to an arcade and purchase tokens to play games. You basically exchange money for plastic coins that have no value outside of the arcade.

It's the same in the world of online payments. Credit card tokens are created to protect customers' sensitive data (like credit card number, address, account number, etc.) by replacing it with a series of algorithmically generated numbers and letters.

By employing credit card tokenization, merchants can move data between networks without actually exposing customers' sensitive information.

How does credit card tokenization work?

Credit card tokenization substitutes sensitive customer data with a one-time alphanumeric ID that has no value or connection to the account's owner.

This randomly generated token is used to access, pass, transmit and retrieve customer's credit card information safely.

Tokens don't contain any sensitive consumer data. They rather act like maps explaining where the customer's bank is storing this sensitive data within their own systems.

Tokens are generated through mathematical algorithms and they can't be reversed.

The tokens can only be opened after the transaction is complete. Outside of your system, these tokens have no meaning and no value. So even if hackers somehow encounter your customer's data while it's being processed, they will not be able to use it.

Here is how the tokenized credit card transaction works:
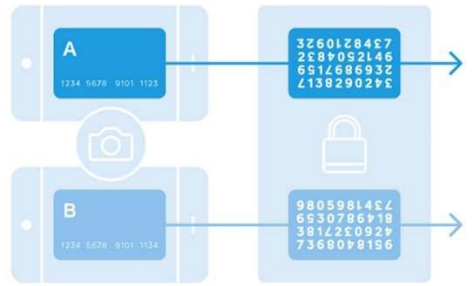
STEP 1
Cardholder initiates transaction and enters their sensitive credit card data

STEP 2
Credit card information goes to the merchant acquiring bank in the form of a token.

STEP 3
Acquirer transmits the token to the credit card networks for authorization

STEP 4
Once authorized, the customer's data is being stored in the bank's secured virtual vaults and the token gets matched to the customer's account number.

STEP 5
The bank verifies funds and allows/declines the transaction.

STEP 6
If the authorization is successful, a unique token is then returned to the merchant for current and future transactions.

Because the entire tokenized card payment process is happening behind the scenes, customers don't actually need to do anything differently.

Tokenization Examples:

How is tokenization put to use in the payments industry? Three ways:

- The first is when businesses keep your "card on file" for subscription billing and recurring payments.
- The second is on eCommerce sites that offer frequent, returning customers "one-click" checkouts.
- **And the third use is within NFC mobile wallets like Apple Pay, Samsung Pay and Google Pay.**

# How to Add Card to Mobile Wallets:

Apple Pay

To set up Apple Pay, add a debit, credit, or prepaid card to the Wallet app on your iPhone, Apple Watch, or other compatible device.

To use Apple Pay, you need:

- A compatible device[1] with the latest version of iOS or iPadOS, watchOS, or macOS.

- A supported card from a participating card issuer.

- An Apple ID signed in to your Apple device.

How to add a debit or credit card on your iPhone

1. In the Wallet app, tap the Add button

   - Tap Debit or Credit Card to add a new card.
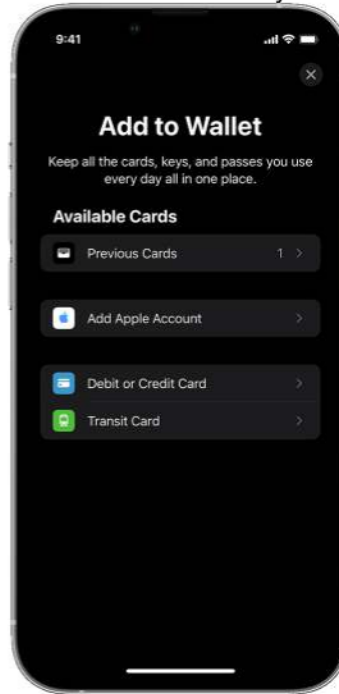   - Tap Previous Cards to add a card that you used previously.
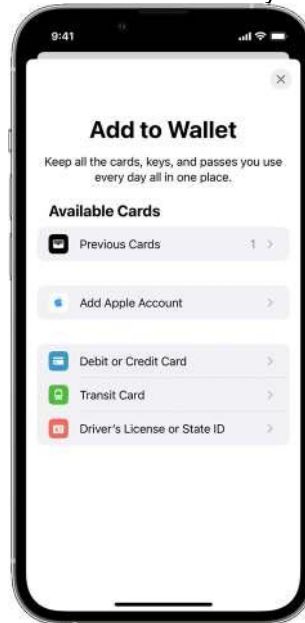
2. Tap Continue.
3. Follow the steps on the screen to add a new card.
4. Verify your information with your bank or card issuer. They might ask you to provide more information or to download an app before approving your card for use with Apple Pay.
5. If you have a paired Apple Watch, you have the option to also add the card to your watch.

To remove a card from the Previous Cards screen, tap Edit > Remove button > Delete. Then, tap Delete Card to confirm and remove the card from all your devices.

How to add a debit or credit card to your Apple Watch

1. On your paired iPhone, open the Apple Watch app.

2. In the My Watch tab, tap Wallet & Apple Pay.

3. Tap Add Card.

   - Tap Debit or Credit Card to add a new card.

      - Tap Previous Card to add a card that you used previously.

4. Tap Continue.

5. Follow the steps on the screen to add your card.

6. If necessary, verify your information with the bank or card issuer. They might ask you to provide more information or to download an app before approving your card for use with Apple Pay.

How to add a debit or credit card for Apple Pay on your Mac or iPad

1. Open Wallet settings on your device.

   - On your Mac model with Touch ID, go to System Preferences > Wallet & Apple Pay.

   - On your iPad, go to Settings > Wallet & Apple Pay.

2. Tap Add Card.

3. Follow the steps on the screen to add a card.

4. Verify your information with your bank or card issuer. They might ask you to provide information.

On Mac models without built-in Touch ID, you can complete your purchase using Apple Pay on your compatible iPhone or Apple Watch: On your iPhone, go to Settings > Wallet & Apple Pay and turn on Allow Payments on Mac.

Learn what to do if you can't add your card to Wallet

1. Make sure that you sign in to iCloud on all your devices. On your iOS device, you need to set up Face ID, Touch ID, or a passcode. On your Apple Watch, you need to set up a passcode. If you sign out of iCloud or remove your passcode, all credit, debit, prepaid, transit, and student ID card will be removed from that device.

2. If you're less than 13 years old, Apple Pay isn't available and you can't add a card in the Wallet app. Age varies by country or region.

3. In China mainland, you can use Apple Pay on the web in Safari only on compatible iPhone and iPad models using iOS 11.2 or later. In the Netherlands, you can use Apple Pay on the web only on a compatible iPhone or iPad.

4. In Italy, you can't add Maestro cards to iPad or Mac. In Australia, you can't add eftpos cards to your iPad or Mac. In the Netherlands, you can add Maestro cards to all compatible devices except Mac.
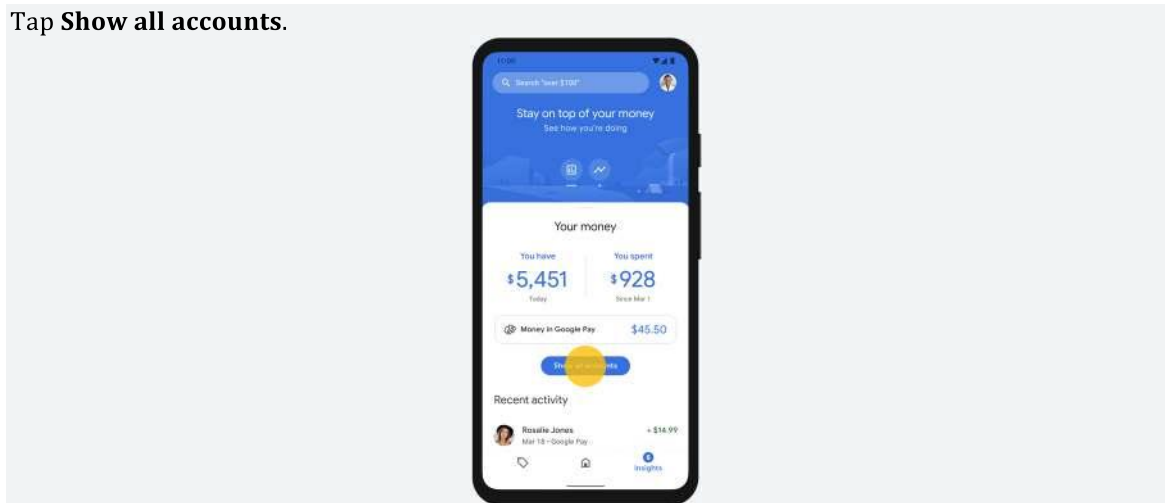
GOOGLE PAY

1. **Step 1 of 7**

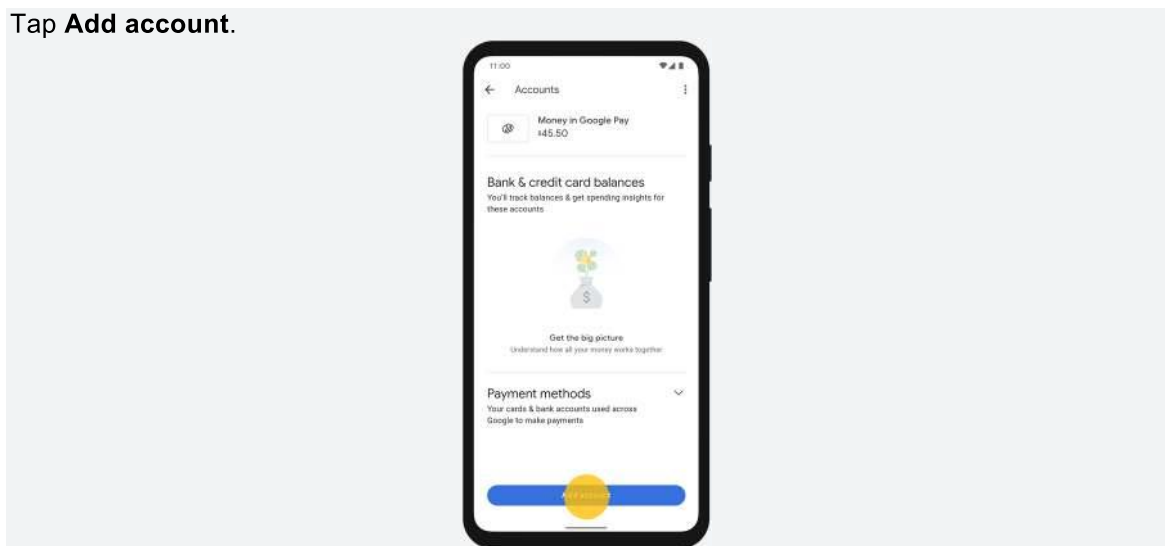To add a debit or credit card to Google Pay, open the Google Pay app . At the bottom, tap Insights .
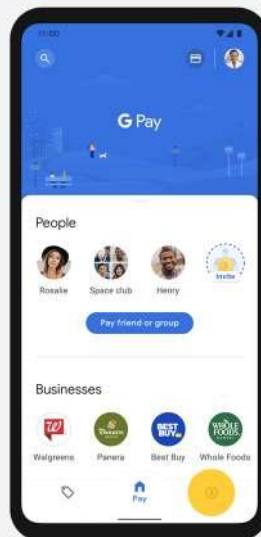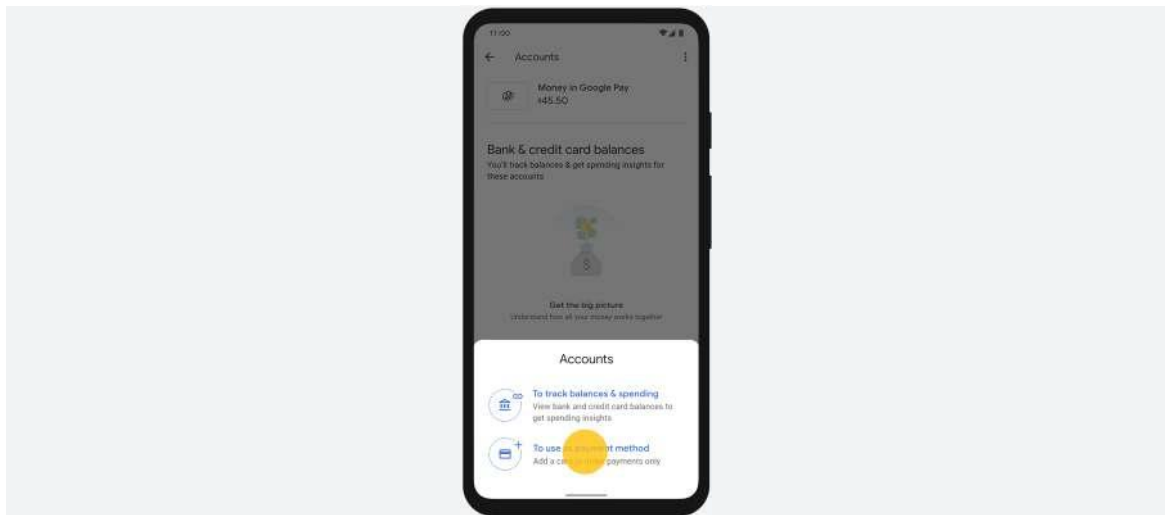
2. **Step 2 of 7**

Tap **Show all accounts**.
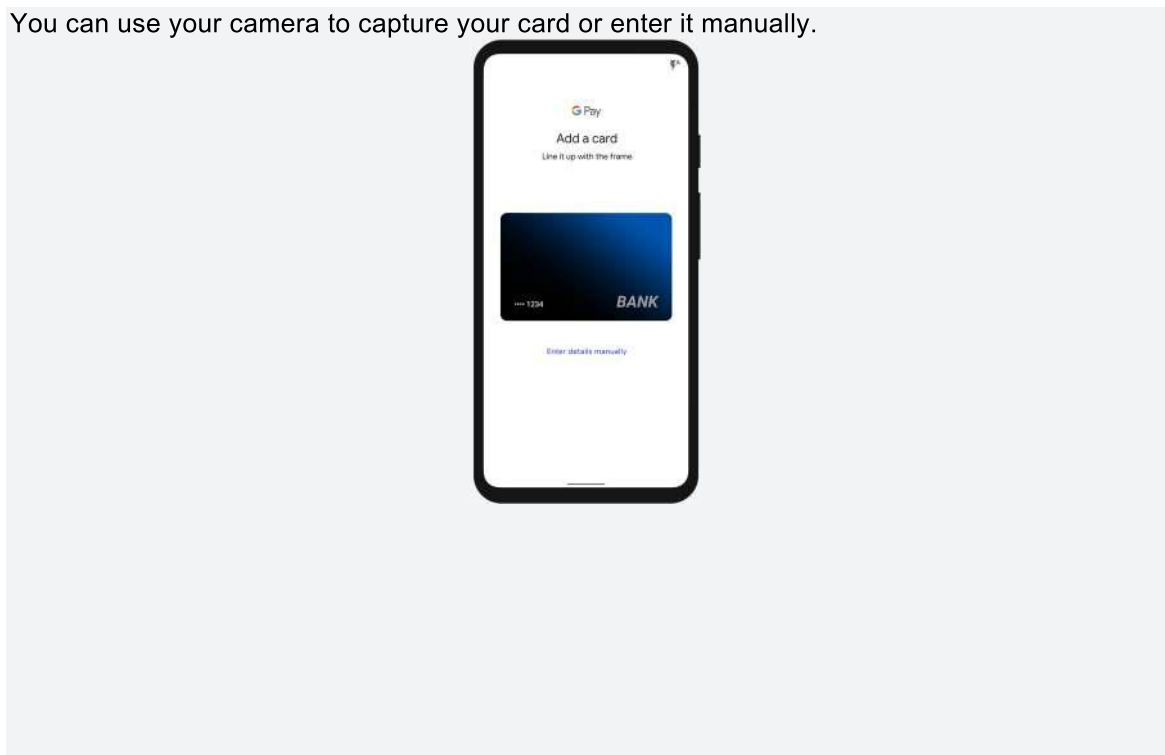

3. **Step 3 of 7**

Tap **Add account**.

4. **Step 4 of 7**

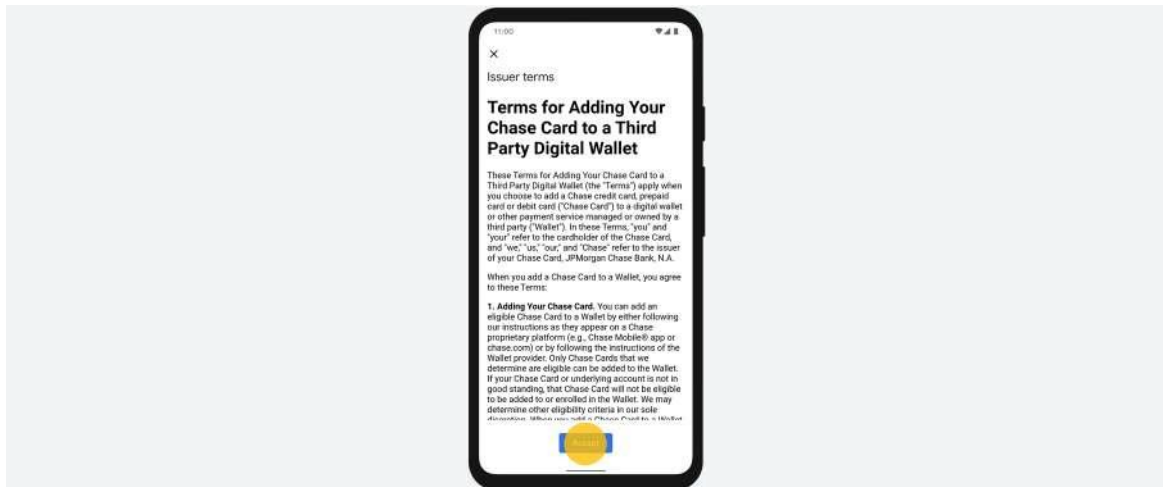Tap **To use as payment method.**

5. **Step 5 of 7**

You can use your camera to capture your card or enter it manually.

6. **Step 6 of 7**

Review the Issuer terms and tap **Accept**.
If you're asked to verify your payment method, choose an option from the list then find and enter the verification code.

7. **Step 7 of 7**

You've successfully added a card to your Google Pay.

You might see a small temporary authorization on your account from Google. This authorization checks that your card and account are valid. It won't be charged to your balance and will go away soon. Most temporary authorizations are removed from your account within 48 hours.
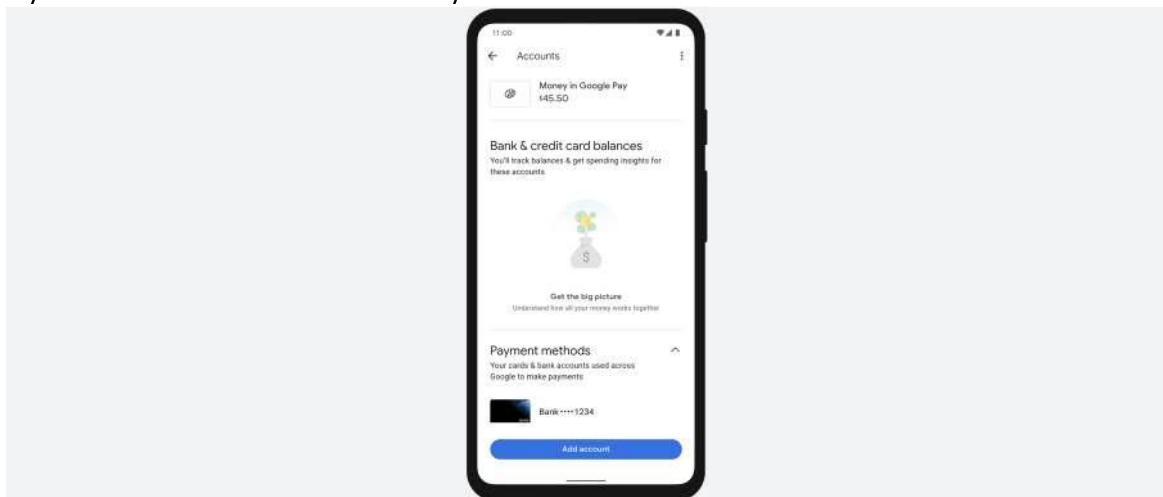
SAMSUNG PAY

1. Navigate to and open **Samsung Pay** on your phone.
2. Tap **Menu** (the three horizontal lines) in the top left corner, and then tap **Cards**.
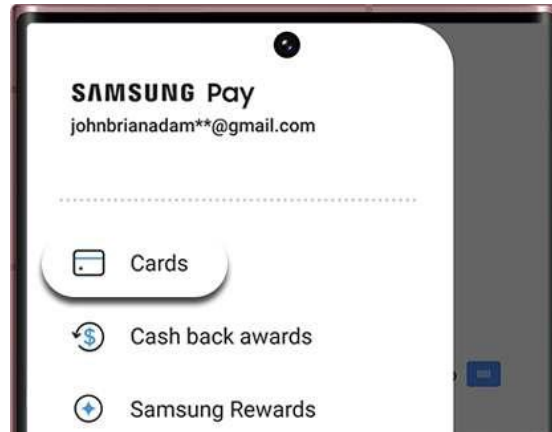
3. Next, tap **Add card**; it looks like a credit card with a plus sign next to it. Next, tap **Add credit/debit card**.

4. Follow the instructions to register your card. When you add a card, you must agree to the card's terms and conditions.

5. If you have any questions about the terms, contact the card issuer.

6. Once the card is added, you can start using it to make **in-store purchases** with your phone!

Note: You can add and manage up to 10 payment cards, including credit cards and debit cards. You can also add unlimited gift cards to your account.