Testing with the Sandbox

Mobile In-Store Payments & PayPal Here™

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PayPal

Document Revision History

Version	Description of changes
04/14/15	Changed scope information to say it can be added from Developer Portal
01/16/15	Added the section *Using the Sandbox mode on the PayPal mobile app*.
04/14/14	Initial document release.

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Overview

This Sandbox guide is intended to support developers who are integrating with the following PayPal products:

- **PayPal Mobile In-Store Payments API**. See the *API Developer Guide for Mobile In-Store Payments*.
- **PayPal Here SDKs**. See the following guides:

  - *Developer Guide for the PayPal Here iOS SDK*
  - *Developer Guide for the PayPal Here Android SDK*
  - *Developer Guide for the PayPal Here Windows SDK*

The public Sandbox documentation, in contrast, is intended for developers who are integrating with products described on the PayPal Developer site.

The Sandbox enables you to test in a safe environment before moving your app into production. When you initiate a transaction in the Sandbox, PayPal creates a mock transaction. Sandbox transactions are tracked on the Sandbox site (`https://www.sandbox.paypal.com`), as live transactions are tracked on the live site (`https://www.paypal.com`).

After you *create Sandbox accounts*, you can log into the Sandbox with the username and password from one of your test accounts and review the status of the mock transactions associated with an account.

> **Note:** Some rules for processing credit cards are not triggered in the Sandbox. Therefore, some credit card transactions that are successful in the Sandbox may be unsuccessful in production.

PayPal doesn't provide a set of test payment cards. Many developers obtain and test with prepaid credit cards.

Creating a PayPal Account

Create a PayPal account that can be shared with others on your development team. We recommend you use a team email address (for example, `dev@example.com`) rather than an individual's email address. This makes it easier to share your PayPal developer account with everybody on your development team.

> **Note**: A PayPal account (and thus a PayPal Developer account) is a different type of account from the Sandbox test accounts you create, as shown below.

PayPal does a verification check by sending an email to the address you specified. Enable your account by responding to the PayPal email. If you don't receive the verification email

within a few minutes after signing up, check to see that it hasn't been blocked or diverted to a spam folder.

After your PayPal Developer account is enabled, you can log in to the PayPal Developer site with the username and password of your PayPal Developer account. You can use your PayPal Developer account to:

- Create (in other words, provision or register) one or more PayPal apps, which come with Sandbox and production credentials.
- Create and access *Business* and *Personal* Sandbox accounts for testing.

Obtaining Sandbox Credentials

After you create a PayPal Developer account for your team, create (provision) a PayPal app on the PayPal Developer site. Information about creating an app is on the Manage your applications page.

When you create your app, you must enable Log In with PayPal:

If you'd like more information about creating your app, review the following chapter of the *API Developer Guide for Mobile In-Store Payments*: "Using OAuth to Authenticate Requests." That chapter includes information about API credentials and Log In with PayPal.

After you have created your PayPal app, PayPal provides API credentials (a *Client ID* and *Secret*), including Sandbox credentials.

For information about access tokens for Mobile In-Store Payments API calls, review the same chapter, referenced above, of the *API Developer Guide for Mobile In-Store Payments*: "Using OAuth to Authenticate Requests." See the PayPal Here SDK documentation for the corresponding information for the PayPal Here SDKs.

> **Important:** You must add the `paypalhere` scope to your Sandbox credentials and to your Live credentials. This scope, which is required for testing the PayPal Here SDKs and the Mobile In-Store Payments API, can be added through the PayPal Developer site.

As described in the *API Developer Guide for Mobile In-Store Payments*, the `https://uri.paypal.com/services/paypalhere` scope is used to obtain permission to make calls on behalf of a merchant.
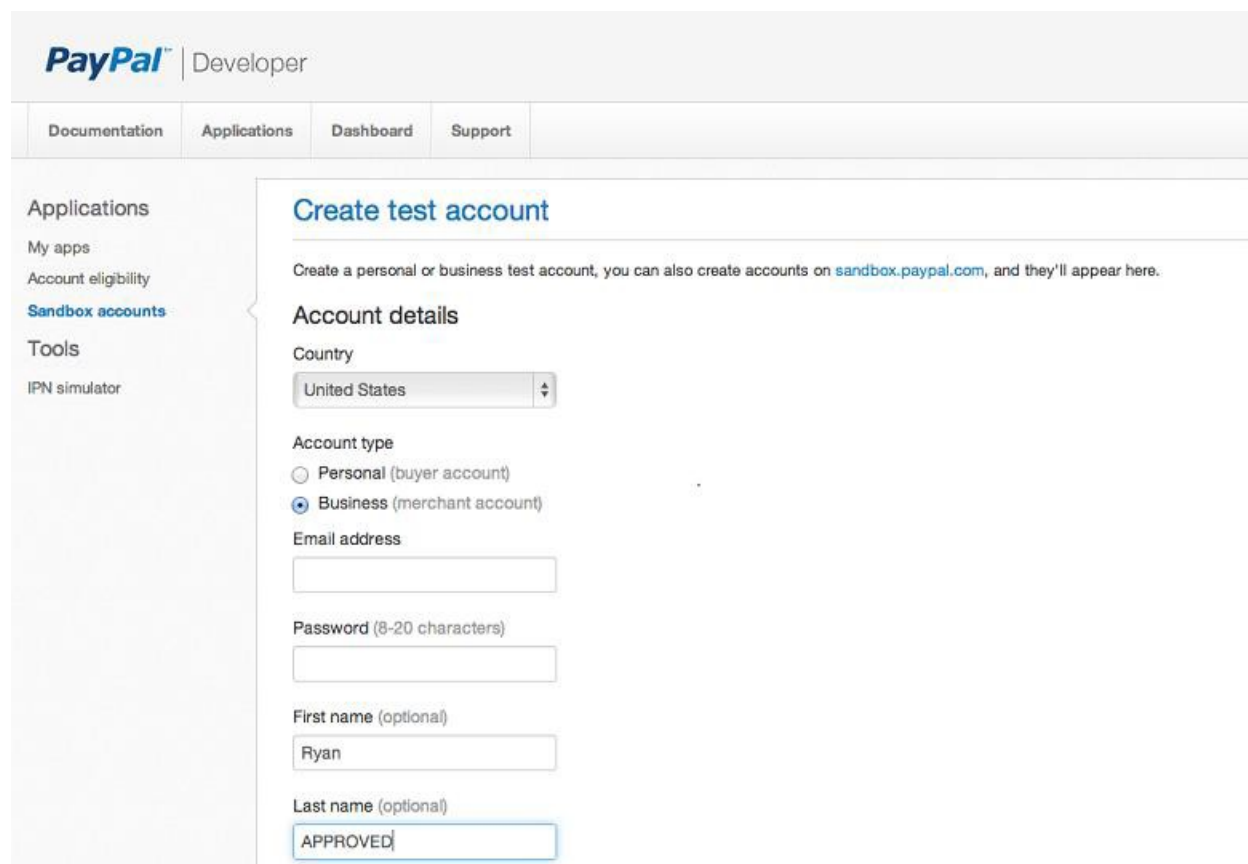
Creating Sandbox Accounts

After you have created your PayPal app, you need two Sandbox accounts for testing transactions:

- **Business test account**. Also known as a merchant or receiver account. This account must be a Sandbox Business account.
- **Personal test account**. Also known as a buyer or sender (customer) account. This account can be a Sandbox Personal account, but you can also use a Sandbox Business account for this testing role. Note that this account is only needed for check-in (tabbed) payments, not for credit card payments.

> **Note**: When you created your PayPal Developer account, a merchant test account was automatically created for you with `-facilitator` inserted into your email address, e.g. `dev-facilitator@company.com`. Do not try to enable that account for the Sandbox testing described in this guide; instead, create additional Sandbox test accounts.

The first account that you should create is a Business account that you assign **Ryan** as the user's first name:

To create a Sandbox test account:

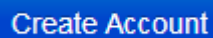1. Log in to the PayPal Developer site with the username and password of your PayPal Developer account.

2. Click the Applications tab.

3. Click Sandbox Accounts and on the Sandbox test accounts page, click Create account.

Create Account

4. Fill in the Create test account form as shown in the following table.

Field	Description
Account type	Choose Business for a test merchant account. Also see Getting PayPal Here Approval for Sandbox Accounts. Choose Personal for a test buyer account (only needed for check-in payments, not for credit card payments).
Email address	This email address for the Sandbox account isn't real and the Sandbox doesn't send email outside of the Sandbox environment. Note the email address for later use as a test merchant or test buyer. Emails to Sandbox accounts, resulting from your testing of API requests, are displayed on the PayPal Developer site (Dashboard tab > Sandbox notifications). The emails also are displayed on the Sandbox test site. **Use this email address to reference this test account in your API calls, and to log in to the Sandbox site for reviewing account information.**
Password	The password must be 8-20 alpha-numeric characters long. You can provide the same password for all Sandbox accounts. Use the password to log in to the Sandbox site for reviewing account information.

First and Last names	The name fields accept alpha-numeric characters. **For merchant test accounts: Specify at least one account with a first name of Ryan, and note the email address and password of this account.** If you don't use one of the following first names, a decline response will be received for the account. The last name is optional. - To test a use case for accounts that are approved for PayPal Here card processing, the first name **must** be set to **Ryan** and the last name can be set to APPROVED. - To test a use case for accounts that are declined for PayPal Here card processing, the first name must be set to **Steven** and the last name can be set to DECLINED. - A third state puts accounts into a review hold for PayPal Here card processing. For that state, the first name must be set to **Jacob** and the last name can be set to MANUAL-REVIEW.
PayPal balance	While this field is optional, you should create test accounts with positive bank balances. Enter an integer value between 1 and 5000.
Bank Verified Account	You should create both *Verified* and *Unverified* test accounts so you can fully test your application.
Select Payment Card	Test payments made with different payment cards. **Note:** This field refers to payment cards that are linked to the test account. This field has no connection to payment cards that you might use for testing your app.
Credit card type	You must select a single credit card type for each test account. The Sandbox associates a mock credit card number with the account.
Log in with PayPal	If you are provided with this option: You do not need to enable Log In with PayPal for the Sandbox Business or Personal accounts.
Notes	Add details specific to this test account.

5. Click Create Account.

   The account is provided in your list of Sandbox accounts. For more information, see the "Managing your Sandbox accounts" section of the About Sandbox Accounts page.

Now you can test using the account you just created. You also can log in to the Sandbox (https://www.sandbox.paypal.com) with the username and password from the above test account and review the status of the mock transactions associated with the account.

Getting PayPal Here Approval for Sandbox Accounts

Before using the Sandbox to test your app's functionality for taking credit cards (swipe or key-in data), your Sandbox business account (**merchant account**) must be "approved" for PayPal Here. The Sandbox account "approval" corresponds to the approval needed for merchant accounts in production. Note that this type of approval is not needed for a merchant who is only taking check-in (tabbed) payments.

For information about getting merchant accounts approved for PayPal Here in production, see the *Merchant Onboarding Guide for PayPal Here*.

> **Note**: The *Merchant Onboarding Guide for PayPal Here* includes parameter information about the Sandbox onboarding URL below.

To get PayPal Here approval for your "**Ryan"** Sandbox business account:

1. Note the email and password of the Sandbox Business account that has the first name set to **Ryan** (see Creating Sandbox Accounts, above). To first change an account password (the previous password isn't needed), see Managing Sandbox Accounts.

2. Use that account to log into the following Sandbox onboarding URL:

   https://www.sandbox.paypal.com/webapps/mobilemerchant/page/mpa/ob/geturl?onbver=2.0&country.x=US&partnertype=sdk&swiper=n&returnurl=https://www.example.com

3. In the "Review or update business info box," select a type of business and the category, and then click Continue.

4. Provide a test mobile number and social security number (both can be placeholders **for testing**), and click Agree and Continue.

The following box is displayed:
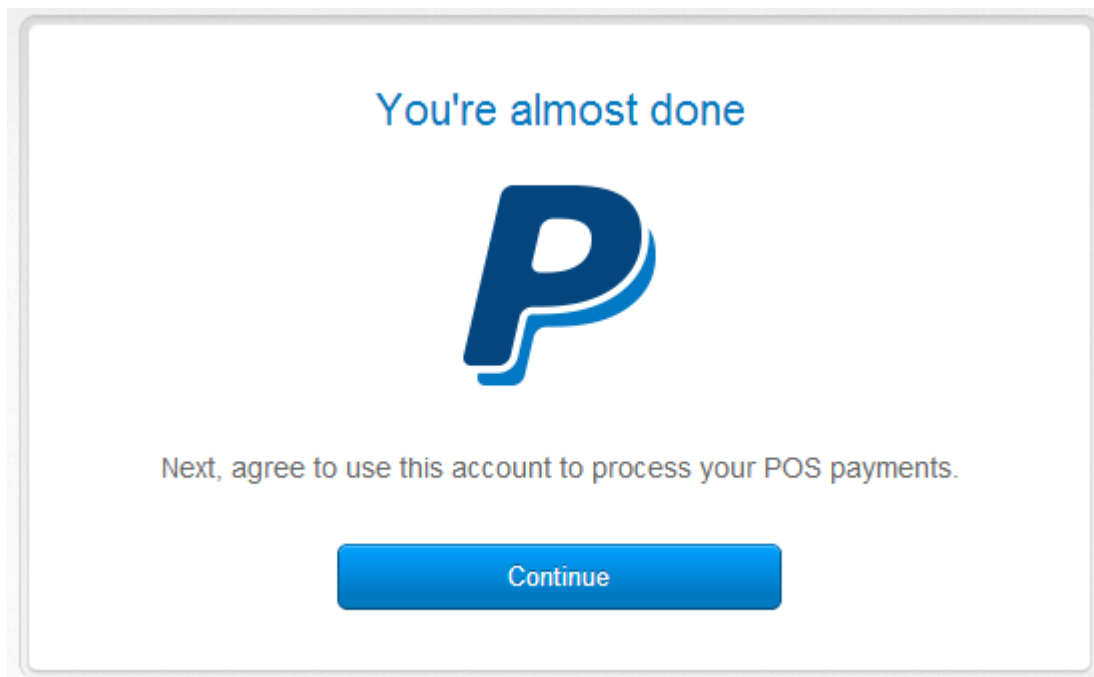
5. On the "You're almost done" page, click Continue.

6. Confirm that the URL to which you are redirected contains `status=success` and `subcode=approved`.

You can use the above procedure for PayPal Here approval for other Sandbox merchant accounts, as long as you initially have set "**Ryan"** as the first name for the accounts.

> **Note**: Always create a Sandbox account on https://developer.paypal.com **before** attempting to get a PayPal Here approval for a Sandbox account. Doing so creates a necessary link of the Sandbox account to the PayPal Developer account, thus preventing an orphan PayPal Here Sandbox account.

Using Sandbox Accounts when Testing

The sandbox environment behaves similarly to the production environment. Thus, the Mobile In-Store Payments and PayPal Here documentation cited in the Overview can be used for the Sandbox and production environments.

Mobile In-Store Payments and the Sandbox

The *API Developer Guide for Mobile In-Store Payments* has information about setup and testing in the Sandbox. See the following chapters: "Testing Your Application" and "Using OAuth to Authenticate Requests." Also see the Sandbox examples in other chapters of that guide.

PayPal Here iOS SDK and the Sandbox

The PayPal Here iOS SDK is set to run against the production environment by default. You can use the `setBaseAPIURL` method of the `PayPalHereSDK` class to change the environment to Sandbox, as follows:

```
[PayPalHereSDK setBaseAPIURL:@"https://www.sandbox.paypal.com/webapps/"];
```

To initialize and run the iOS SDK sample against the Sandbox:

1. Confirm that the `setBaseAPIURL` method mentioned above is setting the SDK to work in the Sandbox (https://www.sandbox.paypal.com/webapps/). See the `STOauthLoginViewController.m` sample file in the SDK. The file is part of the sample app. **The sample app is in the *SDKSampleApp* folder** of the iOS SDK GitHub repository.

2. Run the sample app. To find where the SDK is initialized, see the `didFinishLaunchingWithOptions` method, in the *STAppDelegate.m* sample file.

3. Run the sample app. When the sample app provides a prompt for the merchant to log in (with Log in with PayPal) with Safari, use a Sandbox merchant account (also see Getting PayPal Here Approval for Sandbox Accounts). Then the sample app can get an access token to make calls on behalf of the merchant user.

   This step authenticates the merchant and passes the credentials to the SDK. In the *STOauthLoginViewController.m* sample file, for setting the SDK to use the merchant's information and credentials, see the call to the `setActiveMerchant` method of the `PayPalHereSDK` class.

4. For check-in (tabbed) payments: To check in using a buyer (customer) Sandbox account, use the Check-in Simulator (https://devtools-paypal.com/local-simulator/login_consumer).

   In the future you can log in to this tool with a Sandbox buyer account to view the merchant locations that have been set up in the Sandbox. The Check-in Simulator creates check-ins that you can use during testing.

5. Accept a payment and test other functionality, as described in the *Getting Started Guide for the PayPal Here iOS SDK*. Also see the section in that guide titled "Authentication with the iOS SDK."

PayPal Here Android SDK and the Sandbox

The PayPal Here Android SDK is set to run against the Sandbox environment by default.
The sample app is in the *PayPalHereSampleApp* folder of the Android SDK GitHub
repository.

To initialize and run the Android SDK sample against the Sandbox:

1. Note that the Sandbox environment is specified, when the SDK is initialized;
   see the following line of the *LoginScreenActivity.java* file in the sample app:

   ```
   PayPalHereSDK.init(getApplicationContext(), PayPalHereSDK.Sandbox);
   ```

   For information about using your Sandbox credentials in the SDK, see the
   "Authentication with the SDK" section of the *Getting Started Guide for the
   PayPal Here Android SDK*.

2. Run the sample app and log in with a Sandbox merchant account. Also see
   Getting PayPal Here Approval for Sandbox Accounts.

   The sample app prompts the merchant to log in with a web view. The merchant
   can use Log in with PayPal to log in so the sample app can obtain an access
   token to make calls on behalf of the merchant user. See the "Payments with the
   Sample App" section of the *Getting Started Guide for the PayPal Here Android
   SDK*.

3. For check-in (tabbed) payments: To check in using a buyer (customer)
   Sandbox account, use the Check-in Simulator (https://devtools-
   paypal.com/local-simulator/login_consumer).

   In the future you can log in to this tool with a Sandbox buyer account to view
   the merchant locations that have been set up in the Sandbox. The Check-in
   Simulator creates check-ins that you can use during testing.

4. Accept a payment and test other functionality, as described in the *Getting
   Started Guide for the PayPal Here iOS SDK*.

Using the Sandbox mode on the PayPal mobile app

The PayPal iOS mobile app has a *Sandbox mode* that you access with a series of gestures you make while viewing the PayPal app's login screen. Log in as a customer with one of your Sandbox *Personal* test accounts, and generate and execute mock transactions to test the PayPal flows through your POS system.

Once you enter Sandbox mode, use the locations on the **Shop** tab to check in to any of the locations you have configured with the Locations API. Test the transaction flow through your service by initiating and completing transactions as you expect a customer would when interfacing with your locations. Review transaction details in the PayPal Sandbox (`https://www.sandbox.paypal.com`). Log in to the Sandbox using the credentials of different test accounts to review transactions from both the consumer and merchant perspectives.

Enabling the Sandbox Mode in the PayPal iOS App

To enter the Sandbox mode using any General Release version of the PayPal iOS mobile app:

1. Navigate to the login screen of the PayPal iOS mobile app (log out if needed):
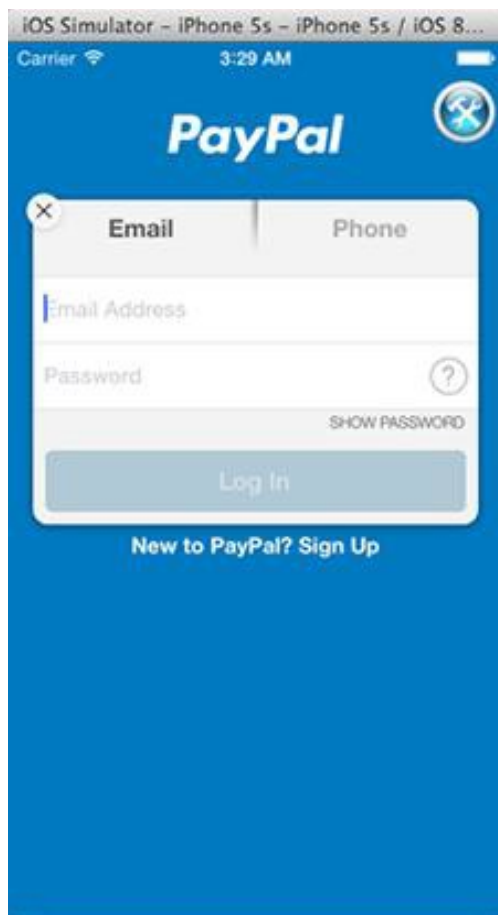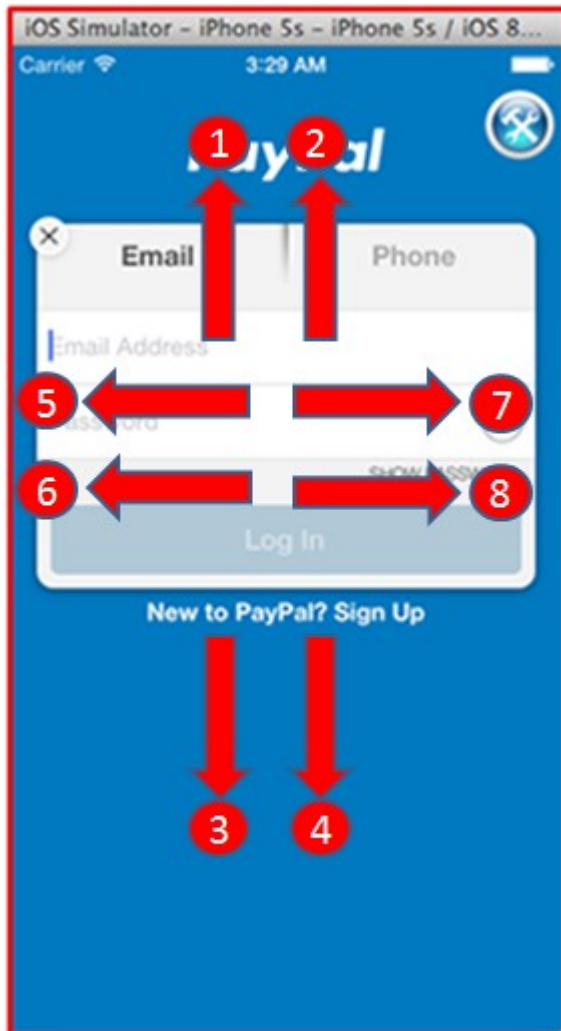

THE PAYPAL APP LOGIN SCREEN

2. From the login screen, execute a *series of gestures*, as follows:

   Sandbox Mode Gestures: On the login screen, with a single finger draw from the center of the screen, first North (up) twice, then draw South twice, then draw West (left) twice, and finally East twice.

   The gestures are depicted in the order needed on the following image:

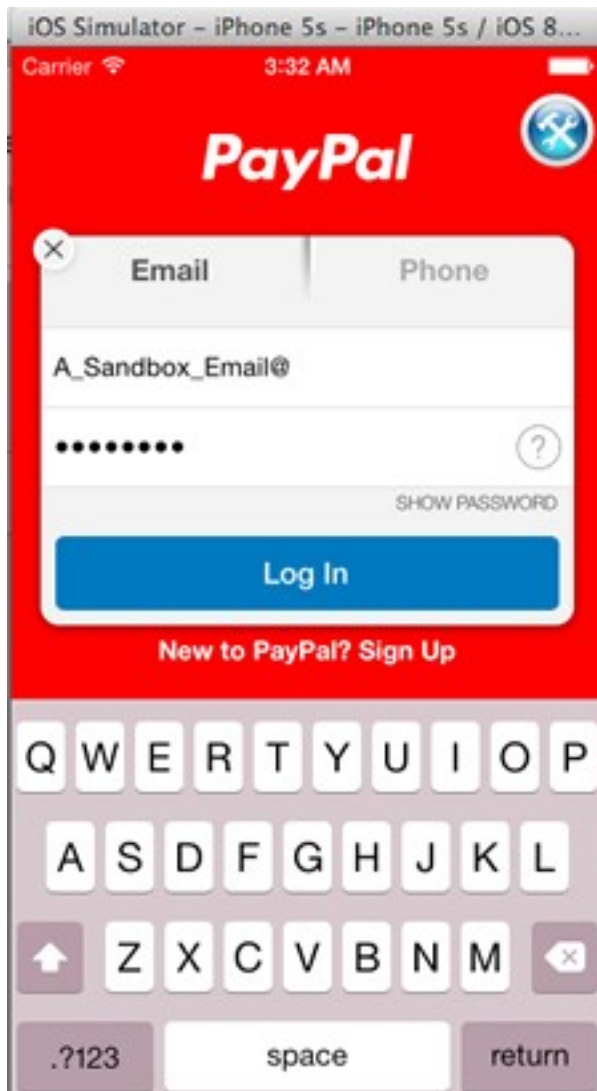*SINGLE-FINGER GESTURES TO ENTER SANDBOX MODE*

When you execute the gestures correctly, a prompt appears asking you to input a phrase to unlock the *Developer Mode*.
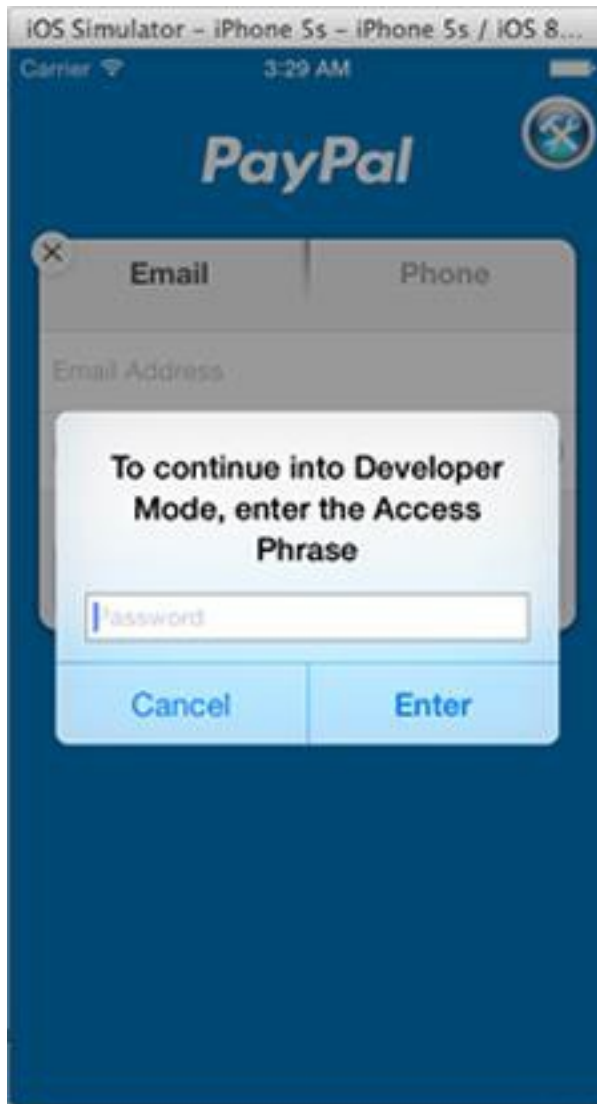
UNLOCK THE SANDBOX MODE BY ENTERING THE PASS PHRASE

3. Enter: `Sandbox`

   After you enter the pass phrase (`Sandbox`), the background will change to red to indicate you are entering the Sandbox mode.

LOGGING IN TO THE SANDBOX MODE OF THE PAYPAL APP

4. Log into the Sandbox mode of the app using the account credentials of a Sandbox test account. The test account you log in with represents the *consumer role* in your mock transactions.

    See *Creating Sandbox Accounts* to create a Personal Sandbox test account. You log into Developer Mode using this test account, which represents the customer's account in the transactions you generate through the Sandbox.

THE SANDBOX MODE VERIFICATION SCREEN

Once you are in Sandbox mode, navigate to the **Shop** tab to review and check in to the locations in your area. Check into a location that you previously configured to test the transaction flows for that location.

> **Note:** You do not need a production account to access the Sandbox mode of the app, you just need Sandbox credentials.

Exiting the Sandbox Mode

Exit Sandbox mode of the PayPal app by closing the app. The app will also time out of the Sandbox mode after several minutes of idle time.

Managing Sandbox Accounts

You can access and manage Sandbox accounts in order to change a password or perform another action.

Please see the "Managing your Sandbox accounts" section of the About Sandbox Accounts page, which includes screen illustrations and information about changing a password or deleting a Sandbox account.

To update your Sandbox test accounts:

1. Log in to the PayPal Developer site with the username and password of your PayPal Developer account.

2. Click the Applications tab.

3. Click Sandbox Accounts.

4. In the listing of Sandbox accounts, click the account you want to update, and then click Profile.

5. Use the tabs to view or change information about the account.