

PayPal Braintree Add-on for Hybris 1808-2011

USER GUIDE



SAP Hybris 

Table of Contents

1	Introduction.....	1
2	About this Document.....	2
2.1	Terms and Descriptions	2
3	Delivered Package Description	3
3.1	Supported Hybris versions and features	3
3.2	Braintree APIs called	3
3.3	Supported Braintree Features.....	4
4	Solution Installation	5
4.1	Prerequisites	5
4.1.1	Software, Network.....	5
4.1.2	OS-level file “hosts”	5
4.2	Package Installation	5
4.2.1	B2C Installation.....	5
4.2.2	B2B Installation.....	7
4.3	Package Installation step-by-step	7
4.4	Hybris Out-of-the-Box Applications	8
5	Solution Configuration	9
5.1	Backend configuration, local.properties (Persistent)	9
5.2	Backend configuration, HAC (Non-Persistent).....	10
5.3	PayPal Smart Payment Buttons Configuration.....	11
5.4	PayPal Credit Message Configuration	13
5.5	PayPal Pay Later Offer	14
5.6	Level 2-3 data.....	15
5.6.1	Overview	15
5.6.2	Configuration	15
6	Move to Production.....	17
7	Known Issues.....	18
8	Solution Limitations	19

Copyright Information

© 2020 Braintree, a service of PayPal, Inc.

Braintree is a service of PayPal, Inc. The Braintree logo is a trademark of PayPal, Inc. Other trademarks and brands are the property of their respective owners. The information in this document belongs to Braintree and PayPal, Inc. It may not be used, reproduced, or disclosed without the written approval of Braintree and PayPal, Inc.

Consumer advisory: The PayPal™ payment service is regarded as a stored value facility under Singapore law. As such, it does not require the approval of the Monetary Authority of Singapore. You are advised to read the terms and conditions carefully.

Notice of Non-Liability

Braintree and PayPal, Inc. are providing the information in this document to you “AS-IS” with all faults. Braintree and PayPal, Inc. make no warranties of any kind (whether express, implied, or statutory) with respect to the information contained herein. Braintree and PayPal, Inc. assume no liability for damages (whether direct or indirect), caused by errors or omissions, or resulting from the use of this document or the information contained in this document or resulting from the application or use of the product or service described herein. Braintree and PayPal, Inc. reserve the right to make changes to any information herein without further notice.

1 Introduction

This document contains functional descriptions and installation guidelines for the Braintree Add-on. The primary goal is to help you integrate a complete Braintree flow with Hybris Commerce Suite versions 1808-2011. The document will also provide some details around the implemented features and how they need to be configured. The Braintree functionality described here is intended to be a generic business use case and may require a previously customized checkout experience to be modified further to support the Braintree Add-on.

2 About this Document

2.1 Terms and Descriptions

Terms	Description
ApplePay	Feature to accept payments via ApplePay, a mobile and online purchasing experience for customers with supported iOS and macOS devices.
B2B	Business-to-Business e-commerce channel.
B2C	Business-to-Customer e-commerce channel.
Backoffice	Business-to-Customer e-commerce channel. User-friendly, browser-based, user interface for viewing, creating, and manipulating data within SAP Commerce.
Braintree	Braintree, a division of PayPal, is a company that specializes in mobile and web payment systems for e-commerce companies. Braintree provides its customers with a merchant account and a payment gateway, along with various related features.
Braintree account	The merchant's Braintree account. Available by URL: https://www.braintreegateway.com and https://sandbox.braintreegateway.com/
CMS	Content Management System.
HAC	Hybris Administration Console. Used by system administrators to manage/configure the Hybris engine.
Hosted Fields	The way to pay via regular credit card (Braintree feature).
Hybris	E-commerce application server. Extendable by extensions.
Hybris Platform initialization	This process drops all existing tables and recreates them from scratch.
JSv3	Braintree's client side javascript library - current version is version 3.
PayPal	PayPal Holdings, Inc. Payment provider that supports integration methods such as SOAP, NVP, and JSv4.
Responsive design	Application design that adapts the presentation to the device it is rendered on.
SAP SE	Enterprise software corporation that owns and produces the Hybris product.
PayPal Smart Payment Buttons	Smart Payment Buttons (SPB) provides a set of payment instruments that can be used by buyers and processed through PayPal. The Smart Payment Button code is integrated through the JSv3 javascript library.
Java SDK	Back-end library for communicating with the Braintree API server.
Venmo	Mobile purchasing experience for customers with supported iOS and Android devices
LPM	Local Payment Methods (a set of country specific payment providers)
Google Pay	Purchasing experience both in app and on the web for customers with supported Android devices

3 Delivered Package Description

The package includes the following folders:

Folder	Description
docs_release	Contains documentation for the release, including this guide.
extensions	Contains solution source code.
config-samples	Contains preconfigured configuration files for all supported Hybris versions. Developers need to select the appropriate files for their target Hybris version.
samples	Contains sample Bash-script and properties files. Bash-script shows how to roll out solution from scratch with Hybris B2C and B2B sample stores (Electronics for B2C, PowerTools for B2B).

3.1 Supported Hybris versions and features

The table below shows supported versions and features.

Feature / Version	1808-2011 B2C	1808-2011 B2B
Responsive design	+	+
Guest checkout	+	N/A
Logged in checkout	+	+
Simple checkout flow	+	+
Simple credit flow	+	+
Promotions	+	+
Discount	+	+
Replenishment order	N/A	+
PayPal Smart Payment Button configuration (HAC)	+	+
Backoffice extended	+	+
PayPal Credit Messages	+	+
Pay Later Offers	+	+

3.2 Braintree APIs called

This solution uses Braintree's JSv3 for the UI layer, and Java library to communicate with the Braintree API server. The table below shows Braintree APIs called per solution:

API call / Version	1808-2011, B2C	1808-2011, B2B
Generate ClientToken	+	+
Transactions, Sale	+	+

Submit Settlement (Capture / Charge)	+	+
Submit for Partial Settlement	+	+
Refund Transaction, partial	+	+
Billing Agreement / Vault	+	+
Void	+	+

3.3 Supported Braintree Features

The table below shows supported Braintree features:

Feature / Version	1808-2011, B2C	1808-2011, B2B
Pay via Hosted Fields	+	+
Pay via ApplePay	+	+
Pay via PayPal	+	+
Pay via Local Payments	+	+
Pay via Google Pay	+	+
Pay via Venmo	+	+
Vault	+	+
Custom Fields	+	+
Advanced Fraud Tools	+	+
Multiple Currency support	+	+
Level 2 and 3 data Processing	+	+
3-D Secure 2.0	+	+
PayPal Credit Banners	+	+
Pay Later Offers	+	+

4 Solution Installation

This section reviews setting up the solution in a development environment.

Before installing and integrating a solution into your merchant code base, we recommend that you get a sample store working with the help of this guide. We also recommend that installation and integration of this extension be done by an SAP Certified Development Professional.

4.1 Prerequisites

4.1.1 Software, Network

Before continuing, make sure you have configured your environment as follows:

- Linux-system, 64-bit
- Oracle JDK:
 - Oracle JDK 8, 64-bit (1808-1811)
 - Oracle JDK 11, 64-bit (1905-2011)
- Configured JAVA_HOME environment variable
- Configured Ant-1.9.1+
- Hybris package, with supported version

4.1.2 OS-level file "hosts"

Add the following two lines to update your local OS-level "hosts" file:

```
127.0.0.1      localhost
127.0.0.1      electronics.local powertools.local
```

4.2 Package Installation

The instructions below are specific to Hybris version 1905. Be sure to change this to the version you are installing.

4.2.1 B2C Installation

Required files to set up a 1905 sample store with PayPal:

File	Description
CXCOMM1905_XXX.ZIP	Hybris 1905 package
pypl-bt_1.3.X.X.zip	Delivered package

- 1) Copy the files to the directory you want to use as your "working" directory.
- 2) Unzip "pypl-bt_1.3.X.X.zip".
 - a) Rename the unzipped folder "pypl-bt_1.3.X.X" to "plugin".
- 3) Copy "/plugin/samples/1905-b2c/prepare.sh" into the "working" directory.

The "working" directory should now contain four items:

File	Description
prepare.sh	Extracted Bash-script from delivered package
CXCOMM1905_XXX.ZIP	Hybris 1905 package
pypl-bt_1.3.X.X.zip	Delivered package
plugin	Unzipped folder containing contents of pypl-bt_x.x.2020.zip

- 4) Update “prepare.sh”.
 - a) If you have made changes to the file name or folders, be sure to make the appropriate updates in the prepare.sh file.
 - b) For example, if you saved the Hybris 1905 package as “Hybris1905.zip”, replace “CXCOMM190500P_1-70004140.ZIP” on line 23 with “Hybris1905.zip”.
- 5) Execute “prepare.sh”.
 - a) This results in a working test store for merchant developers, who will see how the solution was rolled out and how it works with the default store.
 - b) It is recommended that you review the “prepare.sh” script to see how it creates the environment and builds the platform.

Errors when executing “prepare.sh”

- Unzipping the Hybris package may display a “cannot create” error for an “.html” file.
 - The installation will continue and should not be impacted.
- “-bash: ant: command not found” error
 - May require running “setantenv.sh” before “ant createConfig” can be run.
 - It is recommended to open “prepare.sh” and run the lines individually from the “working” directory, starting with “cd hybris-1905/hybris/bin/platform”.
- “file not found” errors
 - Double-check that the “working” directory structure and “prepare.sh” contents match up.
- This install can take 15 minutes to run, possibly more.
- “sudo” may be required to run the “ant” commands.
- To restart the test store, run “./hybrisserver.sh” from the “hybris-1905/hybris/bin/platform” folder.
- Hybris test stores are valid for 30 days.
 - To re-initialize, run “ant clean all initialize” from the “hybris-1905/hybris/bin/platform” folder.

Once you have access to the test store, you can continue with Solution Configuration.

URLs, credentials

Application	URL, Default Login / Password
Electronics site	https://electronics.local:9002/yacceleratorstorefront Guest access allowed. acceptanceuser@test.com / 12341234

4.2.2 B2B Installation

Use the installation steps listed in section 4.2.1, B2C Installation, updating step 3 to point to the “1905-b2b” folder:

- 1) Copy “/plugin/samples/1905-b2b/prepare.sh” into the “working” directory.
- 2) Once you have access to the test store, you can continue with Solution Configuration.

URLs, credentials

Application	URL, Default Login / Password
PowerTools site	https://powertools.local:9002/yb2bacceleratorstorefront Guest access not allowed. axel.krause@rustic-hw.com / 12341234 ulf.becker@rustic-hw.com / 12341234

4.3 Package Installation step-by-step

The instructions below are general for most Hybris versions.

Use this guide if prepare.sh isn't working or you're using Windows OS.

1. Unzip Hybris sources
2. Install recipe from \$HYBRIS_DIR/installer

```
./install.sh -r <needed-recipe> -A local_property:initialpassword.admin=nimda
```

* install.bat for Windows OS

Version	Recipe
1808, 1811, b2c	b2c_acc
1808, 1811, b2b	b2b_acc
1905, b2c	b2c_acc_plus
1905, b2b	b2b_acc_plus
2005, 2011	cx

3. cd \$HYBRIS_DIR/hybris/bin/platform

```
echo develop | ant createConfig
```

4. Unzip cartridge zip,
copy extensions from /extensions to \$HYBRIS_DIR/hybris/bin/custom,
move local.properties and local-extensions.xml from /samples/version to
\$HYBRIS_DIR/hybris/config.
Change configs (add your db, PayPal credentials, etc)
5. cd \$HYBRIS_DIR/hybris/bin/platform
 - B2B

```
ant addonuninstall -Daddonnames="smarteditaddon" -
DaddonStorefront.yacceleratorstorefront="yb2bacceleratorstorefront"
ant addoninstall -Daddonnames="paypalb2baddon" -
DaddonStorefront.yacceleratorstorefront="yb2bacceleratorstorefront"
```

- B2C

```
ant addonuninstall -Daddonnames="profiletagaddon" -
DaddonStorefront.yacceleratorstorefront="yacceleratorstorefront"
ant addoninstall -Daddonnames="paypaladdon" -
DaddonStorefront.yacceleratorstorefront="yacceleratorstorefront"
```

6. Initialize, build, start

```
ant initialize
ant clean all
./hybrisserver.sh
```

* hybrisserver.bat for Windows OS

7. Done

This results in a working test store for merchant developers, who will see how the solution was rolled out and how it works with the default store.

4.4 Hybris Out-of-the-Box Applications

Hybris provides the following applications out of the box. URLs are common for Hybris B2C, B2B.

Application	URL, Default Login / Password
HAC	https://localhost:9002/hac admin / nimda
Backoffice*	https://localhost:9002/backoffice admin / nimda As Customer Support Team member: CustomerSupportAgent / 1234

5 Solution Configuration

5.1 Backend configuration, local.properties (Persistent)

In each Hybris instance, review and update the next properties in the local.properties file.

Solution connectivity properties:

Property	Comment
braintree.merchant_id	Braintree Merchant ID.
braintree.public_key	Merchant public key.
braintree.private_key	Merchant private key.
braintree.environment.type	Profile name, either "sandbox" or "production" (case-sensitive).

Solution properties (default values are in **bold**)

Property	Values supported	Comment
braintree.merchant.account.[SITE].[CURRENCY]	[EMPTY] ID as [TEXT]	Generate Token with "merchant_account_id" property if it exists for current Site+Currency. These are "Site.Currency"-related properties. Example value for display purposes only: braintree.merchant.account.electronics.usd
braintree.paypal.intent	sale authorize order	<i>authorize</i> - This payment is a basic authorization subject to settlement with PayPal Authorization and Capture. <i>order</i> - This payment is an order authorization subject to settlement with PayPal Authorization and Capture. <i>sale</i> - This is a final sale for which you are requesting payment. Refer to Section 8, Solution Limitations, for important details on the limitations of this property.
braintree.submit.for.settlement	true false	<i>true</i> : immediately submit transactions for settlement <i>false</i> : create an Authorization that will be manually captured later.
braintree.store.in.vault	true false	<i>true</i> : save the payment method to the BT vault when transaction is successful

Property	Values supported	Comment
		<i>false</i> : never save the payment method to the BT vault
braintree.applePay.enable	false true	Toggle to enable the ApplePay feature
braintree.hosted.fields.enabled	true false	Toggle to enable hosted fields feature, accepting Credit Cards via Braintree
braintree.billing.agreement.text	[EMPTY]	Text to be displayed during PayPal flow when using <i>store.in.vault</i> = true
braintree.custom.field.field_1	[EMPTY]	Parameter(s) for adding custom fields already set in Braintree Control Panel
braintree.enable.level2.level3.data	false true	Toggle to enable Level 2 and 3 data processing
braintree.3d.secure	false true	Toggle to enable 3DS 2.0 protocol for card payments
braintree.skip.3dsecure.liability.result	false true	If enabled authentication will not be required. In this case, the liability remains with the merchant and is not shifted to the issuer.
braintree.disable.funding.*	[EMPTY] as text	To see details visit link .
braintree.express.paypal.enabled	true false	Allow rendering PayPal button on Cart page, Add to Cart pop-up and mini cart pop-up
braintree.googlePay.enable	true false	Toggle to enable the GooglePay feature
braintree.googlePay.merchant_id	[Empty] as text	Optional in sandbox; if set in sandbox, this value must be a valid production Google Merchant ID
braintree.googlepay.seller.country.code	US country iso	Country code is required for merchants based in European Economic Area (EEA) countries.
braintree.local.payments.enable	true false	Toggle to enable the Local Payment Methods feature
braintree.venmo.enable	true false	Toggle to enable the Venmo feature
braintree.venmo.profile.id	true false	Venmo profile id. Details
braintree.credit.enable	true false	Toggle to enable Pay Later

5.2 Backend configuration, HAC (Non-Persistent)

You can change properties at runtime using HAC. However, the next time you restart Hybris, the properties will return to their persistent values. See a sample screenshot of PayPal properties below:

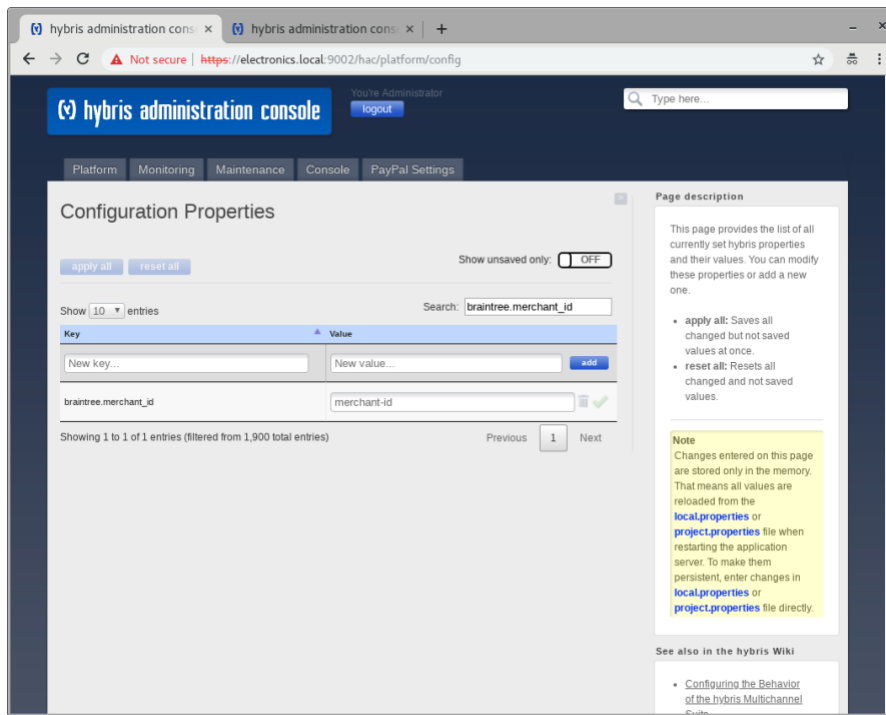


Figure 1. Configuration Properties

5.3 PayPal Smart Payment Buttons Configuration

This solution supports the use of HAC to configure PayPal Smart Payment Buttons. An administrator can configure Button properties that are new and not yet implemented within SAP. In that case, the application behavior should be tested for all flows.

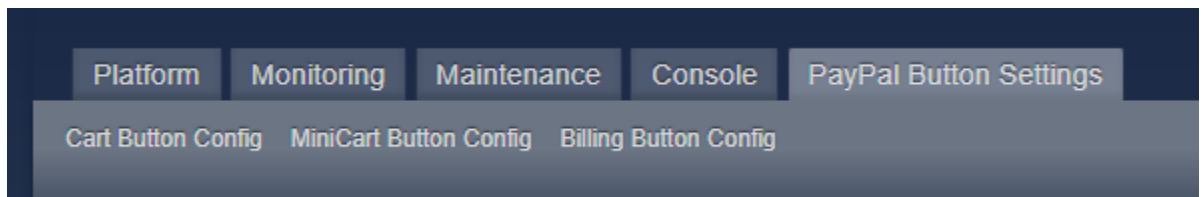


Figure 2. PayPal Smart Payment Button Config

NOTE: These values are stored in the Hybris local file system in the following file. This file is not cluster-aware, so if you have a clustered environment, make sure you deliver the correct content of that file on each node.

```
hybris-runtime/hybris/config/paypalbuttonconfig.properties
```

All three smart payment buttons can be configured Independently of each other.

Cart Page Smart Button configuration

Choose a color: gold ▾

Choose a shape: rect ▾

Choose a height: 35 ▾

Choose a label: paypal ▾

Choose a layout: horizontal ▾

☒ Enable Tagline

Save

The same widget is available for `MiniCartButton` and `BillingPageButton`.



Figure 3. Cart Page PayPal Smart Payment Button

Choose a color: silver ▾

Choose a shape: pill ▾

Choose a height: 55 ▾

Choose a label: paypal ▾

Choose a layout: horizontal ▾

☐ Enable Tagline




Figure 4. Example of Cart Page PayPal Smart Payment Button

5.4 PayPal Credit Message Configuration

This solution supports the usage of HAC to configure PayPal Credit Messages.

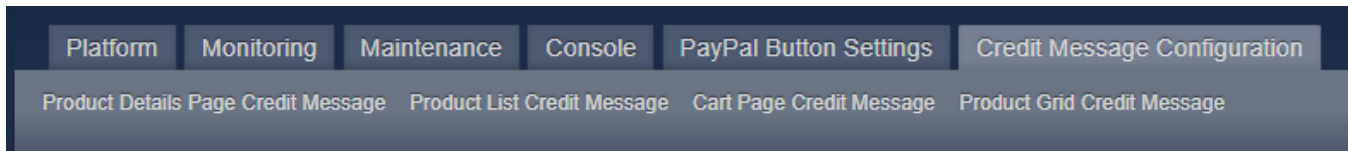


Figure 6. Credit Message Configuration

A configuration form titled 'Product Details Page Credit Message configuration'. It contains four settings: 'Choose a layout:' with a dropdown menu showing 'flex'; 'Choose a color:' with a dropdown menu showing 'blue'; 'Choose a ratio:' with a dropdown menu showing '20x1'; and a checkbox labeled 'Enable Credit Message' which is checked. At the bottom left of the form is a blue 'Save' button.

Figure 6. PayPal Product Details Credit Message Config

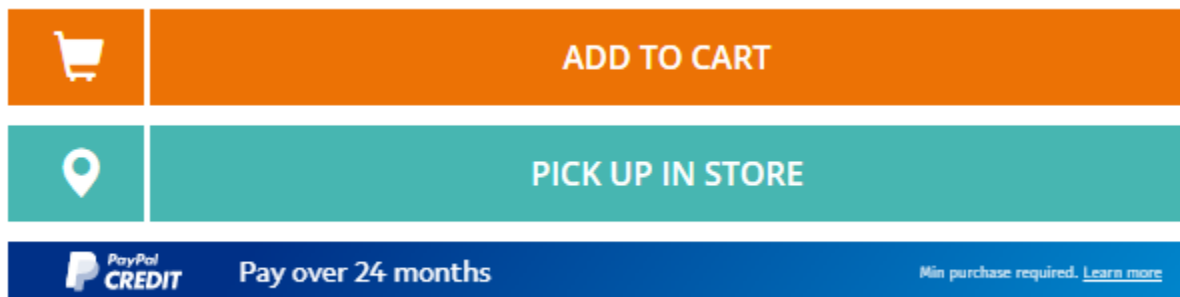


Figure 7. PayPal Product Details Credit Message View

NOTE: Changing the layout to text will add additional config parameters.

Product Details Page Credit Message configuration

Choose a layout:

Choose a logo type:

Choose a logo position:

Choose a text color:

☒ Enable Credit Message

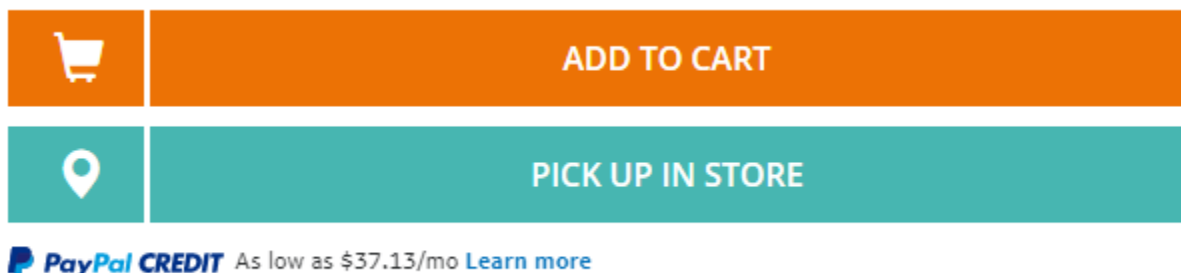



Figure 8. PayPal Product Details Credit Message View as text layout

5.5 PayPal Pay Later Offer

Pay Later

☐  **PayPal Credit**
You have PayPal Credit! No Interest if paid in full in 6 months for your purchase of \$260.87. [See terms](#)


☐  **Pay in 4**
4 interest-free payments of \$65.22 due every 2 weeks, starting today.
0% interest. No sign-up fees and nothing due today.

Figure 9. PayPal Pay Later offer

PayPal offers short-term, interest-free installments and other special financing options that allow customers to buy now and pay later, while merchants still get paid up front.

Pay later offers include the following:

- Pay in 4, which buyers can use to pay for purchases in four interest-free payments
- PayPal Credit, a revolving line of credit that buyers can use to pay over time

Pay Later support checkout with Vault.

5.6 Level 2-3 data

5.6.1 Overview

Starting from 19.1.2 version Braintree cartridge supports Level 2 and Level 3 data for Apple Pay and Credit Cards payments and Level 2 data for PayPal payments.

5.6.2 Configuration

In the hac navigate to platform -> configuration search for `braintree.enable.level2.level3.data` and set *true*.

Some fields required configuration on code level, and some are supported out of the box.

L2 Fields

Tax amount: Passed

Purchase Order Number: **Not passed**

L3 Fields

Shipping Amount: Passed

Discount Amount: Passed

Ships From Postal Code: **Not passed**

Shipping.

- Postal Code: Passed
- Country Alpha 3: Passed (see notes below)

Line Items

- Name: Passed
- Kind: Passed

- Quantity: Passed
- Unit Amount: Passed
- Unit of Measure: **Not passed**
- Total Amount: Passed
- Tax Amount: Passed
- Discount Amount: Passed
- Product Code: Passed
- Commodity Code: **Not passed**

Unit of measure and commodity code can be configured on product level in BackOffice.

Ships from postal code and purchase number has to be added on code level at AuthorizationCommandImpl.java at line 88 and line 98.

6 Move to Production

Before moving the solution to your Production system, it is highly recommended that you test and validate the solution in a test environment.

To run the solution in production, update the following properties:

Property	Comment
braintree.merchant_id	Braintree Merchant ID.
braintree.public_key	Merchant public key.
braintree.private_key	Merchant private key.
braintree.environment.type	Set the profile name to "production" value (case-sensitive).
braintree.merchant.account.[SITE].[CURRENCY]	Braintree Merchant Account ID.

7 Known Issues

Known Hybris out-of-the-box issues:

Version, Channel	Comment, Link
Hybris-1808.0 to Hybris-1808.2	HAC Smart Payment Button configuration page is not available due to a Hybris issue: https://jira.hybris.com/browse/PRB-68 (Hybris-1808.3)
IE browser	PayPal buttons might not work with an error message in the browser console: “Cannot render button in IE intranet mode”. To fix this issue, review/update your security settings in Internet options > Security > Local internet .
PayPal level3 data	Level 3 line item data support is not available for the PayPal payment method. This should have minor impact as there is no pricing changes on the PayPal side if you pass in Level 2 or Level 3 line item data.

8 Solution Limitations

Limitation	Comment
“braintree.paypal.intent” property runtime configuration	Runtime configuration for this property is not supported. Once the server is up and running, do not change the value of the property. To be on the safe side, it is recommended to configure it once and use that value across the cluster environment, making sure the same and correct value is deployed for any single server instance.
Single merchant per Hybris Setup	The solution supports only one Braintree merchant account per Hybris Setup.
Actions from PayPal	Any action made directly on the PayPal site will not be reflected in the Backoffice .
2005, 2011 accelerator support	OOTB 2005, 2011 support only unite accelerator for b2c and b2b. It means that two solutions will be available in one time. If you need only one solution, you have to manually remove extensions from local.extensions