

# **Bloomreach Discovery**

PWA Integration Guide

Version 1.0.0



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# 1. Summary

The Bloomreach Discovery PWA integration is built for the Salesforce Commerce Cloud PWA. Often referred to as Salesforce composable. It allows you to quickly kickstart integration of Bloomreach Discovery into a Salesforce PWA storefront. This documentation contains instructions for integration, deploying and running the project on a Managed Runtime Environment (MRT). It includes instructions, code samples and best practices for an integration project.

Bloomreach Discovery offers Al-Driven product discovery focused on ROI. It leverages Loomi, our industry leading Al for ecommerce, to further drive product discovery. The Bloomreach Discovery x Shopify connector significantly simplifies your implementation to make sure pixel data from your storefront is fed appropriately into Bloomreach Discovery. Build your storefront quicker with a templated search UI and components for search results pages, facets and autosuggest.

# 2. Component Overview

#### **Functional Overview**

The Bloomreach service allows the customer to use a search engine on your PWA.

#### Limitations, Constraints

Use of this PWA requires credentials and API keys from Bloomreach. You will also need to set up the necessary environment variables. You also need to upload, install and configure the CORE BLM cartridge (from the github: <a href="https://github.com/bloomreach/discovery-sfcc-b2c">https://github.com/bloomreach/discovery-sfcc-b2c</a>) in the sandbox.

#### Contract

To work with the PWA, you need to contact the Bloomreach support service to get your personal credentials to gain access to the Bloomreach services.

# Compatibility

The PWA is designed for Salesforce Commerce Cloud PWA version 3.0.0 and above.

# Privacy, Payment

The PWA doesn't collect and process user profile information or billing information. For additional privacy information, please contact your Bloomreach Account Manager.

# 3. Implementation Guide

# Set-up of CORE Cartridge

In order to set-up your account correctly, please use the document "Core Cartridge Integration guide.pdf"

#### Required Configurations

#### Open ./config/default.js

You will need to populate the highlighted sections with your own sandbox data, this will point the PWA to your commerce instance.

More information can be found here:

https://developer.salesforce.com/docs/commerce/pwa-kit-managed-runtime/guide/setting-up-your-local-environment.html#configuration-values

#### Local Environment Variables

At first if you checkout the project and do "npm install" and you try to run "npm start" you will get the following error:

```
Error: Environment variable BLM_ACCOUNT_ID is required.
```

This is because we NEED to set-up environment variables to run the project.

Open project folder ./bloomreach/settings/credentials.template.json file. It should look like this:

```
"BLM_ACCOUNT_ID": {"value": ""},
    "BLM_AUTH_KEY": {"value": ""},
    "BLM_DOMAIN_KEY": {"value": ""},
    "BLM_CATALOG_NAME": {"value": ""},
    "BLM_WIDGET_BEST_SELLER_ID": {"value": ""},
    "BLM_WIDGET_RECOMMEND_ID": {"value": ""},
    "BLM_WIDGET_FREQUENTLY_VIEWED_TOGETHER_ID": {"value": ""},
    "BLM_WIDGET_FREQUENTLY_BOUGHT_TOGETHER_ID": {"value": ""},
    "BLM_DEBUG": {"value": ""},
    "BLM_TEST_DATA": {"value": ""}
```

As you can see we need to enter value for ALL the fields. Lets see what each is

#	Field Title	Description
1	BLM_ACCOUNT_ID	This is part of personal credentials to gain access to the Bloomreach services. Contact the Bloomreach support service to get your Account ID.
2	BLM_AUTH_KEY	This is part of personal credentials to gain access to the Bloomreach services. Contact the Bloomreach support service to get your Authentication Key.
3	BLM_DOMAIN_KEY	Domain Key is used as a product catalog identifier on the Bloomreach side. This is part of personal credentials to gain access to the Bloomreach services. Contact the Bloomreach support service to get your Domain Key.
4	BLM_CATALOG_NAME	The name of the products catalog
	BLM_WIDGET_BEST_SE LLER_ID	The id of the widget that will be used for best selling products on the Homepage.
6	BLM_WIDGET_RECOMM END_ID	The id of the widget that will be used for the recommended products on PDP.
7	TO STATE TO SET UP	The id of the widget that will be used for the frequently viewed together products on PDP.

	R_ID	
8		The id of the widget that will be used for the frequently bought together products on PDP.
8	BLM_DEBUG	This is Pixel tracking settings for Staging and Development environments. It should be set to "false" for Production. More information here: <a href="https://documentation.bloomreach.com/discovery/docs/global-page-view-pixel">https://documentation.bloomreach.com/discovery/docs/global-page-view-pixel</a>
10	BLM_TEST_DATA	This is Pixel tracking settings for Staging and Development environments. It should be set to "false" for Production. More information here: https://documentation.bloomreach.com/discovery/docs/global-page-view-pixel

NOTE: Environment variables starting with "BLM\_WIDGET\_" are NOT mandatory and you can run the project without them.

Populate the fields with the necessary data AND delete the ".template" string from the **credentials.template.json** file, so that it becomes **credentials.json** 

Next let's export the variables so we can run the project locally. We have two scripts in the ./bloomreach/settings/folder:

- 1. export\_env.sh for Linux and MacOS users
- 2. export\_env.ps1 for Windows Users

# MacOS / Linux

Open ./bloomreach/settings/ directory in terminal

We need to install "jq" package first

# For Debian/Ubuntu sudo apt-get install jq

# For macOS using Homebrew brew install jq

Then run the **export\_env.sh** script with: source ./export\_env.sh

Now, in the root directory of the project, you should be able to run: npm start

#### Windows

Open ./bloomreach/settings/ directory in PowerShell

Run the Windows script in PowerShell with administrator privileges .\export\_env.ps1

Next add the variables(if they are not already added) in the ./config/default.js file:

```
app: {
    blm: {
        accountId: parseEnvVar('BLM_ACCOUNT_ID') || null,
        authKey: parseEnvVar('BLM_AUTH_KEY') || null,
        userId: parseEnvVar('BLM_DOMAIN_KEY') || null,
        catalogName: parseEnvVar('BLM_CATALOG_NAME') || null,
        widgetBestSellerId: parseEnvVar('BLM_WIDGET_BEST_SELLER_ID') || null,
        widgetRecommendId: parseEnvVar('BLM_WIDGET_RECOMMEND_ID') || null,
        widgetFrequentlyViewedTogetherId:
            parseEnvVar('BLM_WIDGET_FREQUENTLY_VIEWED_TOGETHER_ID') || null,
        widgetFrequentlyBoughtTogetherId:
            parseEnvVar('BLM_WIDGET_FREQUENTLY_BOUGHT_TOGETHER_ID') || null,
        debug: parseEnvVar('BLM_DEBUG') || null,
        testData: parseEnvVar('BLM_TEST_DATA') || null
}
```

Now, in the root directory of the project, you should be able to run: npm start

Server Environment Variables

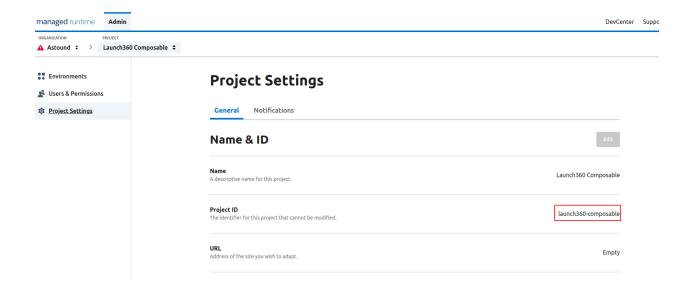
# Utils

Lets set-up first some common variables that we are going to use to better illustrate requirements for environment variables:

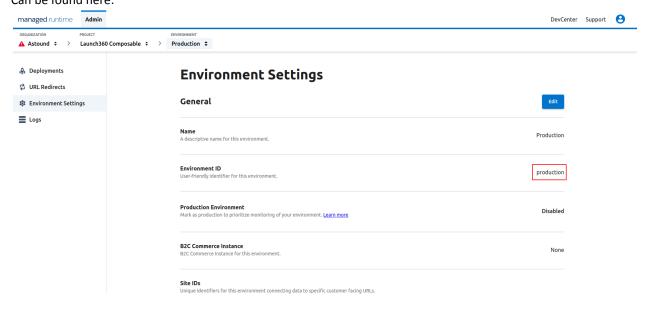
mobify\_key="<your-own-mobify-key-in-the-mrt-environment>" Can be found in here:



project\_slug="<the-name-of-the-project-in-the-mrt-environment>" Can be found in:



# target\_slug="<environment-id>" Can be found here:



Check for already present env variables

Open ./bloomreach/settings/ directory in terminal and run the following:

 $curl "https://cloud.mobify.com/api/projects/\$project\_slug/target/\$target\_slug/env-var/" \setminus (a.c., b.c., b.c$ 

- --header "Authorization: Bearer \$mobify\_key" \
- --header 'Accept: application/json'

If you run it the first time it should return only "{}" empty JSON

Set env variables

Open ./bloomreach/settings/ directory in terminal and run the following:

curl "https://cloud.mobify.com/api/projects/\$project\_slug/target/\$target\_slug/env-var/" \

- --request 'PATCH' \
- --header 'Content-Type: application/json' \
- --header 'Accept: application/json' \
- --header "Authorization: Bearer \$mobify\_key" \
- --data @credentials.json

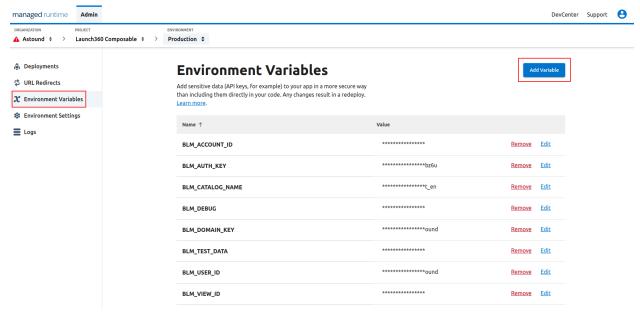
NOTE: credentials.json should already be populated with the necessary values

Now if you check again for present variables the JSON object should contain information about the variables. And keep in mind that their value will be asterisked like "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

More information about the environment variables can be found here:

https://developer.salesforce.com/docs/commerce/pwa-kit-managed-runtime/guide/env-var-feature-access.html

You can also use the MRT editor:

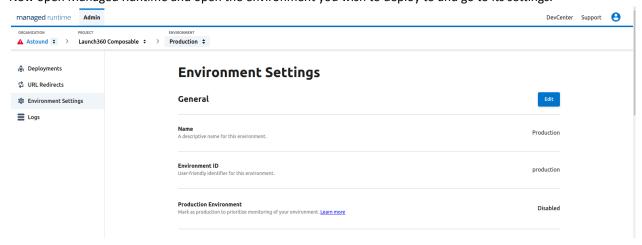


# **Proxy Configs**

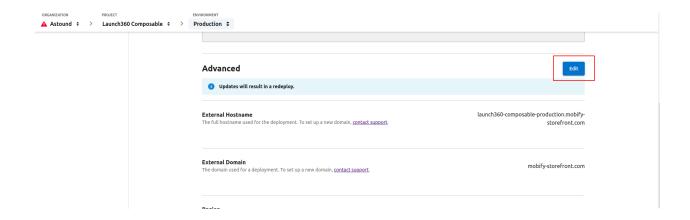
Now we need to set up the proxy configs. While in the root directory, open ./config/default.js file and scroll to proxyConfigs object key:

```
module.exports = {
   ssrShared: [
   ssrParameters: {
       ssrFunctionNodeVersion: '18.x',
       proxyConfigs:
                host: 'kv7kzm78.api.commercecloud.salesforce.com',
                path: 'api'
                host: 'zzrk-005.dx.commercecloud.salesforce.com',
               path: 'ocapi' "ocapi": Unknown word.
                host: 'staging-core.dxpapi.com',
                path: 'bloomreach',
               protocol: 'https'
                host: 'cdn.brcdn.com',
                path: 'bloomreach-cdn',
                protocol: 'https'
                host: 'staging-suggest.dxpapi.com',
                path: 'bloomreach-autosuggest',
                protocol: 'https'
               host: 'pathways-staging.dxpapi.com',
path: 'bloomreach-recommends',
               protocol: 'https'
```

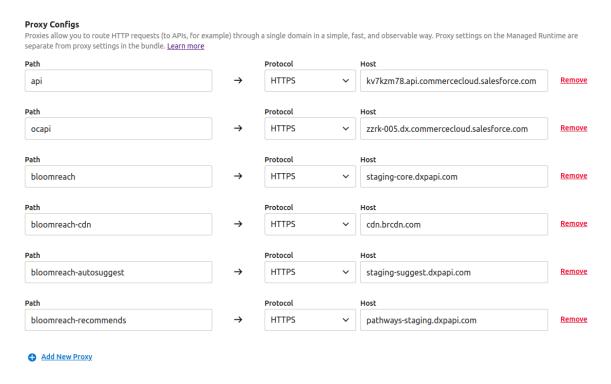
Now open Managed Runtime and open the environment you wish to deploy to and go to its settings.



Next scroll to the "Advanced" section and click on "Edit" button



Add each proxy config as it is in the ./config/default.js file and click the "Update" button afterwards:



#### NOTE:

We are using the staging urls here, namely: staging-core.dxpapi.com staging-suggest.dxpapi.com pathways-staging.dxpapi.com

The production ones are the following: core.dxpapi.com suggest.dxpapi.com pathways.dxpapi.com

if you want to use staging urls locally but production in the MRT you will need to set some environment variables as well. Here is more information:

https://developer.salesforce.com/docs/commerce/pwa-kit-managed-runtime/guide/proxying-requests.html#override-proxy-configurations-with-environment-variables

#### Deploy a build

Remember the common variable that we used initially in Server Environment Variables section, namely: project\_slug="<the-name-of-the-project-in-the-mrt-environment>" target slug="<environment-id>"

We will need them again.

You can deploy a build by going to the root directory of the project and executing the following command in your terminal:

npm run push -- -s \$project slug --message "PWA kit build" --target "\$target slug"

#### Loa errors

You can log errors and debug by going to the root directory of the project and executing the following command in your terminal:

npx @salesforce/pwa-kit-dev@latest tail-logs --project \$project\_slug --environment \$target\_slug

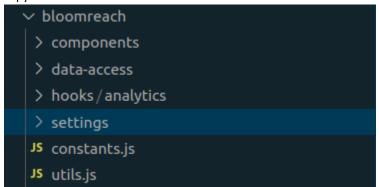
# 4. Implementing in already existing PWA

You still will need to follow all the steps in the above section, including:

- Set-up core cartridge
- Local Environment Variables
- Server Environment Variables
- Proxy Configs

# **Initial Configs**

Copy all the content in the bloomreach folder:



Next open ./jsconfig and add the following line:

Next open ./webpack.config.js the important lines are highlighted so add the following and their dependencies:

The Bloomreach functionality can be split into the following:

Product Search, Content Search, Search Suggestions, Autocorrect, Redirects, Recommendations and Pixel Analytics

#### **Product Search**

We use template extensibility for the product listing page since we will need to override the default behavior. If you are using the default search page template you will need to implement it. Instructions on how to do this are available here:

 $\underline{https://developer.sales force.com/docs/commerce/pwa-kit-managed-runtime/guide/customize-a-page.html}$ 

# Open ./overrides/app/pages/product-list/index.jsx

You will need to add all the code and its dependencies from "Query Actions" comment section until the "Content Listing" section

```
/**********************
const {currency} = useCurrency()

const queryParams = {
    search_type: isSearch ? 'keyword' : 'category',
    q: isSearch ? searchQuery : `${params.categoryId}`,
    rows: DEFAULT_LIMIT_VALUES[0],
    start: searchParams?.offset || 0,
    view_id: currency.toLowerCase()
}

if (!isEmpty(searchParams?.refine)) {
    const {price, ...attributesExceptPrice} = searchParam

// Price
    if (price) {
        queryParams.fq = `price:${price}`
    }

// Other than price attributes
```

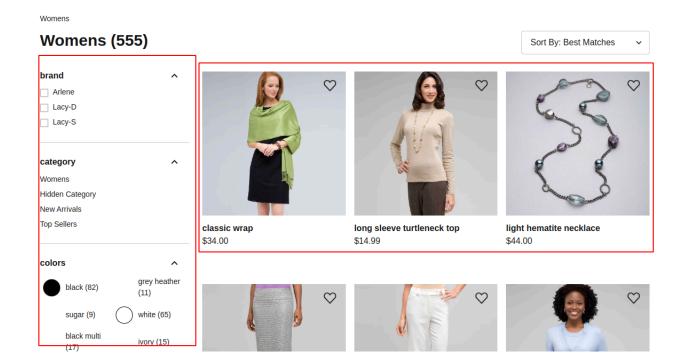
```
/************ Content Listing **********
const contentsettings = {
    q: isSearch ? searchQuery : '',
    rows: DEFAULT_LIMIT_VALUES[0],
    start: searchParams?.offset || 0
}

const {isLoading: isContentLoading, data: contentData} = useGetContent(contentSettings, {
    enabled: isSearch
})
```

The Bloomreach hook that is responsible for retrieving the product data is:

```
const {
    isLoading,
    isRefetching,
    status,
    data: productData
} = useGetProductsByFilters(queryParams)
```

You should see product results for category and search as well as their refinements if implemented correctly:



#### Content Search

# Open ./overrides/app/pages/product-list/index.jsx

You will need to add all the code and its dependencies from "Content Listing" comment section until the "Error Handling" section

Also you will need to alter the code in the render function to match this:

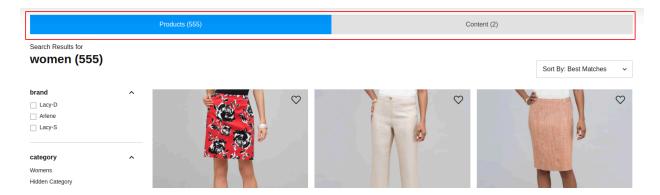
```
{showNoResults ? (
   <EmptySearchResults searchQuery={searchQuery} category={category} />
       {isSearch & contentResultsCount > 0 & ( ...
       {isShowingContentSearch ? (
           <ContentList
                headerSettings={{
                   searchQuery,
                   searchMeta: {
                       didYouMean: contentData?.did_you_mean,
                       total: contentResultsCount
                   isLoading: isContentLoading
               results={contentData?.response?.docs}
               paginationSettings={{
                   currentURL: basePath,
                   urls: contentPageUrls
                }}
            />
           <> ·-
           </>
```

Note <ContentList/> component will handle listing of the content results

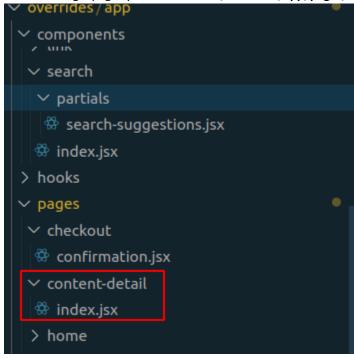
The Bloomreach hook that is responsible for retrieving the content data is:

```
const {isLoading: isContentLoading, data: contentData} = useGetContent(contentSettings, {
    enabled: isSearch
})
```

When searching and you have content results you should see this



To handle single pages you need to add ./overrides/app/pages/content-detail file to your project directory:



As well as modifying the ./overrides/app/routes.jsx to handle content single page:

```
const ContentDetail = loadable(() => import('./pages/content-detail'))
{
    path: '/content/:contentId',
    component: ContentDetail
},
```

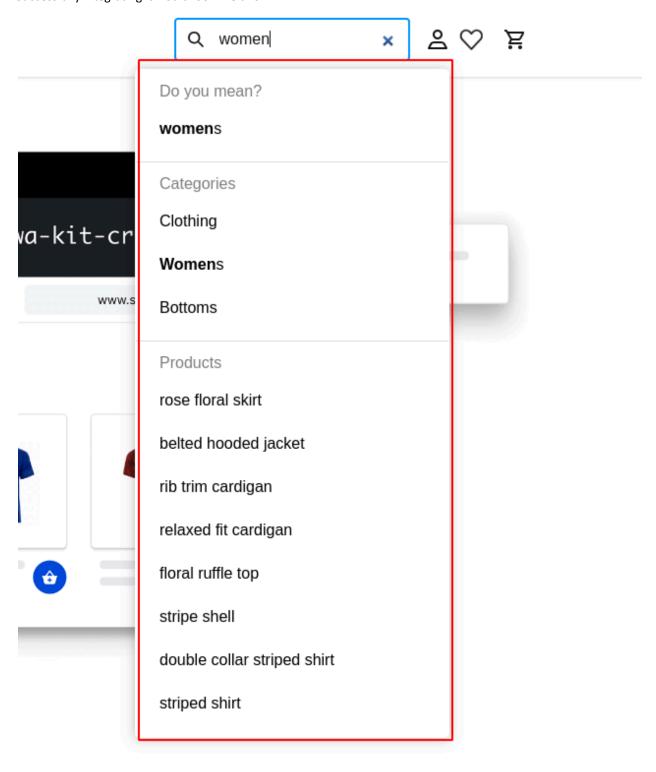
# **Search Suggestions**

If you already have ./overrides/app/components/search/index.jsx file, open it and add the following:

Note this includes the ./overrides/app/components/search/partials/search-suggestions.jsx file

The hook responsible for the date is:

Successfully integrating it would look like this:



First you need to add the ./overrides/app/pages/product-list/partials/page-header.jsx component and import it

import PageHeader from './partials/page-header

in the ./overrides/app/pages/product-list/index.jsx file and use it like this:

```
{isShowingContentSearch ? ( --
    <>
        <AbovePageHeader />
        <Stack
            display={{base: 'none', lg: 'flex'}}
            direction="row"
            justify="flex-start"
            align="flex-start"
            spacing={4}
            marginBottom={6}
            <Flex align="left" width="287px">
                <PageHeader
                    searchQuery={searchQuery}
                    category={category}
                    productSearchResult={productSearchResult}
                    isLoading={!isLoadingFinished}
            </Flex>
            <Box flex={1} paddingTop={'45px'}>...
            </Box>
            <Box paddingTop={'45px'}>...
            </Box>
        </Stack>
        <HideOnDesktop>
            <Stack spacing={6}>
                <PageHeader
                    searchQuery={searchQuery}
                    category={category}
                    productSearchResult={productSearchResult}
                    isLoading={isLoading}
```

Note this is both for Desktop and mobile.

The actual data come from this hook in the variable **productSearchResult**:

```
const {
    isLoading,
    isRefetching,
    status,
    data: productData
} = useGetProductsByFilters(queryParams)
```

#### Redirects

If you already have ./overrides/app/components/search/index.jsx file, open it and the following functions with all its dependencies:

```
const handleSubmit = async (event) => {
    event.preventDefault()
    let searchText = searchInputRef.current.value.trim()
    const queryParams = new URLSearchParams({
        ...getQueryParamsSettings({appOrigin, location}),
        request_type: 'search',
        search type: 'keyword',
        fl: 'pid',
        q: searchText,
        rows: '1',
        start: '0'
    const apiUrlWithParams = `${apiURL}?${queryParams}
    try {
        const response = await fetch(apiUrlWithParams)
        if (!response.ok) {
            throw new Error(`HTTP error! Status: ${response.status}`)
        const data = await response.json()
        if (data?.keywordRedirect) {
            navigateRedirect(navigate, data?.keywordRedirect?.['redirected url'])
        } else {
            onSubmitSearch(event)
     catch (error) {
        console.error('Error fetching data:', error)
      finally {
        searchInputRef.current.value = ''
```

As well as passing it as a handler to the form:

```
return (
    <Box>
        <Popover isOpen={isOpen} isLazy initialFocusRef={searchInputRef}>
            <PopoverTrigger>
                <form onSubmit={handleSubmit}>
                    <HStack>
                         <InputGroup>
                             <InputLeftElement pointerEvents="none">
                                 <SearchIcon />
                             </InputLeftElement>
                             <Input
                                 autoComplete="off"
                                 id="search-input"
                                 onChange={(e) => onSearchInputChange(e)}
                                 onFocus={() => shouldOpenPopover()}
                                 onBlur={() => setIsOpen(false)}
                                 type="search"
                                 ref={searchInputRef}
                                 { . . . props}
                                 variant="filled"
                         </InputGroup>
```

You possibly already have(if you have implemented the Bloomreach Product Search), but it must be mentioned that you will need to also have the useEffect function in the ./overrides/app/pages/product-list/index.jsx file:

Success should be indicated by correctly redirecting when submitting the search form with the term configured in the dashboard settings

#### Recommendations

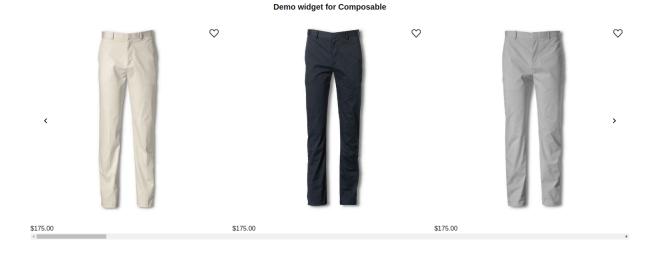
Open your ./overrides/app/pages/product-detail/index.jsx file and import the following component:

import Recommended from '@bloomreach/components/Recommended/'

And use it, for example like that:

```
{/* Product Recommendations */}
<Stack spacing={16}>
   {/* Removed other Product Recommendations in favor of Specifically Bloomreach recommender
   component below */}
   <Recommended productId={product?.id} mx={{base: -4, md: -8, lg: 0}} />
</Stack>
```

Success would look something like this when you open PDP:



# **Pixel Analytics**

In the PWA we have 6 page type events: homepage, product, category, search, content, conversion.

Generally In order to trigger page event you need to import the following:

```
import {useBloomreachAnalytics} from '@bloomreach/hooks/analytics'
```

#### Get the track method:

```
const {track} = useBloomreachAnalytics()
```

And for add the object date in useEffect:

Please, note that each track object must have "ptype" key in order to be valid and be registered as Page View.

The easiest way to confirm that is working is installing the testing extension here: https://documentation.bloomreach.com/discovery/docs/validating-pixels

Here there are examples of how to integrate your own.

Homepage

```
useEffect(() => {
    einstein.sendViewPage(pathname)

    track({
        ptype: 'homepage', "ptype": Unknown word.
        title: 'Home Page'
    })
}, [])
```

Product

Note this depends here on product.id

Category

```
useEffect(() => {
    if (!isSearch) return

    track({
        ptype: 'search', "ptype": Unknown word.
        title: searchQuery,
        search_term: searchQuery,
        catalogs: [{name: CATALOG_NAME}]
    })
}, [isSearch, searchQuery])
```

Content

This is added in the ./overrides/app/pages/content-detail/index.jsx

Conversion

```
useEffect(() => {
    if (order) {
        track({
            ptype: 'conversion',
            is conversion: 1,
            basket value: order?.orderTotal,
            order id: order?.orderNo,
            currency: order?.currency,
            basket: {
                items: order?.productItems.map((el) => {
                    return {
                        prod_id: el?.productId,
                        sku: el?.itemId,
                        name: el?.productName,
                        quantity: el?.quantity,
                        price: el?.price
}, [order])
```

Note that this is added in the ./overrides/app/pages/checkout/confirmation.jsx component