

Pageflex® 9.5.0 ReadMe

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I. Overview

Pageflex 9 comprises the group of Pageflex applications producing dynamic variable data projects. The various applications within this suite—Storefront, Campaign Manager, and Server—are enabled based on your software license key. Your license also determines the range of output formats available to you.

The noteworthy change in 9.x for all Pageflex owners running on a prior version is the new cloud licensing option that eliminates dependency on physical USB dongles. Otherwise the primary focus of the version 9 series is on updates to Storefront and Campaign Manager—although there are some items of interest to Server owners, too. The Storefront overhaul is broad and deep, affecting all aspects of the user interface and user experience. Changes include:

- Reimplementing Storefront's user-facing webpages with responsive web technologies that automatically format pages to suit mobile device screens as well as traditional desktops.
- Condensing ordering workflows into fewer pages to streamline the user experience, simplify site geography, and minimize user actions necessary to complete tasks.
- New navigational cues, more ubiquitous search capabilities, and expanded filtering.
- New appearance based on current CSS standards.
- New admin options to support all the above, including many more CSS attributes exposed to modification via the admin UI.
- Reimplementing admin orders pages to consolidate order and item details into a tabbed list view in which critical information and actions are fewer clicks away.

Behind the updated UI there have also been substantial improvements to performance and security.

Campaign Manager version 9 debuts a new enterprise edition architected to broadly support the high availability, scalability, failover, and redundancy requirements of enterprise owners; contact sales@pageflex.com to discuss hosted (SaaS) license options. Other improvements available to all current Campaign Manager licensees include:

- Touchpoint triggers and scheduling
- Static or variable email “attachments” as trackable PDF links
- Unfettered capacity for handling large-scale data lists

If you are upgrading from version 8 be advised that updated SF9-compatible versions of some of the most popular Pageflex Services extensions are available for sale—contact sales@pageflex.com for pricing.

All the functionality above is described in more detail in Section V, [What's New](#).

II. System Requirements

Pageflex Server Hardware

- 64-bit Intel-compatible server-class CPU with 4 or more cores
- 16 GB RAM or more
- 30 GB high-performance storage for programs, database, and initial output
- T1 or better Internet connection

Pageflex Server Software

- Standard or Enterprise Editions of Microsoft Windows Server 2019, 2016, or 2012 R2*
- Microsoft SQL Server 2019, SQL Server 2017, SQL Server 2016, SQL Server 2014, or SQL Server 2012 SP2**
- Microsoft Message Queuing (MSMQ)
- Internet Information Services (IIS) (for all hosts running web applications)
- Microsoft .NET 4.8 or higher
- Microsoft IIS URL Rewrite Module (for all hosts running web applications)

* Development, staging, and test servers may use Pro or Enterprise Editions of Windows 8, 8.1, or 10

** If installing SQL Server on the same machine as Pageflex, a secondary hard drive for database storage and an additional 8 GB RAM are required.

Web Browser

- Chrome
- Firefox
- Safari
- Microsoft Edge
- Limited: Internet Explorer 11—see Section VI, [Known Issues](#), below, for caveats

Pageflex Studio

- 4 GB RAM
- True Color video card and 24-bit or better display settings
- 2 GB disk space (for program files)
- Microsoft Windows 8.x; Windows Server 2016; Windows Server 2012 R2§
- Microsoft .NET 4.8 or higher

§ Pageflex Studio can run on a 64-bit Windows Server, but it does so as a 32-bit application.

III. How to Upgrade

Existing Pageflex owners: Note changes to system requirements *before* upgrading

System requirements have been updated to reflect the fact that SQL Server versions prior to 2012 SP2 are no longer supported for use. If you are upgrading from a version before PF9.0, they have also changed with respect to the minimum necessary RAM, .NET, and browser support. They have changed even more extensively for anyone upgrading from before PF8.5. Please examine the System Requirements above for the full list of essential hardware and software before continuing.

If you are already a Pageflex customer, there are different upgrade paths to version 9, depending on what capabilities you have licensed. Click on the appropriate link below to open a PDF document that will assist you in upgrading.

Pageflex Server Customers

Upgrade instructions for Server-only customers are in the [Pageflex Server 9.5.0 Upgrade Guide](#).

Pageflex Storefront Customers

Storefront deployers please refer to the [Pageflex Storefront 9.5.0 Upgrade Guide](#) for complete upgrade instructions. You must be on version 8.6.0 or later to upgrade to 9.5.0. If you are on any earlier version then contact support@pageflex.com to request the downloadable installer for 8.6.5.

Pageflex Campaign Manager

Campaign Manager customers please read the [Pageflex Campaign Manager 9.5.0 Upgrade Guide](#) for instructions on upgrading your campaign deployments.

Once you have completely followed the instructions contained in the relevant upgrade guide, you may skip the following section and proceed straight to Section V, [What's New](#).

IV. How to Install

Preparing your machine

If installing Pageflex software for the first time, please review the System Requirements above. PDFs of every user guides and reference manual cited below will be installed with Pageflex 9.

1) Operating system

Begin with a default installation of the Microsoft operating system. Modifying the OS prior to installing Pageflex software may result in difficult-to-diagnose operational problems later. You should particularly refrain from applying corporate security policies to a server machine intended for Pageflex use until after completing the Pageflex installation. Only after verifying the operability of the Pageflex software should you proceed to add security policies a few at a time, keeping record of the sequence in which they are applied, so that it is possible to identify any that interfere with Pageflex's intended functionality.

2) Internet Information Services (IIS), URL Rewrite Module, and Microsoft Message Queuing (MSMQ)

These components may or may not be required depending on how the computer running the Pageflex applications will be used.

- **IIS** is required for all machines running Pageflex-related web applications. It need not be installed on non-web-server engine-only hosts, or machines dedicated only to running Studio, or functioning solely as a license server.
- **URL Rewrite Module** is required for all IIS web servers running Pageflex-related web applications. Obtain the latest version from Microsoft via the IIS Web Platform Components or from <https://www.iis.net/downloads/microsoft/url-rewrite>.
- **MSMQ** is required on all machines running Pageflex Server-based applications, including Storefront and Campaign Manager. A standard installation is required.

Detailed instructions for configuring these components within Windows Server are found in the Knowledge Base post entitled “Adding Pageflex-required Roles and Features to Windows Server” on the [Support website](#). If you are current on your maintenance contract and do not yet have online access to the Support site, send a request for an account to support@pageflex.com.

3) SQL host

You must designate a machine to function as the database server for the Pageflex Server cluster—and for Storefront and Campaign Manager deployment databases, if applicable. Step-by-step guides for setting up and configuring each supported version of SQL host to work with Pageflex are found in the Knowledge Base post entitled “Installing SQL Server for use with Pageflex” on the [Support website](#).

4) Email server

Access to an SMTP email server is required for Pageflex Storefront email notifications and for sending HTML Email products or campaigns from any Pageflex application.

5) Editing the Windows hosts file

The default hosts file found on every installation of Windows must be modified to associate “localhost” with the “127.0.0.1” IP address. This modification is most critical for multi-machine Pageflex clusters, but substantially improves the software performance of mono-host installations as well.

To perform the required edit, go to C:\Windows\System32\drivers\etc and open the hosts file in a text editor. The last lines of the file will read as follows:

```
# localhost name resolution is handled within DNS itself.
# 127.0.0.1      localhost
# ::1           localhost
```

Uncomment the line with localhost by deleting the pound sign/hashtag/octothorp, like so:

```
# localhost name resolution is handled within DNS itself.
127.0.0.1      localhost
# ::1           localhost
```

Save and close the file.

Notes on SQL Server Express

Please note that production environments should use the full SQL Server. However, for development, test, or staging computers you can use Microsoft’s free version of SQL Server Express. Enter “sql server 2019 express download” in your favorite Internet search engine to locate Microsoft’s current official download site.

If you plan to use SQL Server Express, be sure to also download and install the free management tool, SQL Server Management Studio (downloadable on its own or bundled with SQL Server Express with Advanced Services), to manage your databases.

Installing Pageflex Server

After downloading and unzipping the version 9.5.0 installer, double-click on Setup.exe in the root directory.

If you opt not to use cloud licensing, click on “Licensing Hardware Key Drivers” to install components required for licensing via hardware USB dongle. Otherwise—or after the key driver installation is complete—click on “Pageflex Server 9.5 Applications”. The Wizard will proceed to guide you through all the steps necessary to install the software.

NOTE: the second step in the Wizard defaults to installing the Pageflex applications in the C:\Pageflex directory. You may change the location to suit your environment, but DO NOT install to the C:\Program Files directory due to permission restrictions specific to that folder which will thoroughly and intractably compromise operation of Pageflex software.

If .NET is not yet installed on your machine, it will be installed and configured for you. While this happens the install process may appear frozen; after a few minutes, however, it will resume. Installation of .NET must **not** be interrupted.

When the process has finished, reboot the computer. Then you can move on to either setting up Server for Storefront, Campaign Manager, or for Server-only jobs and transactions. You should also have either an email from keys@pageflex.com with your Customer ID and Entitlement Code with which to activate cloud-based licensing, or a USB dongle programmed with your unique alphanumeric license key.

See the *Pageflex Server Guide* for an illustrated version of Server setup and configuration.

Pageflex Server Setup for Storefront and Campaign Manager

The *Pageflex Storefront Deployer Guide* contains detailed information about setting up Pageflex Server for Storefront. The process for configuring Pageflex Server for campaigns—which is similar to that for Storefront, including steps for configuring licensing and initializing the Pageflex Server—is thoroughly detailed in the *Pageflex Campaign Manager Guide*.

Setup for Server-only configurations

If your Pageflex licensing is for Server-only configurations, please refer to chapters 3 and 4 of the *Pageflex Server Guide* for details on Server setup and configuration. Once you have installed your Server software, launch the Licensing Administrator from Start > Apps > Pageflex > Licensing Administrator. In this application, you will be prompted to identify your license server and to either enable cloud licensing or to plug in your preprogrammed USB dongle.

Once licensing is configured, run Start > Apps > Pageflex > Server Administrator. The first time you launch this application, the database connection wizard will prompt you to establish and connect with a SQL Server database. This database is referred to as your Server “cluster” database and is distinct from the databases that Storefront or Campaign Manager creates for deployments. Once you have established the cluster database, the Server Administrator application will be launched, and you can begin configuring Server.

V. What's New

This section summarizes features added in each version of the 9 series, back to 9.0.

1. Storefront: Support for site-wide elimination of price displays

A user access privilege has been added to give you control over which users see product pricing in a deployment:

Who can view information? (Everyone)

Shipping and Payment

Who sees the Shipping step? (Everyone)

Who sees the Payment step? (Everyone)

Who sees pricing? (Anonymous Users)

TIP: This privilege takes precedence over the "Who sees the Payment step" privilege, above.

All built-in price-related elements within the ordering workflow will be removed for users who do not belong to the specified price-seeing group.

Here, for example, is the shipping-only checkout step for a user with no exposure to prices:

And here is their Orders page:

While hiding pricing also hides the payment step, the cost of placed orders will still be captured and shown in the admin site if the products have price tables associated with them. You can of course configure the method of payment field to acquire its default value from a user profile field if you want to automatically assign billing codes, fund ID, or another user account property to placed orders as an aid to recouping their cost.

To complement this feature, email notifications also support omitting prices when sent to users who aren't eligible to see them—refer to the [conditional notification content feature](#), below.

2. Storefront: Fulfillment configurations now support no-checkout ordering workflow

In 9.2 we [expanded the fulfillment options](#) to allow immediate download of products upon clicking the relevant “Get It Now” button within the product customization step, without requiring the customer to proceed to cart or checkout. We’ve made new refinements to this functionality as follows:

- Products configured to be downloaded before reaching the shopping cart, without any further fulfillment steps, no longer show the user the Add to Cart button, since the user’s ordering journey ends with downloading the product (or copying the download link) from the customization page.
- Products configured to let the user decide whether to end their ordering journey with a download from the customization page will disable the Add to Cart button when the user chooses to skip printing.

The admin interface for configuring these choices has also been altered to make clear that there are six different configuration options—

Offer download: ☒

- ☒ At every available stage before and after checkout ⓘ
 - ☐ With further fulfillment steps
 - ☒ With user option to skip further fulfillment steps (and set item to its terminal status)
 - ☐ Without further fulfillment steps (and set item to its terminal status)
- ☐ Only after Checkout, on Orders page after order is completed ⓘ
 - ☐ With further fulfillment steps
 - ☐ With user option to skip further fulfillment steps (and set item to its terminal status)
 - ☐ Without further fulfillment steps (and set item to its terminal status)

—and to more fully disclose in tool tip text the differences between them:

☒ At every available stage before and after checkout ⓘ

☐ With further fulfillment steps

☒ With user option to skip further fulfillment steps (and set item to its terminal status)

☐ Without further fulfillment steps (and set item to its terminal status)

☐ Only after Checkout, on Orders page after order is completed ⓘ

☐ With further fulfillment steps

☐ With user option to skip further fulfillment steps (and set item to its terminal status)

☐ Without further fulfillment steps (and set item to its terminal status)

About the options

With further fulfillment steps: Downloading from the Catalog or Customization page zeros out the price, bypasses all applicable approval workflows, and produces an order with status of Completed. The Add to Cart button is present on the Customization page and enabled when the product form is valid. If the user proceeds to Checkout the product is assigned to Other Delivery with payment required if there is a price and order status of In Process.

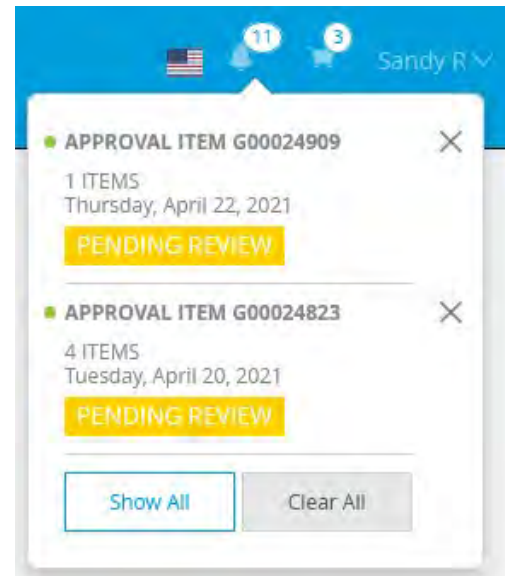
With user option to skip further fulfillment steps: Same as above but the Add to Cart button is present on the Customization page and only enabled when the product form is valid **and** the user does not select the option to skip printing.

Without further fulfillment steps: Same as above except ordering workflows end with downloading because there is no Add to Cart button on the Customization page.

3. Storefront: improvements to in-app Notifications

The in-app notifications feature—the bell icon in the header and the popover that opens when the icon is clicked—has been modified to give users more control over the content, and to make the numeric badge a more meaningful indicator of alerts deserving attention.

- Unread alerts within the popover are now marked with green dots.
- Users can signal that they have read an alert by gesturing over it with their mouse. On mobile devices where the popover takes over more of the screen, alerts are considered seen when the popover opens.
- The number within the badge represents the count of unread, unexpired alerts. (Alerts still expire after 30 days.) It will instantly decrement as users mouse over—“read”—their new alerts.
- Alerts may be permanently dismissed by clicking on the “X” to the right of each one.
- The popover initially displays up to the admin-configured maximum number of alerts, but a “Show All” button lets users review all unexpired alerts in excess of that ceiling.
- A “Clear All” button lets users instantly (and irreversibly) remove the entire set of alerts from the popover.



4. Storefront: Support for transparency in Catalog page category colors

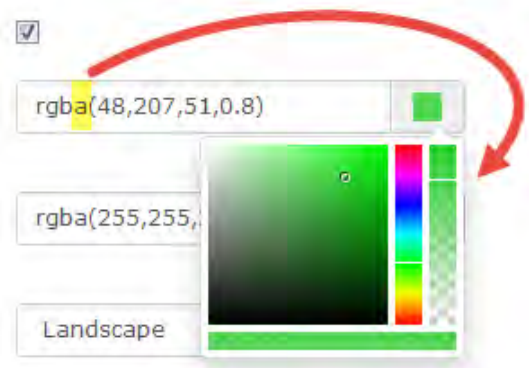
It's no longer necessary to create a custom catalog page just to avoid having the custom images representing your product categories tinted with whatever you chose for Tile Background Color. Now the admin category color picker supports RGBA color values, with a slider control, too, for manipulating alpha channel transparency:

Override Theme Colors:

Tile Background Color:

Category Label Color:

Category Tile Width:



5. Storefront: Reset and Save actions added to user profile page

The flaws in the original design of the SF9 user profile page, which instantly saved any input or edit, have compelled us to revert to its original behavior in which changes you make—including image uploads—will not be saved without your explicit click on the Save button. Or click Reset to discard any unsaved edits, thus restoring the page to the state it was in when you navigated to it.

6. Storefront Admin: Support for conditional content within email notification messages

Email notification templates now support syntax that lets you incorporate different blocks of content based on whether a given field has a value or is empty. As shown in the sample admin order notification, below, the trick is to bracket the different content that should be delivered

according to each condition with `<IfEmpty:fieldName>` `</IfEmpty:fieldName>` and `<IfNotEmpty:fieldName>` `</IfNotEmpty:fieldName>` tags:

Administrator Notifications: Set Order Message

Set text of e-mail to send to administrators for notification that an order has been placed.

From: *

To: *

CC:

BCC:

Subject:

Send As:

Body:

```

The Order <Order:OrderID> was placed by the user '<Order:UserLogin>'.

Name: <User:UserProfileFirstName><User:UserProfileLastName>
<IfNotEmpty:User:UserProfileMobile>Cellphone: <User:UserProfileMobile>
</IfNotEmpty:User:UserProfileMobile>
<IfEmpty:User:UserProfileMobile>(No cellphone number available)
</IfEmpty:User:UserProfileMobile>

<DocumentLoop>
<Document:ExternalID>: <Document:SsoLinkToPdfPreview>
</DocumentLoop>

```

To support the conditional exclusion of price-related content there are a pair of new order fields, `<Order:PriceTotalUser>` and `<Order:PriceTotalAdmin>`, that contain the value of the order price based on the “who sees pricing” user privilege. Here’s an example of how to pair these with the new conditional syntax to hide pricing only from those ordering users who never saw it when they placed their order:

```

<IfNotEmpty:Order:PriceTotalUser>You will be invoiced for
<Order:PriceTotalUser> upon shipment.</IfNotEmpty:Order:PriceTotalUser>
<IfEmpty:Order:PriceTotalUser>Aren't you special! Somebody else is picking
up the tab for this order.</IfEmpty:Order:PriceTotalUser>

```

7. Storefront Admin: New security setting to control access to Storefront APIs

Cross-Origin Resource Sharing (CORS) lets admins define trusted origins on the Internet plus the protocol required for accessing them (e.g. http vs. https). As it applies to Pageflex, CORS governs the locations from which scripts that access Storefront APIs may be executed. This new site option may be used to establish CORS controls to suit your company’s security posture. To impose restrictions, replace our default wildcard value `[*]` granting unlimited access to Storefront APIs with a comma-separated list of origins to which you want to confine such script access.

Be sure to prefix each origin in your list with the acceptable transfer protocol, as illustrated in this example:

Storefront Administrator

Activity | Users | Content | Purchasing | Administration | **Site Options** | Social Media / SEO

Site Options | **General** | Login | Localization | UI Configuration | Shopping Cart | File Upload

Configure general end-user site options.

Update Cancel

General

Order Prefix: G-

Document Prefix: D-

Deployment Code: PFSample

Order External ID: Numeric

Document External ID: Numeric

Numeric ID Offset: 1000

Other Connections

Access-Control-Allow-Origin: http://assets.pageflex.com,https://BONDJ007/M/thirdpartydata

8. Storefront API: Additional new SINI method and properties, SXI events, and sfjs API method

This version includes the following additions to the API:

New SINI method:

[ExpandFields](#)

New SINI system and user property:

[LoggedOnUserSeesPricing](#)

These are useful for extensions that generate email notifications for users of deployments that hide product pricing.

New SXI event:

[ExternalProductSearch2](#)

Updated SXI event:

[ProcessOrderListJson](#)

The ExternalProductSearch2 event improves Storefront's support for replacing its native search capabilities with custom or third-party solutions, while the updates to ProcessOrderListJson let deployers manipulate the JSON data consumed by the details modals on the Orders and Approvals pages.

New sfjs method:

[addGoogleAutocompleteToFields](#)

This method merges the most popular of our Google Services integration points with the sfjs API's granular manipulation of user-facing forms.

Complete documentation may be found online at the links above or in chapters 4 and 5 of the *Programming Reference Guide* PDF installed with the Pageflex software.

9. Storefront API: SINI getReport supports custom admin-created filters

The same custom named data export filters that you save for reuse within the admin orders page may now be accessed from an extension. (The description of [getReport](#) in the Programming Reference has been updated accordingly.)

Previously added in 9.4.2

10. Storefront: New Checkout behavior when the default address book entry is invalid

Building on the [new functionality](#) added in 9.3.0 to improve checkout step reliability and usability, we have implemented further new measures to eliminate loopholes that may otherwise permit errors that mar the checkout experience. Here's a rundown of what to expect when a user proceeds to checkout with the address book feature enabled:

- Typically, the user's shipping and payment addresses are initialized with the default address from their address book. Now if no such default has been designated Storefront will create one based on their user profile, and then validate this new entry using the rules configured for address book fields. (Whether those rules are different than validation rules on user profile fields continues to be at your discretion.)
- If the address entry fails validation the Checkout page will behave as if the address book has been disabled so that the user is shown the full set of shipping and payment fields. (Here as previously it remains the deployer's responsibility to set the validations appropriately to meet the requirements of your chosen shipping and payment providers.)
- The successful inputs in these fields are now saved as a new address book entry. This new entry is also designated as the default address, ensuring a smooth pre-validated start to any future checkout experience for this user.

11. Storefront: Draggable modals

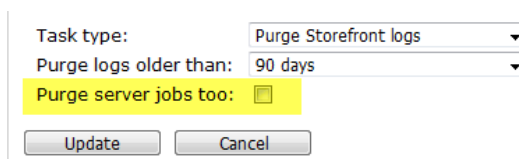
Have you ever grabbed a modal in order to see something behind it, only to have that internal Lisa Simpson voice remind you that our modals don't move? No longer: drag to your heart's content.

12. Storefront Admin: Logs capture name of admins who use impersonation

While Storefront logs have always captured when a user session is instantiated through impersonation, now these events also identify the admin account that initiated the impersonation.

13. Storefront Admin: New Scheduled Task option to purge Server jobs with purged Storefront logs

When creating a scheduled task to clean up your Storefront logs you may now also eliminate the associated Server jobs from the same timeframe with a click on this checkbox:



Task type: Purge Storefront logs

Purge logs older than: 90 days

Purge server jobs too: ☐

Update Cancel

14. Storefront API: Additional sfjs API methods

The following pair of methods have been added to sfjs to give web developers more control over setting up interactions with the shipment and payment step forms on the Checkout page:

[getShipmentIds](#)

[getPaymentIds](#)

Follow the links above to see the full description in the online *Programming Reference Guide*.

Previously added in 9.4.1

15. Server Admin: New, clean clusterbase installations default to Project Fonts

The Project Fonts folder—rather than Windows Fonts—is now the default setting for new Pageflex cluster databases. (You may change that setting, of course, but we advise against it.)

Previously added in 9.4.0

16. Licensing: New cloud license service

We switched the underlying service that provides Pageflex licenses from the cloud. All cloud licensing clients were provided with new license activation codes to work with the new service prior to the December 2020 discontinuation of the old service.

17. Storefront: Performance improvements

Do your sites experience high levels of concurrent user ordering journeys for a given product—for example, thousands of your site visitors all clicking at the same time on that shiny new thing you just released? Or do you have products on your site with scores of form controls strung together with conditional logic? If you raised your hand then you—and your users—will appreciate 9.4's storage of form definitions in a secure shared cache the first time a form page is loaded. Every user who thereafter lands on those same pages will enjoy faster form loading from the cache. For security, of course, no user data belonging to forms is ever shared via this new cache.

Additional performance enhancements have been made to the Catalog and Files pages—specifically, optimizations handling the loading of thumbnails that appear on these two pages.

18. Storefront: Security improvements

This release provides new tools to support administrators responsible for corporate data loss prevention. Specifically, Storefront now logs who initiates the following administrative actions:

- Assigning admin permissions
- Changing admin group membership
- Admin downloading of user files

Unlike other log entries, these cannot be deleted.

Additionally, a new admin access privilege has been created to control admin users' ability to download user files:

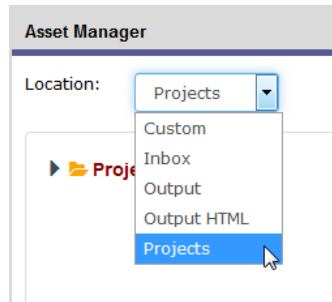
Access Category	Accessible Pages	Who can view and modify information?	Who can view information?
Order Management	Orders	GeneralAdmins	GeneralAdmins
Approval Queue	Approval Queue	GeneralAdmins	Accounting
Access to Storefront API		(Everyone)	
Access to User Files		(No one)	
Access to Account			

When an admin does not have the privilege, the data list name on the admin Orders and related pages is read-only rather than a clickable link. If such a restricted admin impersonates a user, the navigational link to that user's Files page will be removed from the end-user interface.

This release also commences the practice of encrypting IDs within URLs. Custom extensions that use the `GetThumbnail()` or `GetProof()` method will require updating to handle the new IDs.

19. Storefront Admin: Projects directory added to purview of Asset Manager

The Asset Manager feature [previously added in 9.3](#) has been expanded to encompass the deployment's Projects directory:



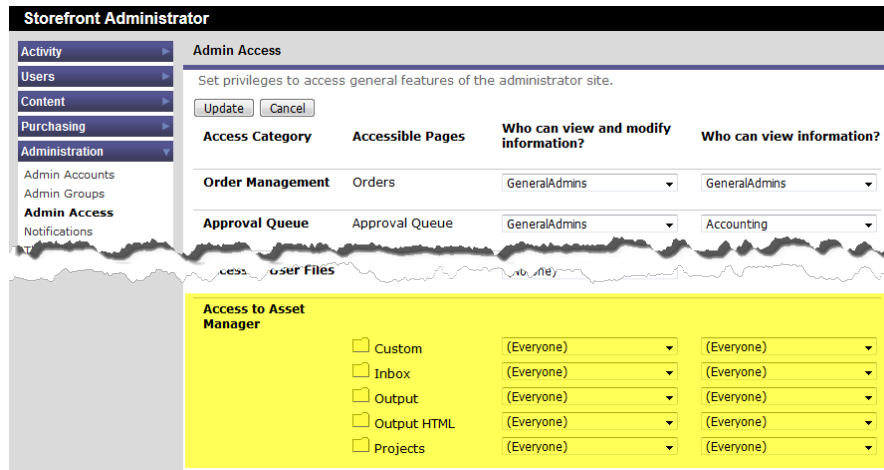
Management features applicable to the other top-level locations are available to Projects and its contents, too, albeit with some restrictions:

- The contextual right-click menu in the left-side folder navigation pane is only available for subfolders of Projects. It is absent from the top-level Projects folder itself because the sole action allowed at the top level in any of the other managed locations—uploading—is disallowed here. (For overall functionality Packager zip files containing projects must be uploaded to Storefront via the Inbox rather than via the Projects directory.)
- Subfolders of Projects cannot be cut, so that option is disabled within the folder nav pane's right-click menu. (Because projects are tracked by Storefront to maintain both live and archived product releases, cutting the underlying project folders could result in crippling errors when reconfiguring products or processing reorders.)
- Assets within the Projects hierarchy may not be renamed, so that option is not offered within the right-side file list pane. (Modifying file names could produce crippling errors.)

The direct Projects navigation link from the left sidebar remains available (you must still use it to archive projects) but as Asset Manager continues to evolve the redundancy will be eliminated.

20. Storefront Admin: More granular access privileges for Asset Manager

You can now grant access to the top-level locations within Asset Manager independently from one another:



Admins or groups with view-only permissions will be able to see the contents of that location but not be able to do anything to the files and folders that they see.

21. Storefront API: New SXI events for relocating output and responding to security events

The following events have been added to the Storefront Extension Interface:

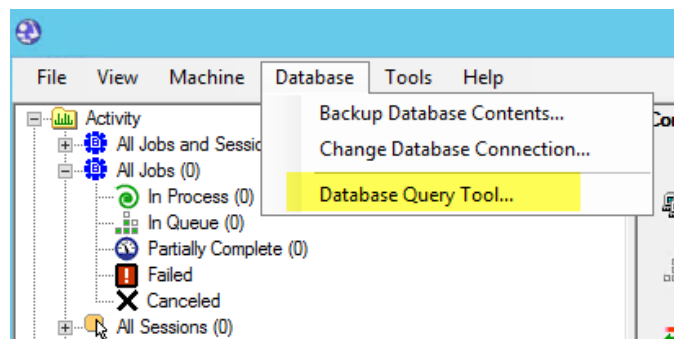
[MakeOutputDirectory Before](#)
[SecurityEvent After](#)

The first is useful for storing output files in bespoke hierarchies, or to avoid exceeding the Windows Explorer limitations to the number of files in a single folder. The second is useful for creating special notifications triggered by the admin actions newly logged by this release as described under “Security Improvements,” [above](#).

Complete documentation may be found in the “Events” section of Chapter 4 in the *Programming Reference Guide*.

22. Server Admin: New database query tool

Corporate DBAs are, understandably, busy people who cannot always be at the beck and call of Pageflex admins needing SQL access to get or set some value in the Pageflex clusterbase. We’ve added a Database Query Tool to Pageflex Server Administrator to let you accomplish such tasks without pestering (or waiting for) your DBA:



After executing a query, the following actions are available:

- Cell values can be copied with Ctrl+C. This also allows multiple selection.
- Right-clicking on the top left cell shows a menu that can copy the entire grid to the clipboard (tab-separated, per the .NET default).

For auditing purposes all queries are logged in the Windows Event log.

WARNING: Querying your clusterbase can have fatal consequences for your entire Pageflex environment if your query is not formatted appropriately so do not experiment with this feature if you aren't 100% certain of what you are doing. You may remove the option from the Server admin menu by setting HideAdminDatabaseQueryTool to "1" in PFServer's GlobalData table; create the key if it doesn't exist.

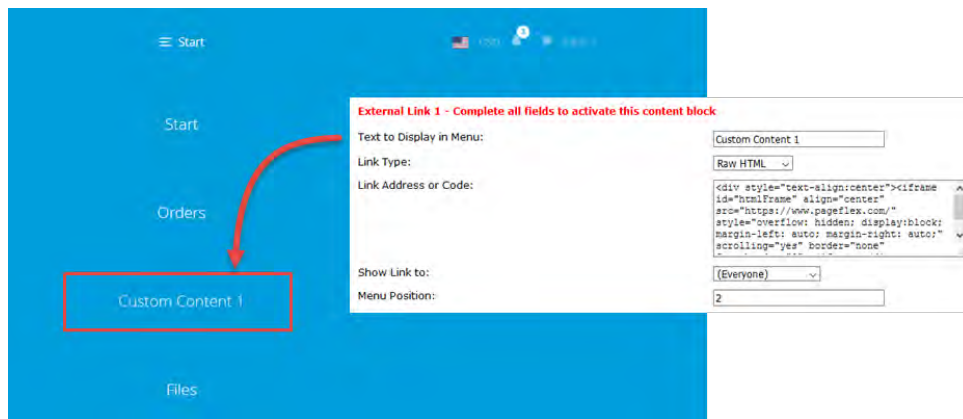
Previously added in 9.3.2

23. Storefront: jQuery 3.5.1 and AngularJS 1.8.0 updates

Web technology components integral to Storefront have been updated to their latest versions to take advantage of security improvements. Deployments must be upgraded to benefit from these changes.

24. Storefront: New External HTML Content extension

The legacy Externally Driven HTML Content extension from Pageflex Services has been replaced by a new extension, included for free in the default deployment extension bundle, specifically designed to let you manage the content of custom links added to the header "hamburger" menu introduced in version 9.



25. Storefront: Gratify your customers instantly with kit products, too

In 9.2 we [expanded the fulfillment options](#) to allow immediate download of products upon clicking the relevant "Get It Now" button within the product customization step, without requiring the customer to proceed to cart or checkout. That feature has now been expanded to include kit products, too, the parts of which are collected into a single downloadable zip archive.

26. Storefront: Progress indicator for slow-to-load PDF Previews

We know all too well how impatient web users are (we are that impatient, too). When those lengthy documents are slow to generate a PDF preview, users will see a progress indicator rather than a blank window. If they have browser settings that force PDFs to be downloaded, a "Downloading PDF" message (which you can customize, like all user-facing strings) will also be displayed.

Previously added in 9.3.1

27. *Programming Reference Guide* available as an online resource

While the *Pageflex Programming Reference Guide* shall continue to be included in our application setup kit as a PDF that is installed locally when the software is installed or updated, it is now also maintained as an [online](#) resource in a fully searchable HTML format.

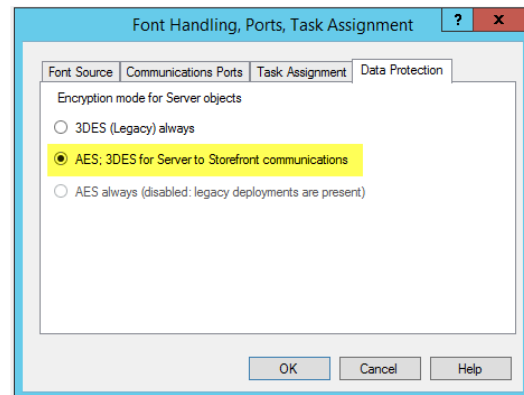
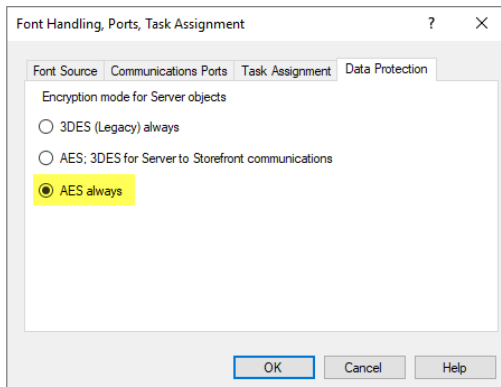
Previously added in 9.3.0

28. Studio/Server/Storefront: PNG output

It is now possible to configure bitmap jobs in Studio to output PNGs through Server and to select such PNG jobs for Storefront product previews.

29. Server/Storefront/Campaign Manager: Security improvements

We continually review our code and protocols with reference to the evolving threat landscape. This version contains several security improvements, including the adoption of AES-256 encryption for Pageflex Server configuration data and intra-cluster communication. The new encryption is enabled by default for new clean installations of this release (below left) but Storefront hosts upgraded from 9.2.x or earlier cannot use the new encryption unless all deployments have been upgraded, too. Until that has happened you should select the middle option (below right) to at least apply the new AES encryption to the Server configuration.



30. Server: Web-based queue manager

We know you Server-only customers have no reason to scan through endless pages of Storefront features so let's get this goodie out in front of your busy eyes before they wander: we've created a utility called Pageflex Queue Manager that installs to your web server. It provides a web UI for anyone with production responsibilities to perform tasks that otherwise require console access to Pageflex Server Admin: monitoring queues, cancelling or resubmitting jobs, editing command packets, viewing logs.

Pageflex Server Queue Manager

Site Administration

Log o

Cancel Selected Jobs

Delete Selected Jobs

Update Interval (in seconds): 15

Filter by Queue

Filter by Host

Filter by Status

Filter by Transaction ID

Search

Column visibility

Show 10 entries

	Transaction ID	Host	Queue	Status	Recs Submitted	Recs Processed	Pages Rendered	Project F
<input type="checkbox"/>	A0001479	CME-CM3	Jobs	SUCCEEDED	1	1	1	Simple Test
<input type="checkbox"/>	A0001480	CME-CM3	Jobs	SUCCEEDED	1	1	1	Simple Test
<input type="checkbox"/>	D00016103-4	CME-CM3	PFStorefront_CME-CM3_DocumentThumbnails	SUCCEEDED	1	1	1	BusinessCi
<input type="checkbox"/>	D00016103-3	CME-CM3	PFStorefront_CME-CM3_Previews	SUCCEEDED	1	1	1	BusinessCi
<input type="checkbox"/>	D00016103-2	CME-CM3	PFStorefront_CME-CM3_Previews	SUCCEEDED	1	1	1	BusinessCi
<input type="checkbox"/>	D00016103-1	CME-CM3	PFStorefront_CME-CM3_DocumentThumbnails	SUCCEEDED	1	1	1	BusinessCi
<input type="checkbox"/>	D00016102-2	CME-CM3	PFStorefront_CME-CM3_Previews	SUCCEEDED	1	1	1	BusinessCi
<input type="checkbox"/>	D00016102-1	CME-CM3	PFStorefront_CME-CM3_DocumentThumbnails	SUCCEEDED	1	1	1	BusinessCi
<input type="checkbox"/>	D00016101-3	CME-CM3	PFStorefront_CME-CM3_Previews	SUCCEEDED	1	1	1	BusinessCi
<input type="checkbox"/>	D00016101-2	CME-CM3	PFStorefront_CME-CM3_Previews	SUCCEEDED	1	1	1	BusinessCi

Showing 1 to 10 of 550 entries

Previous

1

2

3

4

5

...

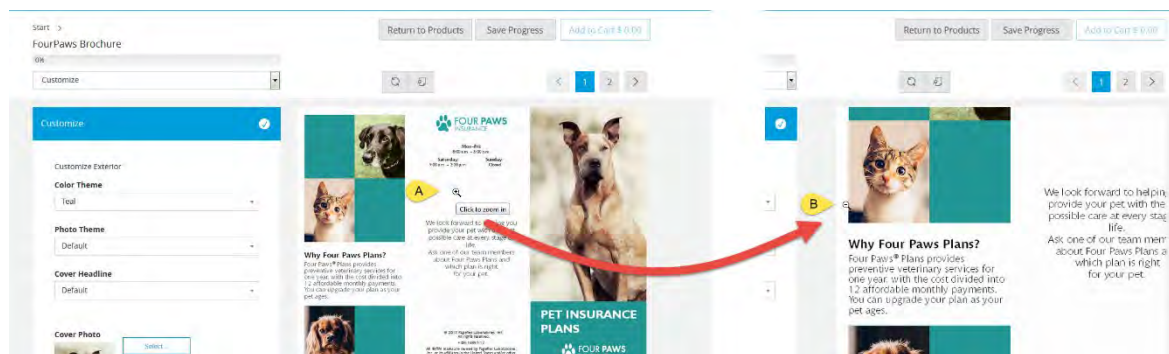
55

Next

A detailed installation, setup, and usage guide (PageflexServerQueueManagerGuide.pdf) may be found in the Pageflex\Server9\Doc folder of your host machine after upgrading to this release.

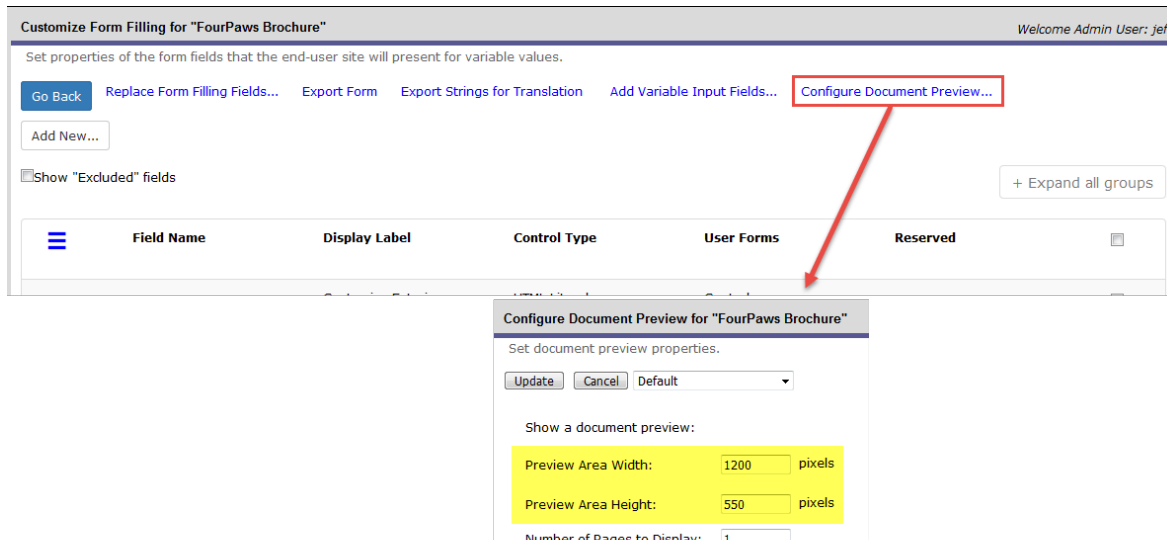
31. Storefront: Support for bitmap preview zoom

The bitmap preview displayed to users on the product customization page may now be configured on a per-product basis to support one level of magnification. If zoom is enabled, the user's cursor will change to a magnifying glass when it hovers over the bitmap (A, below left). A single click then magnifies the preview:



The original display resolution is restored when you either click the cursor over the bitmap area (B, above right) or move the cursor off of the bitmap. Pan or scroll around the enlarged image by moving the magnifying glass cursor from side to side or up and down.

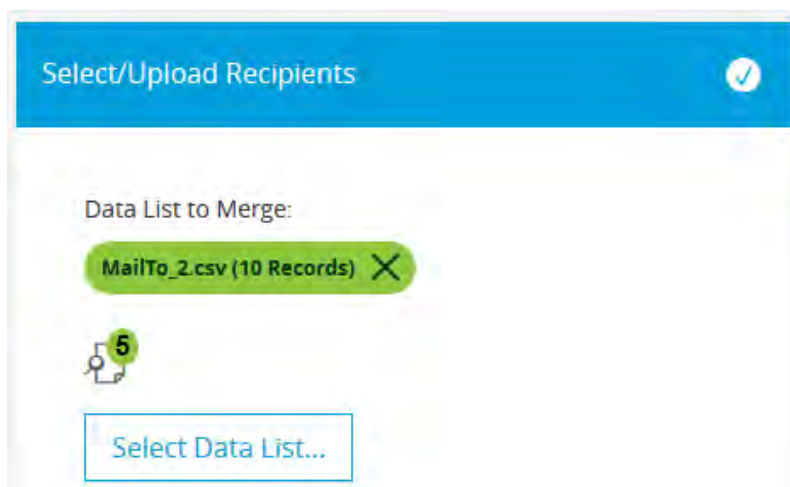
This feature is enabled by defining the bitmap preview dimensions to be larger than the area allowed, as shown in this example:



The width and height most suitable to your product will of course depend on its dimensions, the available area as determined by the layout ratio (form:bitmap), and the level of magnification you wish to give your users.

32. Storefront: Improvements to Data Merge step

For anyone who has ever discovered their data list is outdated only after it's been selected, and who wants to return the Data Merge step back to its waiting-to-be-completed state so that the product cannot be accidentally ordered with the wrong data, this one's for you: we now represent your selected data list as a "chip" within the Data Merge step so that it may be easily removed:



Notice, too, we've added a badge to the data list preview icon to identify how many records are contained within the preview PDF, which usually is just a subset of the full list.

And one more thing: when configuring the data merge step, the option to upload a data schema is now combined with a dropdown list of existing data schemas that have already been uploaded for use with other products.

33. Storefront: Improved Checkout

The Checkout page has been given a thorough overhaul for 9.3, with improvements to user experience, performance, and stability.

- **Select billing addresses from the address book (A, at right)**
No more having to always enter a billing address completely by hand—the Payment step now supports the use of the address book.
- **Space-saving Payment step (B, at right)**
When the address book is enabled the Payment step is significantly shorter than previously—the billing address displays as read-only with a pencil icon to open a modal window in which it may be edited if needed.

- **Multiple billing addresses for split payments**
If you support letting users split the order cost between more than one payment method, they may now also designate a different billing address for each split. (APIs [have been updated](#) so that your custom payment extension can leverage this, too.)
- **More guardrails to prevent users from inadvertently voiding payment**
We've improved detection of user actions that invalidate their payment choices—such as modifying a shipping method or discount code *after* acquiring credit card or fund authorization—and provide more warnings that clarify the consequences of those actions.
- **Better protection against invalid checkout errors**
Under-the-hood architectural changes help us consistently detect stale payment authorizations *before* the user clicks the Place Order button.

We've also relocated the configuration options governing split shipping, split payments, and the address book, surfacing them all in the Checkout Options tab of the admin Checkout page, instead of burying them within a link to a modal:

Storefront Administrator

Activity Users Content Purchasing **Checkout** Administration Services

Price Tables Tax Rates Funds Management

powered by **PAGE FLEX**

Checkout **Checkout Options** Shipping Step Payment Step

Configure general shipping and payment checkout options.

Update Cancel

Handling Fee

Handling: ☐ Add fixed "Order Handling" fee

Payment

Collection: ☐ Collect payment automatically when orders are completed

Authorization: ☒ Payment authorization is required for all orders

Step Suppression Options

Shipping Step: ☒ Hide shipping step if no items require it

Payment Step: ☒ Hide payment step if no items require it

Change Orders

Orders Page: ☒ Allow user to Change or Cancel Orders

☐ Always

☒ Before production status is: Printed

Shipping and Payment Options

Enable Split Shipping: ☒

TIP: Split Shipping requires the address book to be enabled.

Enable Split Payment: ☒

TIP: Split Payment requires the address book to be enabled.

Enable Address Book: ☒

TIP: Disabling the address book will also disable split shipping and split payment.

Allow editing Address Book entries: ☒

Purge orders waiting for payment authorization

Purge stale orders: ☒

34. Storefront: Support for 8.x legacy product forms

Do you have a deployment that you cannot conceive of upgrading to 9 because it contains too many products with heavily customized forms? This feature may compel you to reconsider: now with a much more modest amount of effort you can import products from Storefront 8.x and use them "as is" within an up-to-date Storefront 9 site. Here's how:

- Create a product metadata field titled "EnableLegacyEditing" configured as shown below:

Storefront Administrator

Activity | **Users** | **Content** | **Purchasing** | **Administration** | **Services**

Projects
Categories
Products
Asset Manager
Global Library
Metadata Fields

powered by
PAGEFLEX

Product Metadata Field Definition

Set properties of the selected field.

Translation:

Name and Use

Field Name:

On User Forms: as which is

On Admin Forms: as which is

Control And Options

Control Type:

Display Label:

Style:

Options:

2 Items

	Display Text	Value	Help
<input type="checkbox"/>	Yes	Y	
<input type="checkbox"/>	No	N	

Default Content

Default Value:

Value:

- Import the products you want to avoid rebuilding.
- Within the new configuration page for each product set the EnableLegacyEditing value to "Y".
- Copy the Site.css (or Site.css.aspx), Background.css, and Forms.css files from the WebPages\Custom\Themes\[theme name]\CSS folder of your 8.x deployment and paste them in the CSS folder of a named theme on the SF9 site. Also copy the "images" subfolder if present.
- Set the SF9 site to use that named theme.

35. Storefront: Support for kit-specific price tables

Have you ever wished you could price a product one way for when it is ordered by itself and another way when it is ordered as part of a kit? Now you can, without resorting to associating arcane price table inputs with hidden conditional fields. The new method requires you create a product metadata field titled `__Pageflex__PriceTableWhenInKit` (note the "Pageflex" in the name has two underscore characters before and after):

To set up a product to have kit-specific pricing, locate this metadata field in the product configuration page and enter the name of the price table to be used.

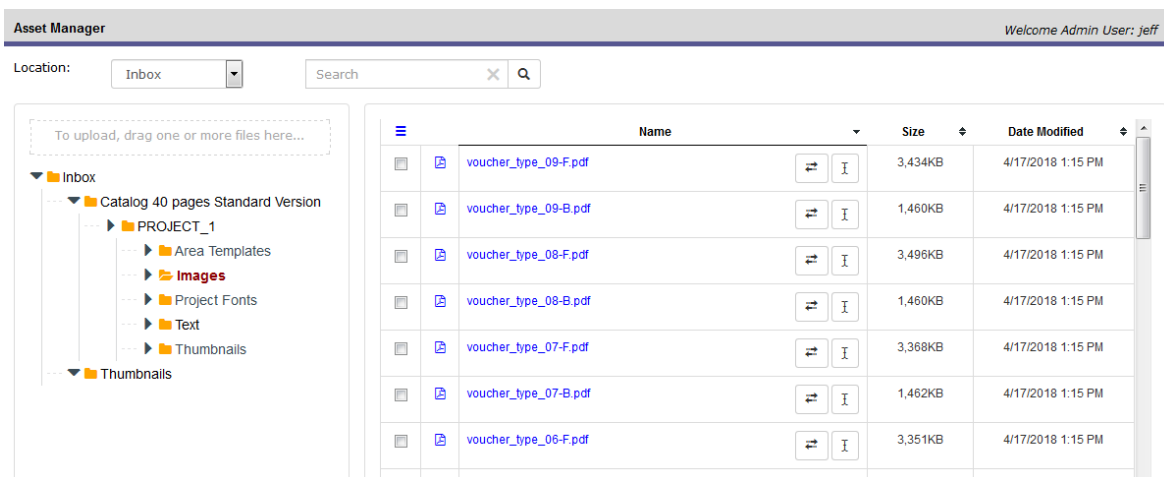
36. Storefront: Product-specific exemption for funds payment

This release extends the functionality of the [Funds Management](#) extension by giving deployers the ability to exempt specific products from being purchased with funds.

To make a product ineligible for payment with funds, locate the “Can be paid for with funds” metadata field when configuring the product and choose “No” from the dropdown.

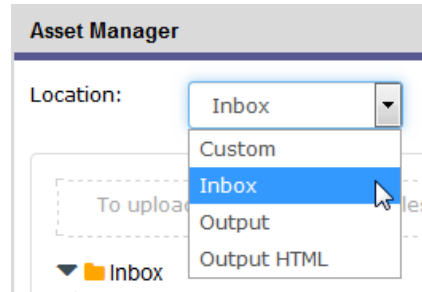
37. Storefront Admin: New Asset Management to provide control over Inbox, Output, and Custom files

Storefront now provides the means for admins to manage more of your assets from within a browser, with a UI designed to leverage your familiarity with file managers on your desktop/laptop computer:

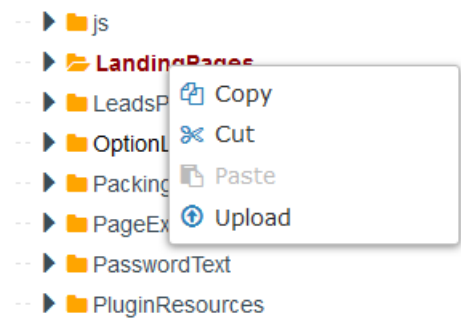


This new feature eliminates the dependency on uploading only from a server-side Inbox folder, letting you freely browse your local machine and network for whatever needs to be onboarded into your deployment. Files can be copied, cut, pasted, renamed, replaced, deleted, and downloaded. Most of those actions apply to folders, too, plus admins can create new folders in the WebPages\Custom directory to suit your deployment development or housekeeping needs.

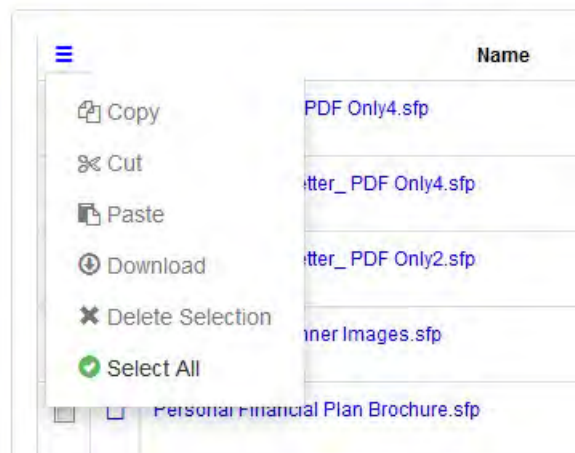
In addition to the Inbox, this feature gives you browser-based access to your deployment's Output, Output HTML, and Custom directories:



Right-clicking any folder on the left provides a contextual menu of actions applicable to that location:

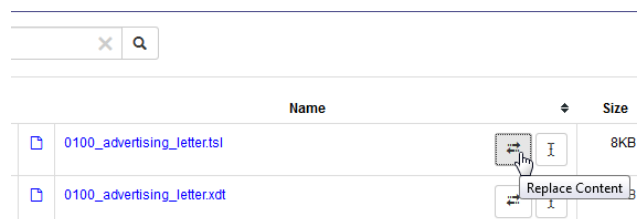


The hamburger menu at the top of the right pane offers actions applicable to selected files or subfolders within the currently selected folder:

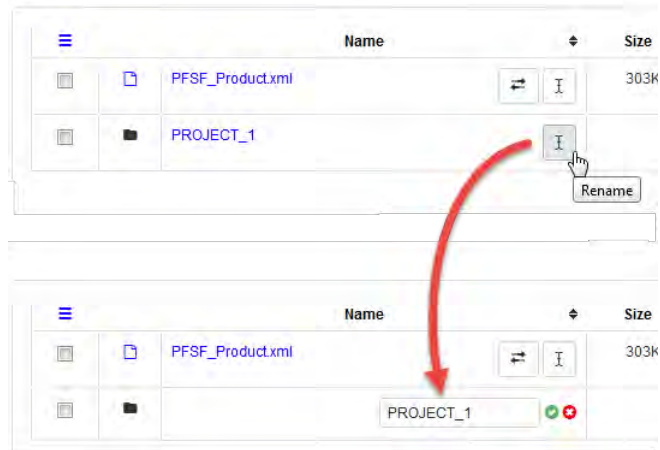


Actions are of course disabled when nothing is selected—and when the action is restricted for at least one selected item.

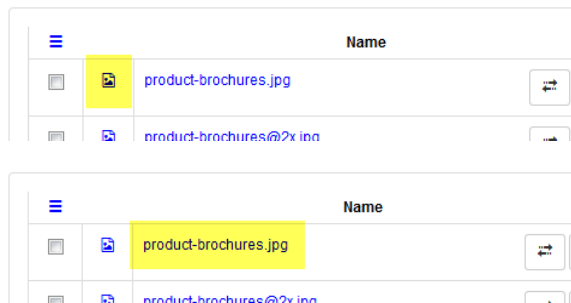
Assets within the Inbox and Custom folders may be replaced at the click of a button:



Renaming files and folders can be done in place, without modals or redirection to a different page:



Clicking the icon for any file will display it in your browser or prompt you to pick an application to open the selection.

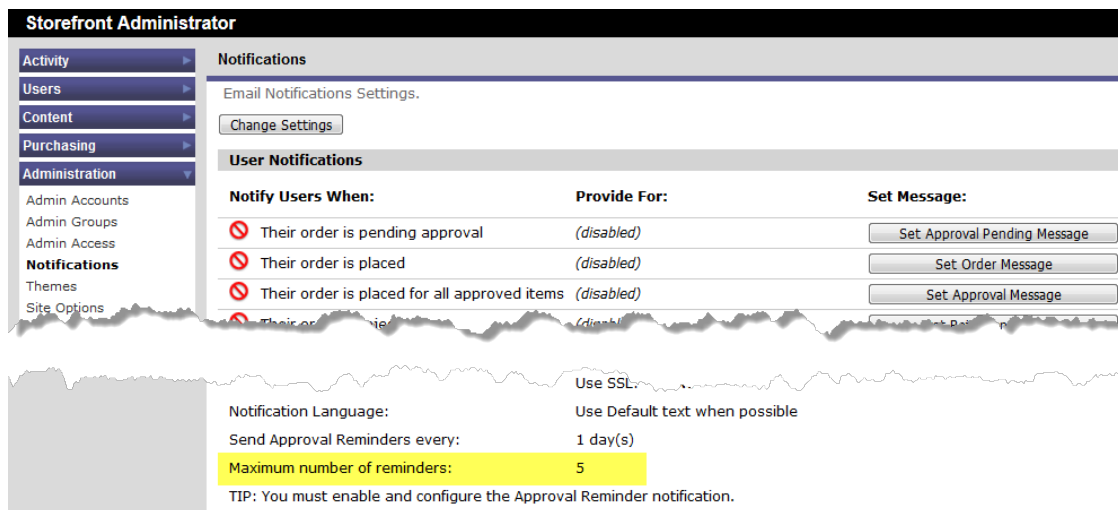


In addition to the Download option within the hamburger menu, you can initiate the download of a file or folder by clicking its name.

Use of this feature is governed by its own permission control within the Admin Access page of the admin site, so you may discreetly expose these features to clients and eliminate having to maintain an FTP site for them to drop files into their Inbox.

38. Storefront Admin: Limit number of approval reminders

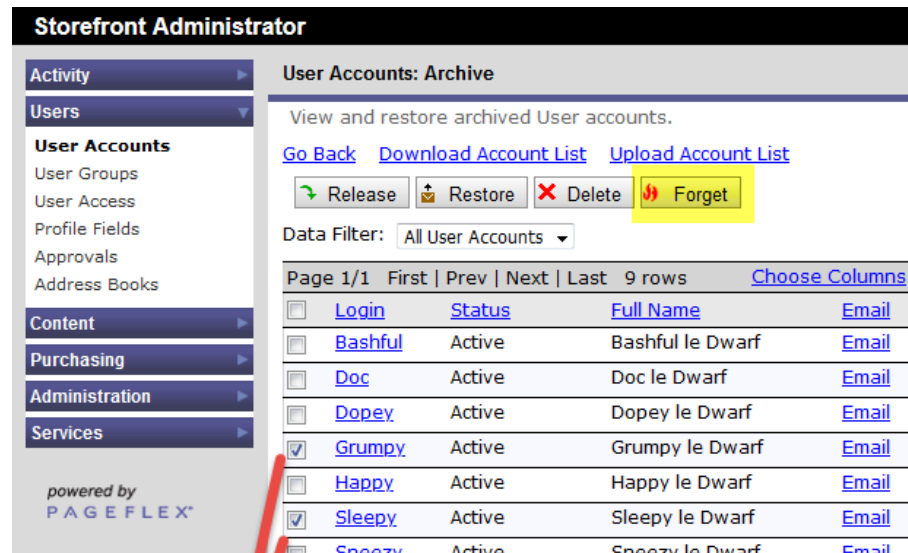
Does this scenario sound familiar? A member of a reviewer group doesn't get removed from an approval workflow before taking a long leave of absence from work. They return to a mailbox filled with hundreds of automated reminders to go review orders needing their approval. Well, that won't happen again. Our new Notifications option limiting the number of nagging reminder notifications sent to reviewers has a default value of 5:



You may of course change the value to whatever you please.

39. Storefront Admin: Data-privacy-compliant capability to forget users

This release adds a **Forget** button to the admin User Accounts: Archive page that facilitates compliance with user requests to exercise their statutory right to be forgotten, per the European Union's GDPR and similar consumer privacy laws applicable to online business:



Forgetting a user account replaces the username with a randomly assigned "user[#]" label so that order history, ledger entries, and other data essential to accurate Storefront reporting remain intact but anonymized. Every other field associated with the account has its contents replaced by a string of Xs (for alphabetic fields) or 9s (for numeric fields).

Page 1/1	First	Prev	Next	Last	9 rows	Choose Columns
<input type="checkbox"/>	Login	Status	Full Name	Email		
<input type="checkbox"/>	Bashful	Active	Bashful le Dwarf	Email		
<input type="checkbox"/>	Doc	Active	Doc le Dwarf	Email		
<input type="checkbox"/>	Dopey	Active	Dopey le Dwarf	Email		
<input checked="" type="checkbox"/>	Grumpy	Active	Grumpy le Dwarf	Email		
<input type="checkbox"/>	Happy	Active	Happy le Dwarf	Email		
<input checked="" type="checkbox"/>	Sleepy	Active	Sleepy le Dwarf	Email		
<input type="checkbox"/>	Sneezy	Active	Sneezy le Dwarf	Email		
<input checked="" type="checkbox"/>	user155	Suspended	XXXXXX XX XXXXX			
<input checked="" type="checkbox"/>	user833	Suspended	XXXXXX XX XXXXX			

By contrast, deleting a user does not keep the financial or product usage history, which leads to discrepancies in the ledger and inaccuracies in product popularity statistics.

By design there is no Undo for this Forget feature, no backdoor function known only to Pageflex Support, no algorithm that may be run in reverse to reconstruct the lost account. All the king's horses and all the king's men cannot put a forgotten account back together again.

40. Storefront Admin: More granular admin privileges

Four new permission controls have been added to the Admin Access page, letting you separately restrict the ability of admins to delete orders, delete or forget user accounts, access the Storefront APIs, or access the Asset Manager feature.

Storefront Administrator			
<ul style="list-style-type: none"> Activity Users Content Purchasing Administration <ul style="list-style-type: none"> Admin Accounts Admin Groups Admin Access Notifications Themes 	Admin Access		
	Set privileges to access general features of the administrator site.		
	Change Settings		
	Access Category	Accessible Pages	Who can view and modify information?
	Order Management	Orders	GeneralAdmins
	Approval Queue	Approval Queue	GeneralAdmins
			Accounting
	Deployment Administration	Themes Site Options Social Media / SEO Extensions Product Plugins Scheduled Tasks Database Tools	(Everyone)
	Custom Global Filters		(Everyone)
	Delete Orders		(Everyone)

41. Storefront Admin: Easily enable verbose JavaScript logging

Diagnosing JavaScript errors within Storefront's client-side product forms—yes, we're looking at you, `UserJCustomize.aspx`—is much easier in 9.3 thanks to the following new Site Option:

Storefront Administrator	
<ul style="list-style-type: none"> Activity Users Content Purchasing Administration <ul style="list-style-type: none"> Admin Accounts Admin Groups Admin Access Notifications Themes Site Options Social Media / SEO Extensions 	<div> Site Options General Login Localization UI Configuration Shopping Cart File Upload </div> <div>Configure general end-user site options.</div> <div>Change Settings</div> <div> General <div> Order Prefix: G Document Prefix: D Deployment Code: Order External ID: Numeric (ex. Gxxxxxxx) Document External ID: Numeric (ex. Dxxxxxxx) Numeric ID Offset: 1000 Default Thumbnail Format: JPEG Default Thumbnail Size (in pixels): 283 </div> <div> Email Final Output: PFStorefront_CME-CM3_FinalOutput HTML Final Output (not Email): PFStorefront_CME-CM3_FinalOutput </div> <div> Troubleshooting <div> Enable verbose browser console Javascript logging </div> </div> </div>

42. Storefront Admin: Introducing web interfaces to Pageflex Server features

We get it: opening an RDP session to your Pageflex Server console to look for additional log events reported exclusively in Server Administrator, or to adjust queues as your product mix/user behavior/cluster load changes over time is friction that your workday could do without. And if you don't have permission to RDP to the console in the first place, vital troubleshooting and periodic performance adjustments may be neglected. We are also aware that anyone who hosts a particularly heavyweight deployment—one that sees periodic spikes in usage, or uses mammoth projects that consume all available task engines when uploaded—would benefit from constraining such deployments to dedicated queues to avoid hogging Pageflex Server resources.

To eradicate these pain-points we've added the following features to the Storefront admin UI:

- **Pageflex Server job logs now available—and searchable!—via the Logs page**
A new Server Jobs tab on the Logs page of the admin site lets you can access all the logs you would have previously examined in Pageflex Server Administrator. Additionally, these logs are searchable with the same custom filtering tools provided for Storefront's own logs.

The left screenshot shows the 'Storefront Administrator' interface with the 'Server Jobs' tab selected. It includes a search filter 'Data Filter: Custom Filter' and a table of jobs with columns: ID, Transaction ID, Document, and Job Name. The table shows two rows of jobs.

The right screenshot shows a modal window titled 'Open PFServer logs and command packets in a modal'. It contains a table with columns: Completed, Log, and Cmd. The table shows two rows of logs.

- **Assign Server queues to Storefront job types in Site Options**
You can now adjust what job types go to which existing queue in Pageflex Server via dropdown controls in the new Queue Selections section under the General tab of Site Options:

Storefront Administrator

Activity | Users | Content | Purchasing | Administration | Site Options | General | Login | Localization | UI Configuration | Shopping Cart | File Upload

Configure general end-user site options.

[Change Settings](#)

General

Order Prefix:	G
Document Prefix:	D
Deployment Code:	
Order External ID:	Numeric (ex. Gxxxxxxx)
Document External ID:	Numeric (ex. Dxxxxxxx)
Numeric ID Offset:	1000
Default Thumbnail Format:	JPEG
Default Thumbnail Size (in pixels):	283
Approver Data Preview Rows	25
Enable Form Fill Autosave	<input checked="" type="checkbox"/>

Cluster Settings

UNC Path to Web Server:

Queue Selections

Bitmap Previews:	PFStorefront_CME-CM3_Previews
PDF Previews:	PFStorefront_CME-CM3_PdfProofs
HTML Previews:	PFStorefront_CME-CM3_PdfProofs
Document Thumbnails:	PFStorefront_CME-CM3_DocumentThumbnails
Product Thumbnails:	PFStorefront_CME-CM3_ProductThumbnails
Print Final Output:	PFStorefront_CME-CM3_FinalOutput
Email Final Output:	PFStorefront_CME-CM3_FinalOutput
HTML Final Output (not Email):	PFStorefront_CME-CM3_FinalOutput

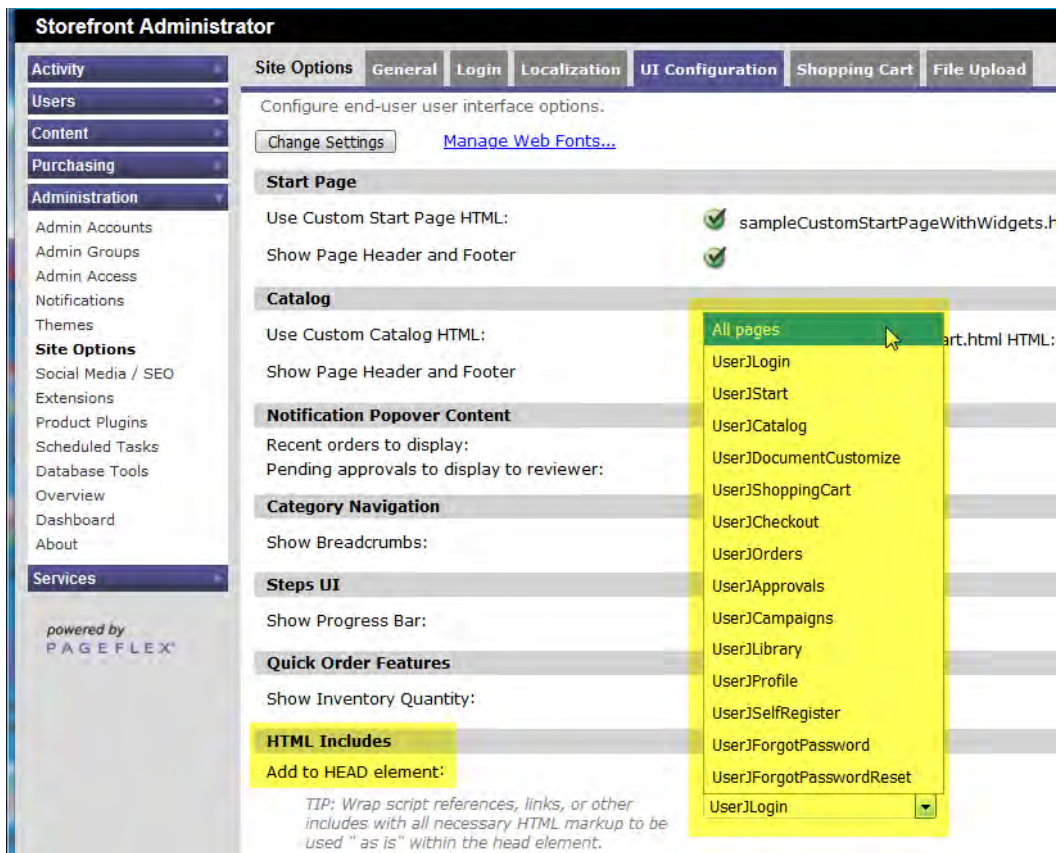
Troubleshooting

Enable verbose browser console Javascript logging: ☒

43. Storefront Admin: Page-specific HTML Includes

Version 9.0 [included a UI feature](#) for easily incorporating custom code within the HTML header of the Storefront client-facing pages. We've enhanced this capability to allow site developers to more

narrowly target their custom includes within the headers of individual pages in addition to site-wide includes that will load on every page.



44. Storefront API: New SXI events to insert content into list views via new HTML inserts

In simple web design terms the Shopping Cart, Orders, and Approvals pages are all list views. The item- and order-level “cards” comprising those lists, along with accompanying modals that display order and approval details, have now been engineered to be replaceable components, akin to the [widgets](#) we introduced for custom Start pages. This lets you to design and build your own card or modal template that includes more (or different) information than our default cards and modals.

Like Storefront’s existing HTML inserts, this feature is triggered on the client browser page load event when an HTML file with one of the following five reserved names is found in the WebPages\Custom\Pageflex_Inserts folder of your deployment:

```
Page_ShoppingCart_Card.html
Page_Orders_Card.html
Page_Orders_Modal.html
Page_Approvals_Card.html
Page_Approvals_Modal.html
```

Custom cards and modals use new SXI events [ProcessDocumentListJson](#) and [ProcessOrderListJson](#) to acquire the array of data from which you create the content of your insert. Complete documentation of the new API methods may be found in the “Events” section of Chapter 4 in the *Programming Reference Guide*.

45. Storefront API: Updated SXI methods to accommodate new split payment feature

Prior to 9.3 only a single billing address was permitted per order even when payment was split between two payment methods. Now that multiple billing addresses [are allowed](#), there are three new SXI payment processing methods:

If you used this	Replace it with this
AuthorizeTransaction	AuthorizeTransaction2
DelayedCapture	DelayedCapture2
VoidTransaction	VoidTransaction2

Additionally, API GetValue calls from custom payment extensions using the legacy OrderField method for obtaining billing information should be updated to use PaymentField—

```
Storefront.GetValue("PaymentField","PaymentAddress1",<payment id>);
```

—instead of Storefront.GetValue("OrderField"," PaymentAddress1",<order id>); used previously. (The legacy OrderField convention will continue to work if split payment is not enabled, or if your orders have only a single payment method.)

Complete documentation of the new API methods may be found in the “Payment Processing Methods” section of Chapter 4 in the *Programming Reference Guide*.

46. Storefront API: Additional new SINI methods and properties, SXI events, and sfjs API methods

In addition to the HTML insert and payment processing improvements highlighted above, the SINI, SXI, and sfjs APIs have all gained new capabilities variously related to product categories, user groups, data list preprocessing, custom steps, manipulation of fields and field options, date and time pickers, step navigation, and more.

New SINI methods:	New SINI order property:
AssignProductCategoryIDs	IsDownloadOrder
GetProductCategoryObjects	
CreateUserGroup	
MakeOutputDirectoryForDocument	

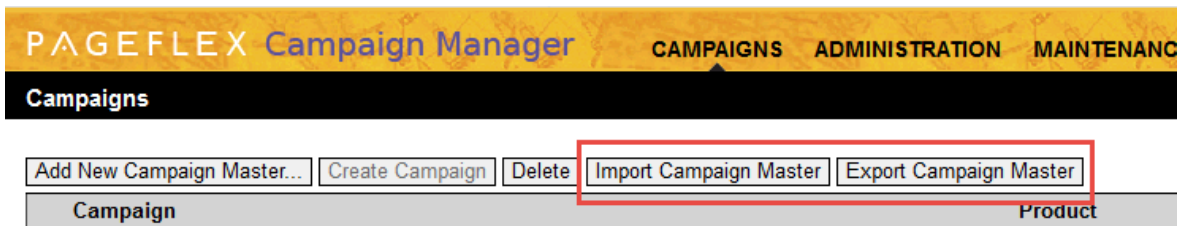
New SXI events:	New shared class:
CallExtensionForClient	CustomStep
DataListSubmit_Before	
InsertCustomEditingStep	
OrderPlace_DownloadNow	
UserAssetUploadValidate2	

New sfjs methods:		
disableField	revertFieldOptionToOriginalLabel	keepStepOpen
enableField	findOptionIndexForFieldByKeyOrVal	watchStep
disableFieldOptions	getFieldObject	listenForDataListChange
digestScopeAnd	changeFieldType	setCharLimit
enableFieldOptions	gotoNextStep	setCharLimitWithoutDisplay
hideFieldOptions	gotoPreviousStep	setCustomStepValidity
showFieldOptions	gotoStepById	validation
renameFieldOptionLabel	gotoStepByIndex	

Complete documentation for everything above may be found in Chapters 4 and 5 of the *Programming Reference Guide*.

47. Campaign Manager: Export & import campaign masters

You can now easily repurpose campaigns across your Campaign Manager deployments with this feature:



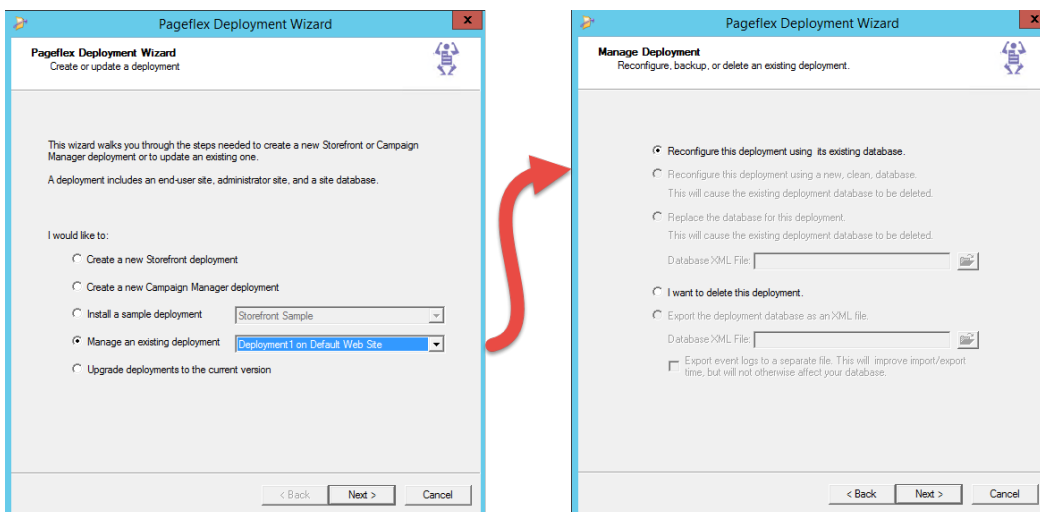
After importing a campaign master, there are two additional steps to complete the process:

- Reassign your Campaign Job Queues, as they are changed to “unspecified” upon export.
- Update the configuration of your Microsite to apply the correct Host Name for the new deployment environment, as the import retains the Host Name of the original export environment (updating the Host Name also updates the Base URL for the test data list and the links for Tracking Site locations, which otherwise will point back to the environment from whence the export came).

Also please note that by design exports exclude any Campaign Group affiliations, as they are not applicable across different campaign deployments.

48. Deployment Wizard: Continue to manage legacy deployments after upgrading to 9

While we remain strongly in favor of deployment upgrades—we want you and your customers to be able to benefit from the features and fixes we continually release, after all—we also know that upgrading some deployments is simply unrealistic for either business or technical reasons. So we have altered the Deployment Wizard to let you continue managing legacy deployments—reconfiguring them when passwords need to be reset, or deleting them when they are finally obsolete—even after upgrading your overall Storefront cluster to 9.3.x:



Previously added in 9.2.2

49. Storefront: Kit thumbnail improvement

The single “group photo” thumbnail representing kit products in both the shopping cart and checkout pages has been upgraded to a carousel of thumbnails for each part within the ordered kit. The carousel omits any item that has been removed from the kit (by the ordering user having zeroed out the quantity during the customization step).

Previously added in 9.2.0

50. Storefront: Special predefined dynamic categories

The dynamic category feature [introduced in 9.0](#) has been enhanced with two predefined filters to complement the original custom keyword filter. The first predefined option, “Newest products,” automatically finds the *N* most recently released items within your catalog, while the second option, “Most popular products,” automatically finds *N* items that have been ordered most frequently, where *N* is whatever you enter in the “Number to display” field when configuring any category to have dynamic content:

Member Collection Rule:

Newest products

Number to display:

0

Manual product assignments to this category will be ignored.

Member Collection Rule:

Most popular products

Number to display:

0

Most popular products over the :

last month

last 2 months

last 3 months

last 6 months

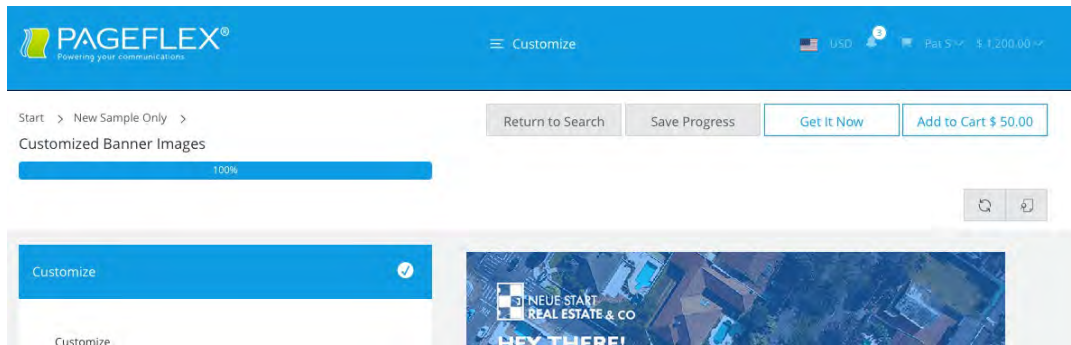
last year

category will be ignored.

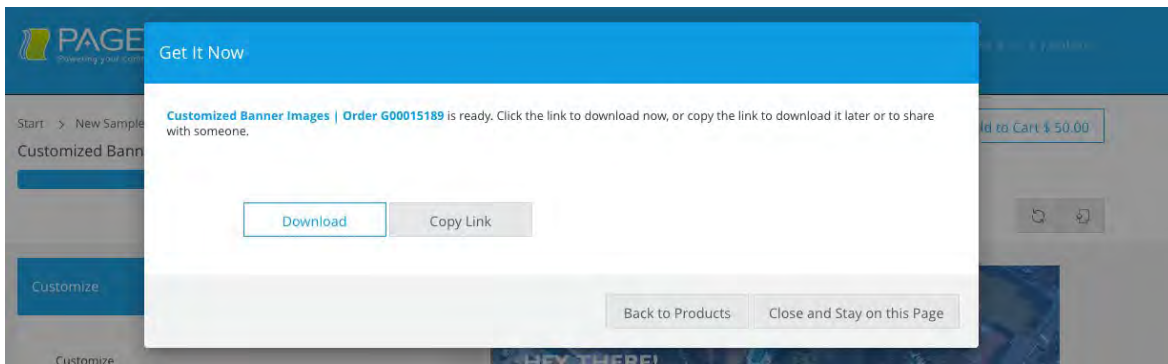
Update Cancel

51. Storefront: Gratify your customers instantly with more full-featured product downloads

In 9.1 we [introduced fulfillment options](#) enabling users to download final output-quality PDFs from potentially everywhere along the customer journey, from catalog to cart to after checkout. Now in 9.2 the feature has evolved to make these downloads full-fledged orders so that you may offer your users even more condensed workflows in situations where payment is either irrelevant or only needed when there are additional fulfillment steps. Downloads so configured produce a completed order when the user clicks the relevant “Get It Now” button within the product customization step, without requiring the customer to proceed to cart or checkout:



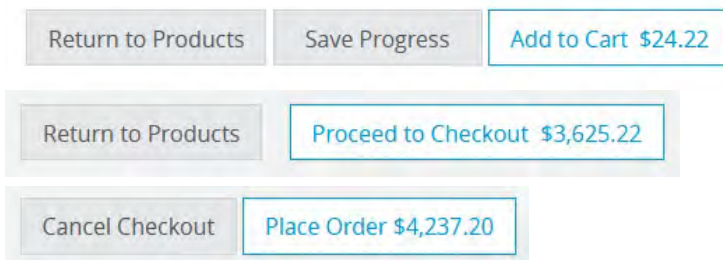
Users are also provided a button to copy a public link to the download for sharing to external vendors, co-workers, clients, or other interested parties:



Eligibility for this accelerated workflow has also been expanded to encompass all product types other than kits and campaigns.

52. Storefront: Improved price preview throughout the ordering workflow

Price totals are now embedded in the label of the Add to Cart, Proceed to Checkout, and Place Order buttons—



—providing clear and constant point of pricing reference for the ordering user.

53. Storefront: Interface support for item-level shipment tracking

The Orders page and its Order Details modal have been enhanced to display links to shipping carrier tracking URLs at the level of individual items within an order. If you fulfill items from different locations or if the user has chosen to split their shipment, you can provide them with the appropriate item-level links as shown below:

June 19, 2019 8:16 PM

G00015046

In Process

58-ft Alden Gaff Schooner (1930) [Track this item](#) **\$ 898,874.45**
Total Price

[View details](#) [Reorder](#)

The appearance of this link depends upon the addition of a form field to the relevant product's Options step with the reserved name **DocShip_TrackingNumberLink**.

Options Set: (Custom)

Add New...

☒ Show "Excluded" fields

Field Name	Display Label	Control Type
Instructions	Special Instructions	Multiline Text
PrintingQuantity	Quantity:	Dropdown List
Custom_options	Custom options:	Dropdown List
DocShip_TrackingN...	DocShip_TrackingN...	Single Line Text

Name and Use

Field Name: DocShip_TrackingNumberLink

On User Forms: Include as HTML Control which is Always visible

On Admin Forms: Same as on User Forms

Control And Options

Control Type: Single line text

Display Label: DocShip_TrackingNumberLink

Style: (Default)

Default Content

Default Value: Same for all users

Value: www.ups.com

Validation:

Once a tracking URL has been obtained from your parcel carrier after shipment occurs just edit the ordered item details while processing the order in your deployment admin site and paste the URL link into this reserved form field.

Resources

Data List: (None)

Printing Options

Special Instructions

Quantity: Ten

Custom options:

DocShip_TrackingNumberLink enter your tracking URL here

Event Logs

Page 1/1 First | Prev | Next | Last 4 rows

Event ID Event Category Location Name Event Date/Time External Doc

54. Storefront: Sample custom site headers

We've included a pair of sample custom header files to provide a foundation for website developers wanting to further tailor their deployments to fit client requirements. Our samples illustrate

- An alternative to our default hero-sized popover of secondary navigational links that opens when the hamburger menu icon is clicked, to wit, how to implement a horizontal bar of always-visible navigation buttons:

 (800) 555-4444
help@example.com

Search products

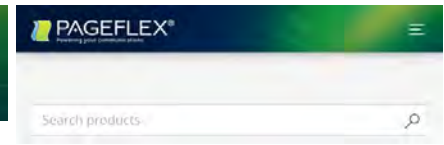
START ORDERS FILES USD  Fred M

- How to incorporate a catalog search feature within the header
- How to have a background graphic or image that spans the width of the page without compromising on the responsive design, e.g.

Desktop:



Tablet:

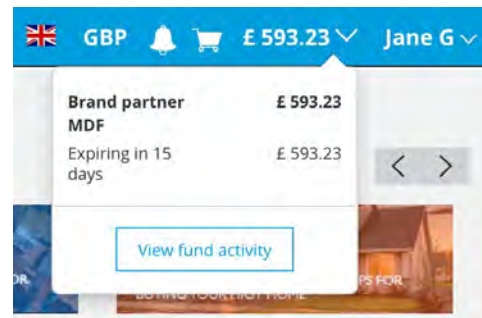


These UserSiteHeader.html examples are delivered with a new sample deployment. To see them in action select the “NegativeSpace” or the “SampleAlternateHeader” themes.

55. Pageflex Services: Funds Management replaces BudgetPlus

The legacy BudgetPlus extension has been replaced by a new Funds Management extension that works in tandem with a new Funds Management engine running as an external web application. The external web app provides a new platform for external integrations to third-party systems of record for corporate and marketing fund data, while the new extension offers superior integration to both end-user and admin UIs within Storefront.

A user’s available funds balance, for example is integrated into both the site header—



—and the payment portion of the checkout page:

Split Payments

Total price: CA\$ 64.10 (actual value \$ 50.00)

Method of Payment

Brand partner MDF

Funds available: CA\$ 1282.05 (actual value \$ 1000.00)

Max funds usage: CA\$ 32.05

Amount

CA\$ 32.05

(billed as \$ 25.00)

Method of Payment

Purchase Order

Amount

CA\$ 32.05

(billed as \$ 25.00)

The calculations automatically performed within the checkout page are based on allocation rules defined by the admin:

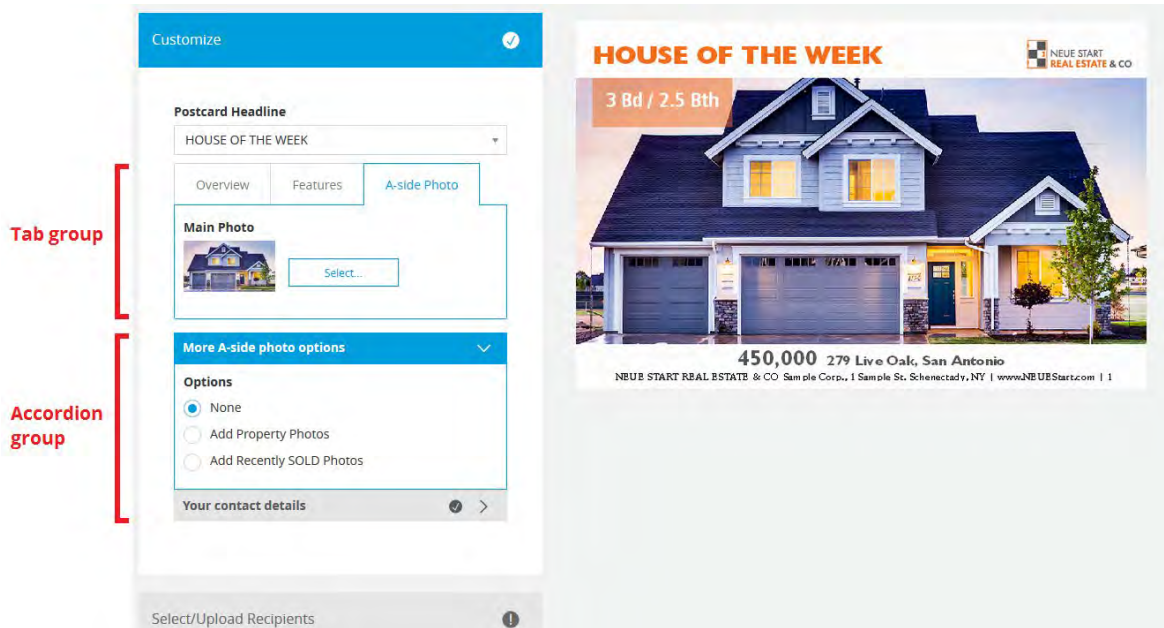
Please contact Pageflex Sales (sales@pageflex.com) for pricing.

The screenshot shows the 'Fund Properties' configuration window. It includes a toggle for 'Active', fields for 'Name' (Marketing fund) and 'Description', and a section for 'Default values for new allocations'. This section contains input fields for 'Starting balance' (500), 'expiring after' (5), and a unit selector (days). There is a checkbox for 'Replenish automatically after expiration'. The 'Spending cap' is set to 0, with a frequency of 'every 30 months'. The 'Maximum % of order total eligible for funds' is set to 100. At the bottom, there are checkboxes for 'Exclusions - Shipping', 'Handling', and 'Tax', all of which are currently unchecked. 'Close' and 'Save' buttons are located at the bottom right.

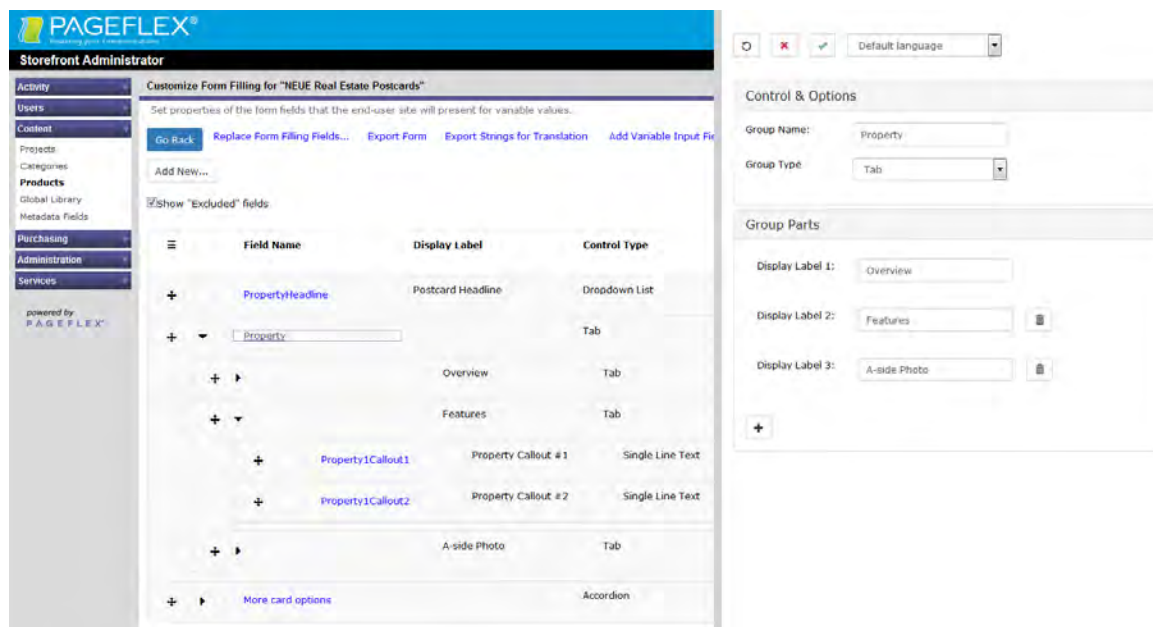
Previously added in 9.1.0

56. Storefront: Tabs and accordions

There is now native support for creating tab and accordion groups within user-facing forms. These new controls are available for use in the customization step, options step, user profile page, self-registration page, and address book entries.

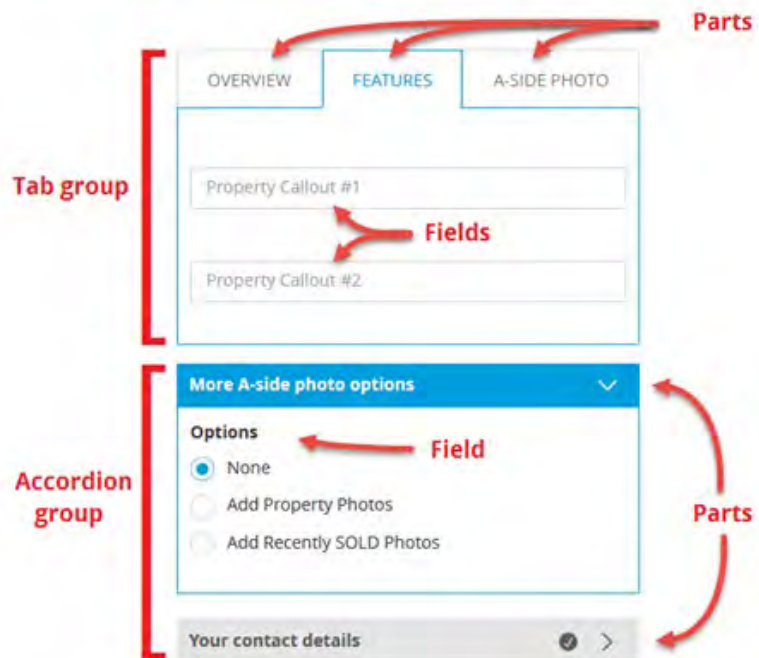


Administrators will find the configuration options for both these new group control types as well as all previous form fields conveniently accessed within a drawer that slides out from the side of the configuration page for the relevant form:



To begin using these new group form controls it is helpful to keep in mind the following facts about how these controls are intended to behave:

- A group must have one or more parts--empty groups are not allowed. When displayed on the user-facing form, only one part of a group is open for viewing at a time. This behavior is most recognizable with tabs. For accordion groups, opening one accordion part closes the previously open accordion part. If you want a form on which all the accordions may be open at the same time, you want a series of accordion groups containing one part each, rather than one accordion group containing a series of parts.
- Parts contain one or more fields, as shown at right.
- Fields on the Storefront admin form configuration page may be dragged from outside a group to inside a part—notice how an empty part expands when you’ve correctly hit the drop target—and vice versa.
- Fields can also be dragged from one part to another, even if the target part is in another group. Parts must be open—notice the open/close arrow next to the grab handle—in order to receive a field; if you drag a field onto a closed part it snaps back to where it came from.
- Parts may be dragged up and down within a group. Parts may also be dragged from one group to another UNLESS the part being dragged is the last part within a group. Since groups cannot be empty, the last part in a group cannot be removed.
- The “hamburger” icon at top left of the table on the admin form configuration page opens a menu with actions that apply to the current set of rows selected within the table.
- You can select multiple fields by clicking the checkboxes at the right end of each row. Multiple selections are only used by actions in that hamburger menu; you cannot drag multiple selections.
- Choosing **Group Selection** from the menu will create a new group (either a set of tabs or a set of accordions) with one part, and all the selected fields will be placed in that part. Use the + icon within the group configuration drawer to add additional parts. Then use drag-and-drop to move fields from the first part to those other parts.
- Use the **Add New...** button above the table to create an empty group and empty parts and then fill those parts with fields via drag-and-drop, but as a practical matter if you already have existing fields then use the **Group Selection** menu option to more quickly start constructing your group.



It is helpful to think through the design of your form before creating groups. For example, if you want a group of three tabs in which the last tab contains more fields than the others, use **Group Selection** to put all the fields into part 1 of a new group, use the + button to add parts 2 and 3, rearrange the parts via drag-and-drop, and only then start rearranging the fields within the parts. When done this way most of your fields will be where you want them, and you will have fewer fields to drag out of your new part 3 into the other two parts.

57. Storefront: Block bots with reCAPTCHA

You can now automatically include Google reCAPTCHA on your sign-in page to keep robots from abusing your Storefront:

The screenshot shows a sign-in page titled "Please sign in". It has two columns. The left column is for "Returning user? Welcome back:" and contains fields for "User Name", "Password", a "Remember me next time" checkbox, and a "Forgot password?" link. The right column is for "New user? Enter a new username and password:" and contains fields for "User Name", "Password", and "Confirm Password". Both columns have "Sign in" and "Continue" buttons respectively. At the bottom, there is a checkbox labeled "I'm not a robot" which is highlighted by a red arrow. To its right is the reCAPTCHA logo and a link to "Privacy - Terms".

The ever-evolving machine learning behind this feature is a Google product, so as a prerequisite you must sign up for the Google reCAPTCHA developer API and register your website to obtain an API key pair to access the service (free of charge as of this writing). Enter “get recaptcha v2 api keys” in your favorite search engine to get started. Once you have obtained your Site Key and Secret Key, enter them under the General tab of admin Site Options, highlighted below:

The screenshot shows the "Storefront Administrator" interface. The left sidebar contains a menu with items like Activity, Users, Content, Purchasing, Administration, Site Options, Social Media / SEO, Extensions, Product Plugins, Scheduled Tasks, Database Tools, Overview, Dashboard, About, and Services. The "Site Options" tab is selected, and the "General" sub-tab is active. The main content area shows configuration options for general end-user site options. The "General" section includes fields for Order Prefix, Document Prefix, Deployment Code, Order External ID, Document External ID, Numeric ID Offset, Default Thumbnail Format, Default Thumbnail Size, Approver Data Preview Rows, and Enable Form Fill Autosave. The "Units" section has a Weight dropdown set to "Ounce (oz)". The "Site Analytics" section has a Site Analytics Code field with an "Add" button. The "Email Generation" section has a Web Server URL Prefix field set to "http://123.456.78.9:80". The "Google Services" section is highlighted in yellow and contains the "Enable Google reCAPTCHA" checkbox (checked), and fields for "Site Key" and "Secret Key".

58. Storefront: new prototype custom Start page with widgets

As [previously described, below](#), Pageflex 9 introduced an admin configuration control to designate a custom Start page that is separate from the catalog page. We're now including a new example of a custom Start page HTML file demonstrating the use of widgets—a form of HTML insert designed to deliver discreet functionality within a fully responsive container on the page. Here is how this example appears:

The screenshot displays the Pageflex 9 custom Start page. The header is blue and contains the Pageflex logo, a 'Start' button, and user information (USD, Pat 5). The main content area features a large banner image of a canyon with the text 'Custom Start Page! This landing page can be changed in admin UI options.' Below the banner is a search bar. The page is divided into several sections: 'ORDERS IN PROGRESS (6)' with a table of orders, 'PENDING ORDERS (0)', 'COMPLETED ORDERS (1)', 'Profile' with user details for Pat Sampleton, 'In Progress' with progress bars for 'NEUE Real Estate Postcards' and 'Pando Platform', 'Cart' with a message 'You have no items in your cart at this time.', 'Contact Us' with phone and email information, and 'Pending Approvals' with a message 'No Approval Items at this time.'

Order #	Items	Order date ^	Total
G-PFSample-00001189	This is a hosted PDF	6/18/18	\$ 3.58
G-PFSample-00001186	2 Items	6/18/18	\$ 17.17
G-PFSample-00001119	2 Items	5/25/18	\$ 20.80
G-PFSample-00001117	3 Items	5/25/18	\$ 17.17
G-PFSample-00001101	2 Items	5/23/18	\$ 8.22

You will find the new example file (sampleCustomStartPageWithWidgets.html) in the WebPages\Custom\StartPages directory of any new or updated Storefront sample deployment.

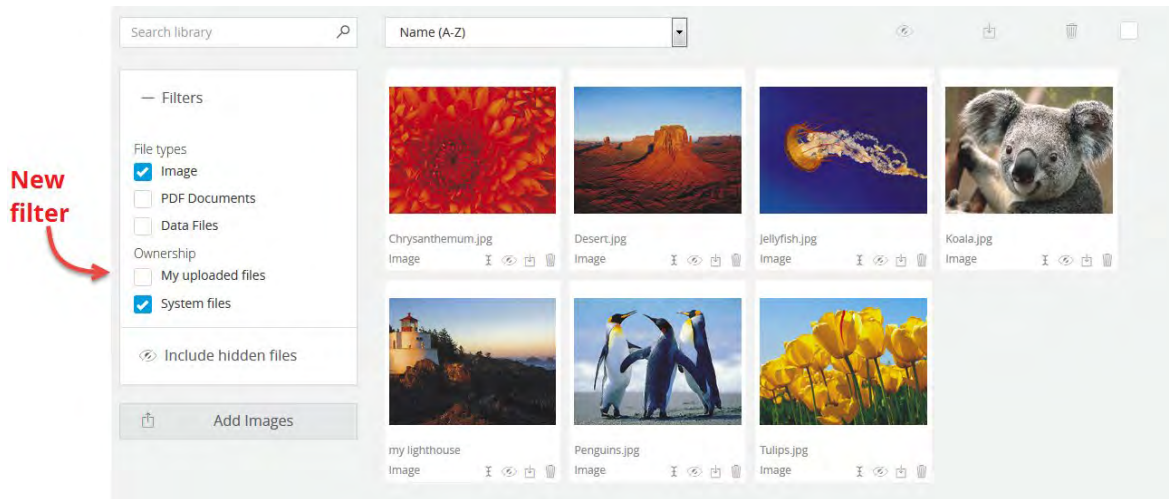
The file showcases eight of the 23 prototype Widgets included with the sample deployment. Eleven of these prototypes are fully functional as delivered; these may be found in the deployment's WebPages\sfassets\utility_widgets directory. The remaining 12 require some degree of editing to tailor their content to be relevant to your Storefront; these are in its WebPages\Custom\widgets directory. Here's a summary of the full set:

- 1 **ApprovalWidget.html**
Shows pending approvals, if you are an approver.

- 2 **BannerWidget.html**
Static banner, driven by JSON data loaded from Custom\WidgetData\BannerWidget.json.
- 3 **BitcoinWidget.html**
Displays data pulled from two different public APIs.
- 4 **CartWidget.html**
Shows what is in the current use's cart. Provides price and quantity details.
- 5 **CategoryCarousel.html**
Displays categories within a carousel rather than in the standard grid of the Catalog page. As a prerequisite you must configure custom thumbnail images for your categories.
- 6-7 **CategoryMenuWidget.html** and **CategoryMenuWidget - LazyLoad.html**
Examples of building a recursive category menu as a widget. The lazy load version loads categories as they are browsed, which is particularly suited to catalogs comprising thousands of categories.
- 8 **ContactWidget.html**
Static widget, drive by JSON data loaded from Custom\WidgetData>ContactWidget.json.
- 9 **EmptyWidget.html**
The most bare-bones example of a widget as we define it. Can be used as a template.
- 10 **FeaturedProductWidget.html**
Displays products configured with a "FeaturedProduct" metadata field value equal to "yes".
- 11-15 **GraphWidget.html** and **GraphWidget2.html** through **GraphWidget5.html**
Five different chart types for visualizing data.
- 16 **InProgressWidget.html**
Shows items in progress for the current user.
- 17 **LibraryWidget.html**
Example of getting data directly from the Storefront global asset library.
- 18 **NewsWidget.html**
Pulls news data from an external API and displays articles with an image, link, header and subtext.
- 19 **OrderWidget.html**
Shows the current user's orders.
- 20 **ProfileWidget.html**
Pulls profile data about the current user.
- 21 **SearchWidget.html**
Uses the same search as the catalog to return product images and links.
- 22 **StorefrontMenuWidget.html**
Example of rebuilding the main Storefront menu in a widget.
- 23 **VideoWidget.html**
Example of a carousel of video playback links from both local and external sources, the contents of which are defined by JSON data loaded from Custom\Widgets\VideoWidget\VideoWidget.json.

59. Storefront: Ownership filter added to Files

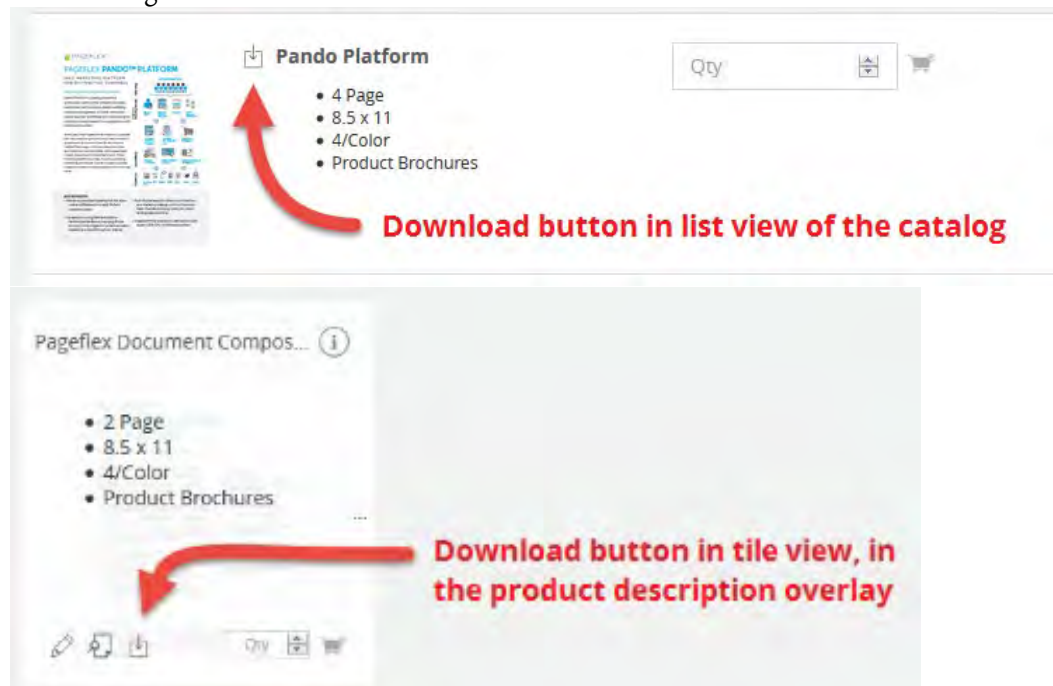
The Files page now has a filter to let users hide or show files based on whether they were uploaded by the user or provided by the site owner:



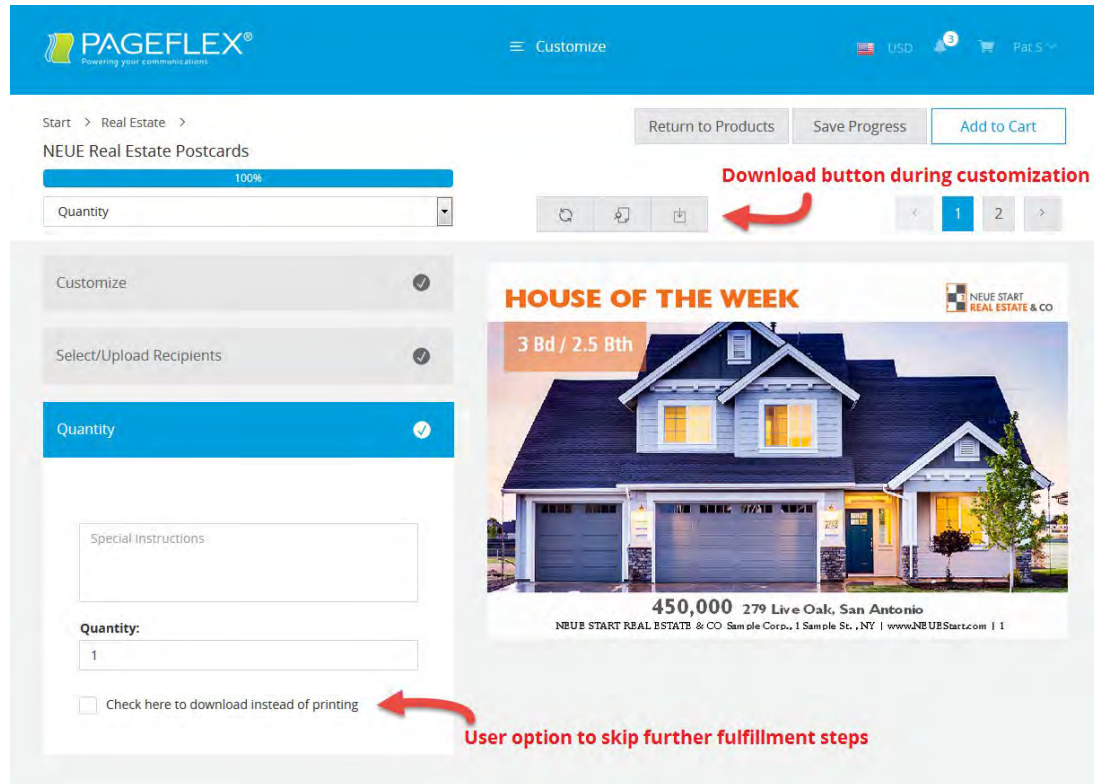
60. Storefront: Download PDFs of products conditionally and everywhere

A pair of new fulfillment options have been added to 9.1:

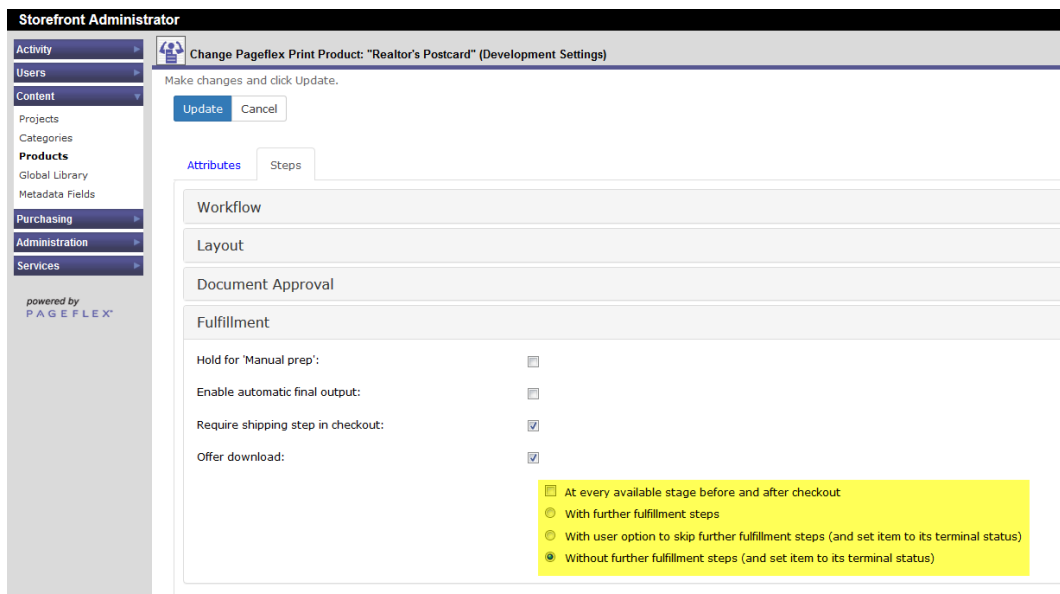
- Allow downloading final PDF output at every available stage of the ordering workflow before *and* after checkout. For Hosted PDF products this means downloading can occur from catalog to cart—



—while for variable documents this means downloading can occur during customization and in the cart.



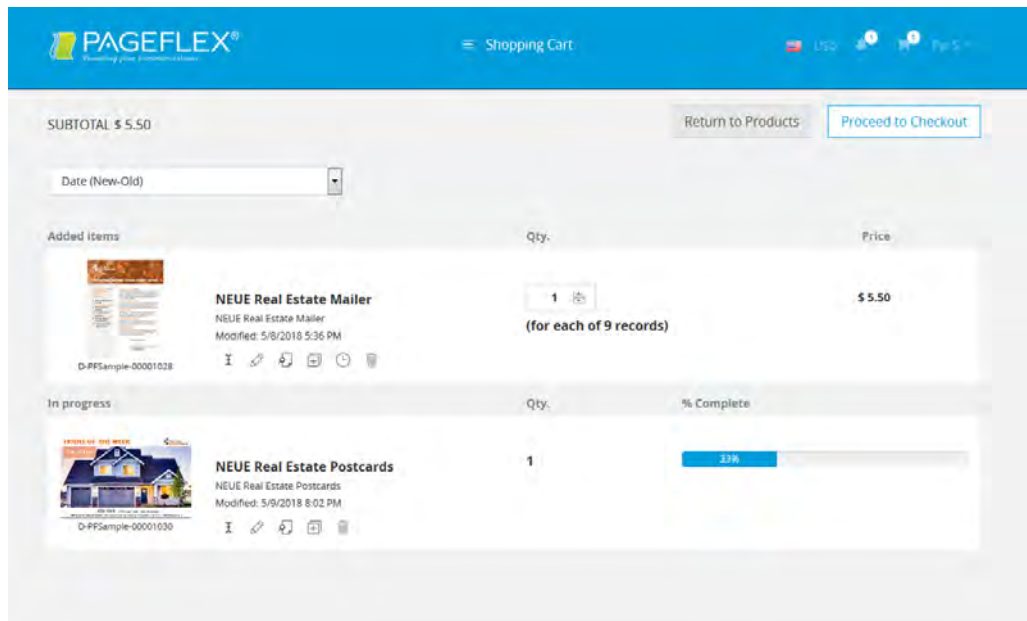
- Give users a choice during the product customization between downloading the product's final output upon checkout or fulfilling and shipping the final output as defined within the product's job settings.



To complement these features, a new Downloads view has been added to Activity section of the navigational sidebar in Storefront Administrator to provide a centralized location for viewing a history of user downloads. Note that this view is only a report, with links back to the original products. It is *not* a backup file manager, as Storefront does not attempt to record copies of every file generated by users exercising this new option for downloading prior to placing an order.

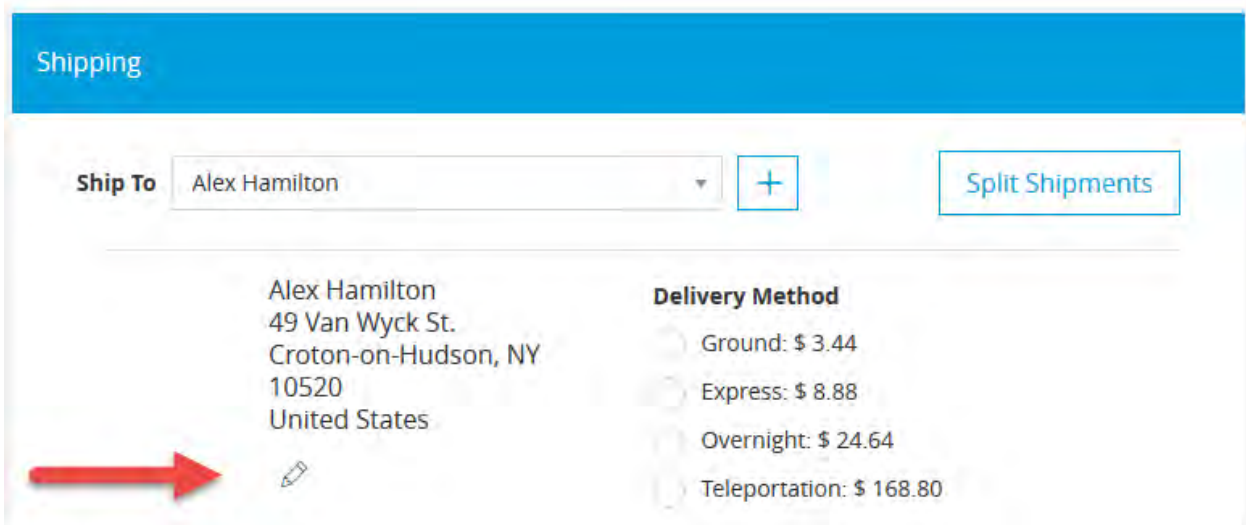
61. Storefront: Progress bars in the shopping cart for in-progress items

Items saved for later—that is, items placed in the work-in-progress section of the shopping cart page—now display progress bars to reveal at a quick glance how close each item is to being ready for checkout.



62. Storefront: Edit shipping address during checkout

A new edit button beneath the currently selected shipping destination allows users to make changes without abandoning the checkout process to visit the address book. Users who make such edits may also indicate whether the change should also propagate to the original address book entry or remain limited to the current order.



A configuration option within the admin Checkout page lets you choose whether or not to give your users this address editing capability:

Storefront Administrator

Activity Users Content Purchasing **Checkout** Price Tables Tax Rates Administration Services

powered by **PAGEFLEX**

Checkout Checkout Options Shipping Step Payment Step

Configure general shipping and payment checkout options.

[Change Settings](#)

Handling Fee

Handling: ☐ Add fixed "Order Handling" fee

Payment

Collection: ☐ Collect payment automatically when orders are completed

Authorization: ☐ Payment authorization is required for all orders

Step Suppression Options

Shipping Step: ☒ Hide shipping step if no items require it

Payment Step: ☒ Hide payment step if no items require it

Change Orders

Orders Page: ☐ Allow user to Change or Cancel Orders

Address Book

Address Book Items ☒ Allow editing of address book item in checkout step

Purge orders waiting for payment authorization

Purge stale orders: ☐

Shipping and Payment Extensions

63. Storefront: Address field autocomplete suggestions

You can now add geographically-aware suggestions to the reserved shipping and user profile address fields by enabling our built-in integration to the Autocomplete service of the Google Maps Platform. Suggestions will vary based on the client browser IP address and browsing history:

Address 1:	Address 1:
10 d	10 d
10 Donald Lynch Boulevard Marlborough, MA, USA	10 Dufferin Street, Toronto, ON, Canada
10 Dunia Lane, Northborough, MA, USA	10 Dundas Street West, Toronto, ON, Canada
10 Deer Path, Hudson, MA, USA	Avinguda Diagonal 10, Barcelona, Spain
10 Dartmouth Street, Boston, MA, USA	10 Dundas Street East, Mississauga, ON, Canada
10 D'Angelo Drive Marlborough, MA, USA	10 West Division Street, Chicago, IL, USA

Selecting a suggestion from the list automatically populates the related fields for city, state/province, postal code, and country.

As a prerequisite you must register your site on the Google Cloud Platform Console and obtain a Maps JavaScript API key. Enable this feature in Storefront by entering your key under the General tab of the admin Site Options:

Storefront Administrator

Activity Users Content Purchasing Administration Administration Services

Admin Accounts Admin Groups Admin Access Notifications Themes Site Options Social Media / SEO Extensions Product Plugins Scheduled Tasks Database Tools Overview Dashboard About

powered by PAGEFLEX

Site Options General Login Localization UI Configuration Shopping Cart File Upload

Configure general end-user site options.

Update Cancel

General

Order Prefix: G-

Document Prefix: D-

Deployment Code: PFSample

Order External ID: Numeric

Document External ID: Numeric

Numeric ID Offset: 1000

Default Thumbnail Format: JPEG

Default Thumbnail Size (in pixels): 300

Approver Data Preview Rows: No preview

Enable Form Fill Autosave: ☐

Units

Weight: Ounce (oz)

Site Analytics

Site Analytics Code: Add

Email Generation

Web Server URL Prefix: http://123.456.78.9:80

TIP: This prefix will be used for links in Notifications and for images in Pageflex HTML Product email output.

Google Services

Enable Google reCAPTCHA: ☐

Enable address field Autocomplete: ☒

Google Maps JavaScript API key:

NOTE: this service is not free. Refer to the Places section of the Google Maps Platform [rate card](#) for usage and billing details.

64. Storefront: Split payment

A new configuration option within the “Payment Step” tab of the admin Checkout page allows your Storefront users to split the cost of an order between any two acceptable payment methods:

The screenshot shows the 'Payment' step of the checkout process. A 'Split Payments' dialog box is open, displaying the total price of \$373.00. The dialog has two sections for payment methods. The first section shows 'Purchase Order' with an amount of 100.00. The second section shows 'Credit Card' with an amount of 273.00. The 'Create Multiple Payments' button is highlighted with a red arrow.

Users have only to enter an amount for one method, as Storefront automatically computes the remainder to assign to the other.

65. Storefront: Support for category inserts

Storefront 9’s support for inserts—discreet chunks of HTML that deployers may add to pages throughout the end user site—has been extended in 9.1 to encompass inserts displayed in category views. The naming convention for the HTML files used to supply the inserted content is `Category_<Category Name>_<Location>.html`, where `<Category Name>` is the name of the target category (including any space character used in the actual category name string), and `<Location>` is one of Top or Bottom or Left.

When a category name contains such special characters as the colon, forward or backward slash, pipe, or greater-than and less-than symbols then care must be taken to convert them to underscores when transcribing the category name to the file name of the associated HTML insert. For example, an insert intended for use at the top of the “Samples: All” category would require a filename of the form “Category_Samples_All_Top.html”.

66. Storefront Admin: Search added to Global Library

As with the admin Products page, it is now possible to perform a search within any of the Global Library asset categories. This search feature conforms to the admin Site Option setting for compound search (see [below](#))—meaning that if the implicit AND search operator is enabled for the catalog, it will be enabled here, too.

67. Storefront Admin: Group shipping and payment rules

A new “Shipping & Payment Rules” tab within the admin User Groups page provides all the functionality for refining the visibility of shipping and payment methods to users and groups as previously provided by the Group Shipping and Payment extension from Pageflex Services:

Storefront Administrator

Activity

Users

User Accounts

User Groups

User Access

Profile Fields

Approvals

Address Books

Content

Purchasing

Administration

Services

powered by

PAGEFLEX®

User Groups

Create & Manage

Shipping & Payment Rules

Define and manage rules to control Shipping and Payment Methods.

Shipping Rules

↑

↓

✦ Add New

✕ Delete

Page 1/1

First

Prev

Next

Last

3 rows

Rows: 50

<input type="checkbox"/> Rule Name:	Shipping Methods:	Groups:	
<input type="checkbox"/> Ground only	1	2	Assign Groups
<input type="checkbox"/> Excluding same-day and next-day	4	10	Assign Groups
<input type="checkbox"/> All methods	7	5	Assign Groups

Pages: 1

Payment Rules

↑

↓

✦ Add New

✕ Delete

Page 1/1

First

Prev

Next

Last

3 rows

Rows: 50

<input type="checkbox"/> Rule Name:	Payment Methods:	Groups:	
<input type="checkbox"/> PO only	1	3	Assign Groups
<input type="checkbox"/> All methods excluding funds	2	8	Assign Groups
<input type="checkbox"/> All methods including funds	5	6	Assign Groups

Pages: 1

The Services extension, which is now obsolete, is automatically disabled when encountered by the Deployment Wizard on upgrading a Storefront site to 9.x.

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68. Storefront Admin: Additional theme attribute exposed to customization

The color value for the fill color of the header dropdown menu (a.k.a. hamburger navigation menu) is now included among the editable CSS attributes on the Edit Themes page:

Component Colors

Header Fill Color

#ffffff

Header Dropdown Menu Fill Color

#ffffff

To help illustrate the utility of this addition, a new custom theme called “NegativeSpace” is included with the Storefront sample deployment.

69. Storefront Admin: Updated Scheduled Task UI

The admin Scheduled Task interface now allows specifying start times down to the minute.

70. Pageflex Services: Updated extensions

Two popular paid extensions from Pageflex Services have been updated:

- **Inventory by SKU**
The messaging from this extension now integrates seamlessly with the new 9.x user interface:



- **Punch Out Integration**

71. Storefront API: New and updated events, methods, properties, and fields

Two new events have been added to the SXI API for Storefront extension developers (*Programming Reference Guide* page numbers in parentheses):

- **ProductChanged**—Called whenever a significant change to a product occurs, e.g. creating, editing, releasing, retiring, archiving, unarchiving, deleting (p131).
- **ExternalProductSearch**—Allows extensions to take over from the default Storefront search, which queries the database, and implement an external search algorithm using, just by way of example, Elastic or SOLR (p119).

With the addition of native support for split payments, four legacy SXI and SINI methods have been updated to narrow their focus to a single payment transaction: **CouldCollect2** (p92), **CreditTransaction2** (p94), **RetryAuthorization2** (p135), and **DelayedAuthorizationComplete2** (p195). If a deployment never has split payments for any orders, extensions using the deprecated methods will continue to work in legacy mode.

Two other legacy methods have been updated to leverage more varied messaging options in the Storefront 9 UI: **QueryInventoryModules2** (p133) and **DisplayMessage2** (p173).

Other SINI additions include

- **CreateProductEx**—A method to support programmatic creation of new Storefront products (p171).
- **InventoryItem**—A structure for tighter inventory integrations (p210).
- **SiniMessageFormat** and **SiniMessageSeverity**—Enumerations for use with the updated **DisplayMessage2** method (p215).
- New **PaymentField** (p222), **PaymentProperty** (p231), **TaskProperty** (p237), **OrderListProperty** (p239), and **SystemListProperty** (p239-40) options to support the new features of this release,

72. Storefront API: New functions added to sfjs API

A score of new functions and shortcuts have been added to the sfjs API for Storefront extension developers to gather and manipulate fields:

- | | |
|--------------------------------------|---|
| • addDirectiveToField | • hideGroupsAndClear |
| • askUserQuestion | • hideGroupsAndResetToDefault |
| • askUserForInput | • lookup |
| • fields | • lookupStrings |
| • get | • set |
| • getFieldValue | • setMultipleFieldValues |
| • groups | • showGroups |
| • hideFieldsAndClear | • suspendPreview |
| • hideFieldsAndResetToDefault | • suspendPreviewUntilAllFieldsAreSaved |
| • hideGroups | • resetAllFieldsToDefaults |

Refer to Chapter 5 of the *Programming Reference Guide* for details and examples.

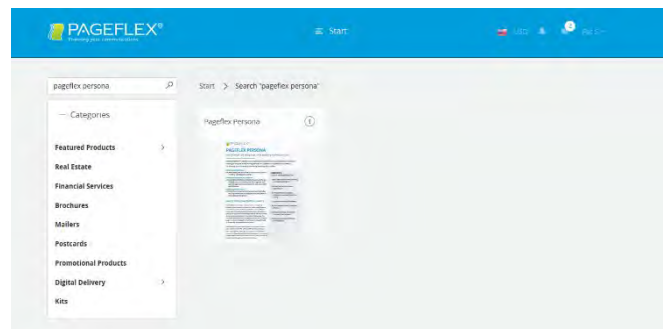
Previously added in 9.0.5

73. Storefront: Support for implicit compound search

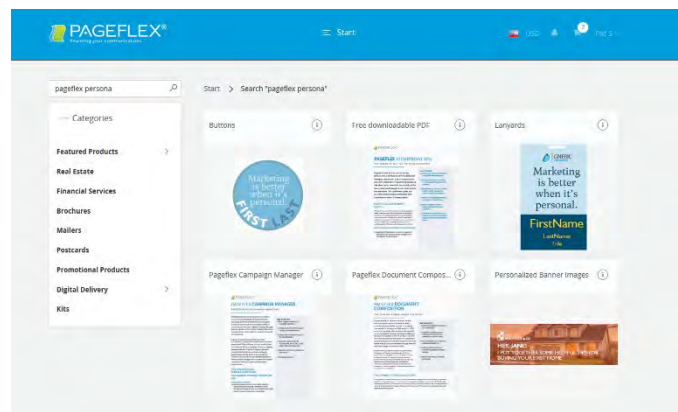
A Site Option has been added to allow all terms entered in the product Search field to be implicitly joined by the conjunction “and”:

The screenshot shows the 'UI Configuration' tab in the Site Options menu. Under the 'Catalog' section, the 'Use AND for search terms' checkbox is checked and highlighted in yellow. Other visible options include 'Use Custom Start Page HTML', 'Use Custom Catalog HTML', 'Show Category Label', 'Thumbnail View Style' (set to 'Tiles'), 'Default products to display' (set to 25), and 'Default search results to display' (set to 25).

E.g. if the search string is “pageflex persona” then matching results must each contain both “pageflex” *and* “persona” in one of the locations subject to searches (product name, product description, product code, metadata, or search keywords):



When this option is disabled, the legacy behavior of implicitly joining search terms with “or” is in effect instead:

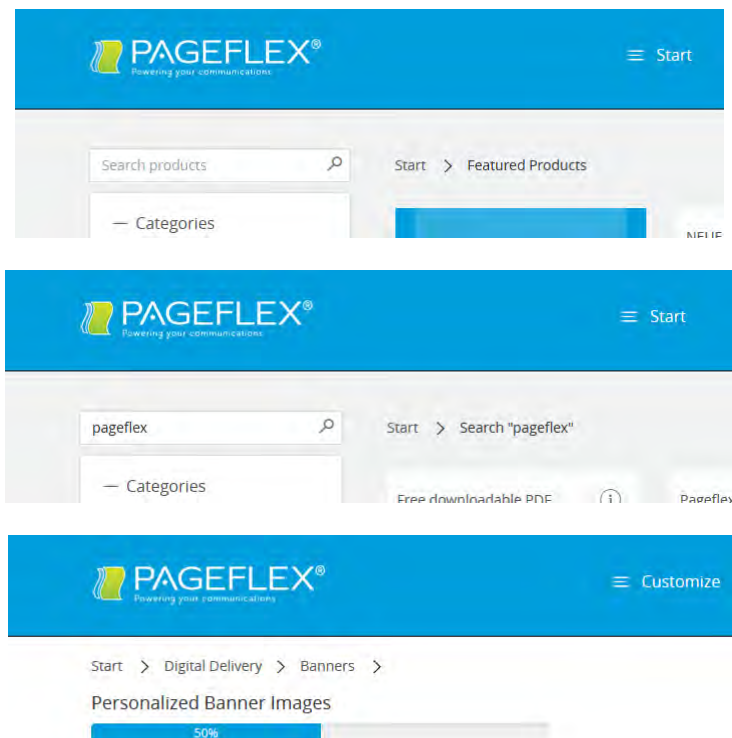


74. Storefront: Breadcrumb navigation

Within the admin Site Options is a new choice for enabling breadcrumb navigation:

The screenshot shows the 'Site Options' admin interface with the 'UI Configuration' tab selected. The 'Start Page' section has 'Use Custom Start Page HTML' unchecked. The 'Catalog' section has 'Use Custom Catalog HTML' unchecked, 'Show Category Label' checked, 'Thumbnail View Style' set to 'Tiles', 'Default products to display' set to 25, 'Default search results to display' set to 25, and 'Use AND for search terms' unchecked. The 'Notification Popover Content' section has 'Recent orders to display' set to 30 and 'Pending approvals to display to reviewer' set to 3. The 'Category Navigation' section has 'Show Breadcrumbs' checked. The 'Steps UI' section is partially visible at the bottom.

When enabled, the clickable crumbs appear in category views, catalog search results, and product customization pages:



Previously added in 9.0.4

75. Storefront Admin: Configurable number of products to display in categories and search

The number of products displayed upon loading category pages or upon performing a search of the catalog can now be configured within Site Options:

Site Options | General | Login | Localization | **UI Configuration** | Shopping Cart | File Upload

Configure end-user user interface options.

[Update](#) [Cancel](#) [Manage Web Fonts...](#)

Start Page

Use Custom Start Page HTML: ☐

Catalog

Use Custom Catalog HTML: ☐

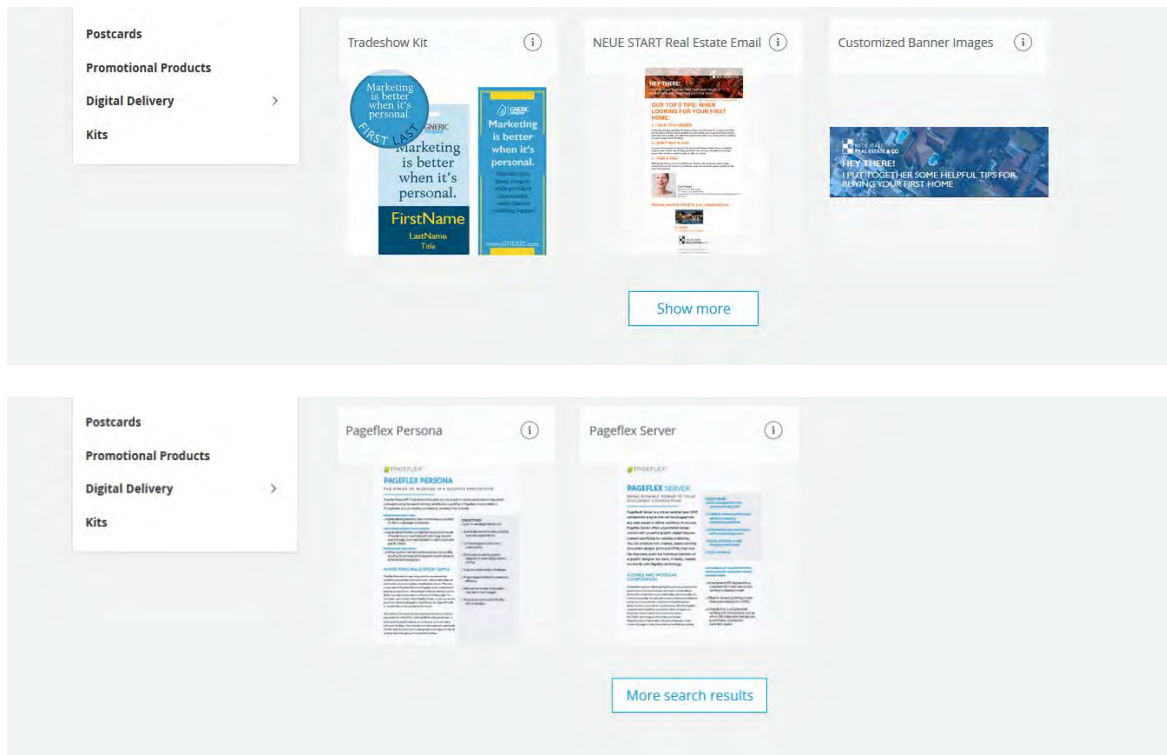
Show Category Label: ☒

Thumbnail View Style: Tiles ▾

Default products to display: 25

Default search results to display: 25

When the total number of products exceeds these thresholds, the end user is given a Show More or More Search Results button to load the next increment:



76. Storefront Admin: Configuration options for notification popover in page header

In its default state the popover that appears upon clicking the notifications (bell) icon on the right side of the page header displays a summary of your most recent three orders placed within the last 30 days, plus a summary of the most recent three orders pending your approval. Now the quantity of both types of popover content—recent orders and pending approvals—is configurable within Site Options:

A zero in either field will cause that type of notice to be excluded from the popover.

77. Storefront API: New SINI method for importing price tables

The new `ImportPriceTable` method lets you programmatically import a CSV file containing values for a document or leaf price table. Refer to page 198 of the *Programming Reference Guide* for method details.

Previously added in 9.0.3

78. Storefront API: New functions added to sfjs API

Four new functions have been added to the sfjs API for Storefront extension developers to gather and manipulate fields:

- `applyScope`
- `digestScope`
- `getField`
- `setFieldValue`

Refer to Chapter 5 of the *Programming Reference Guide* for details and examples.

Previously added in 9.0

79. Server, Storefront, and Campaign Manager: Dongle-free licensing

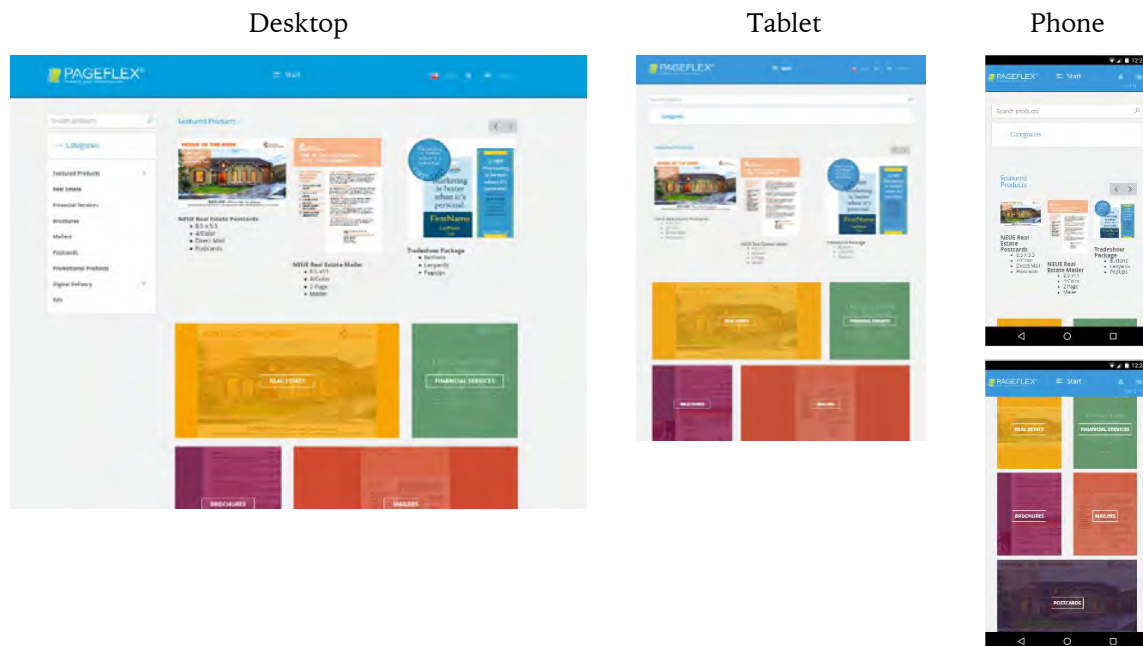
Version 9 introduces the option for licensing your Pageflex cluster via an internet connection to a cloud-based licensing service in place of your USB dongle. Switching to cloud licensing involves a three-step process:

- Requesting a temporary cloud license from Pageflex Keys (keys@pageflex.com).
- Returning your dongle(s) to Pageflex.
- Upon receipt of your dongle(s), Pageflex Keys upgrades your temporary cloud license to match the policy on your dongle(s). No action on your part is required for this last step.

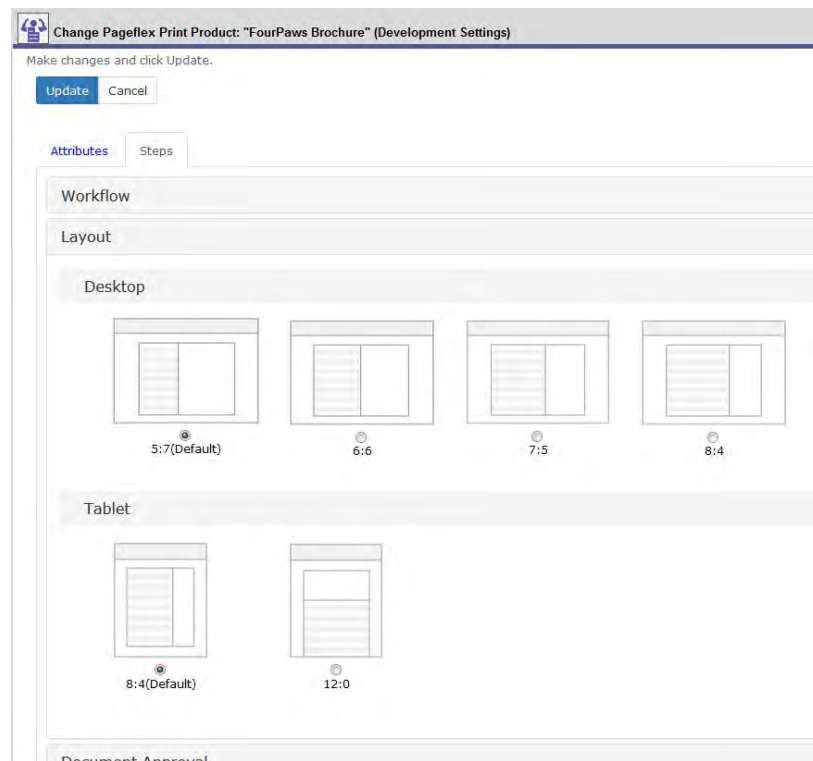
Contact keys@pageflex.com to get this process started.

80. Storefront: Mobile device-friendly web pages

All the user-facing pages in version 9 are engineered atop a responsive HTML framework (Angular Bootstrap) designed with the mobile web user in mind:

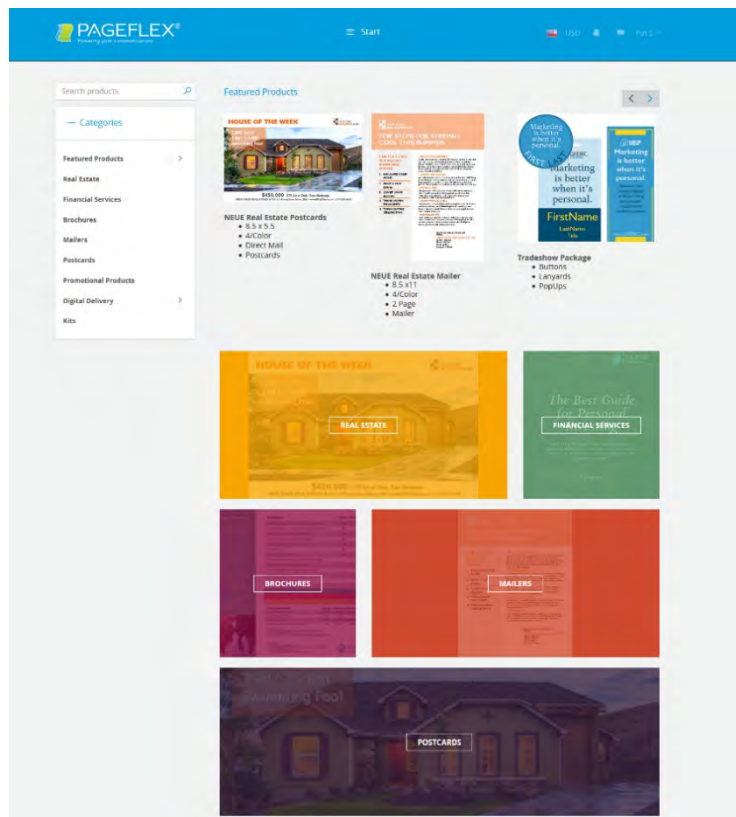


Administrators have a new layout option at the product level for configuring customization workflow pages differently for desktop and tablet devices:



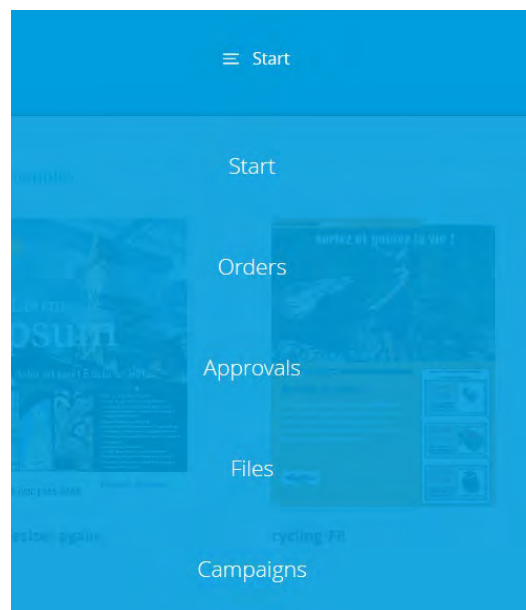
81. Storefront: Redesigned Start page

Version 9 has redesigned the user experience of entering a Storefront. A more modern, sleek, graphical aesthetic applies overall:

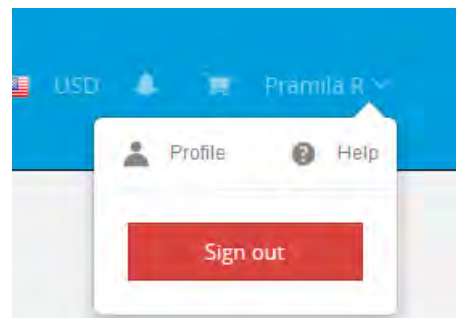
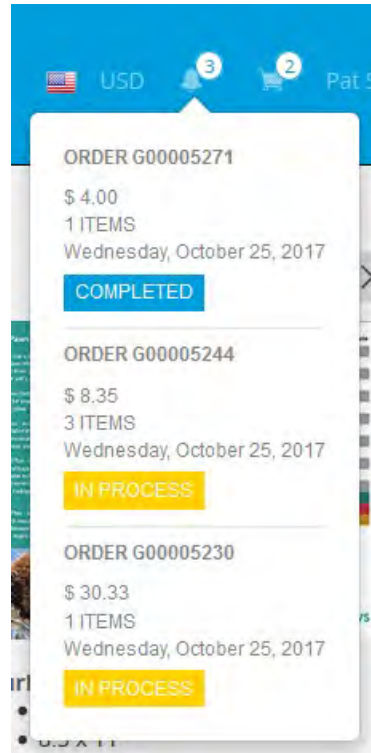


The header has been decluttered, with icons and popover menus replacing a row of text buttons:

- A popover menu at the center holds links to order history, approval history, the Files repository of global and user-uploaded assets, and campaign history if your Storefront is integrated with Campaign Manager. (Extensions may add links to this menu via the Storefront SXI API; search for the `ProcessPageLoadJson` event in the *Programming Reference Guide* to see example code.)



- Recent orders and pending approvals are surfaced in a popover menu accessed by clicking the new notifications (bell) icon at the upper right. Status labels within the menu are links to take users directly to the selected order or approval.
- The shopping cart, also newly represented by an icon, shares primary visual status beside the bell.
- Both bell and cart are given numeric badges signifying how many items within them are calling for action.
- Links to the Profile page—including the address book—deployer-provided Help page, and an unmissable “Sign out” button are all in the popover menu accessed by clicking the signed-in user name.



Other improvements to the user experience of this page include much faster product search and collapsing/expanding categories within the sidebar (when nested subcategories are present).

82. Storefront: New category display options

The Start page displays all top-level product categories as colored tiles or carousels. Each tile's width, background color, contrasting title text color, and thumbnail image may be configured within the admin site. Carousels engage users immediately on entry to the site, letting them quickly scroll through the contents of a category without leaving the Start page.

Any top-level category can be displayed on the landing page as a carousel or tile. There are no restrictions on the placement or quantity of either one.

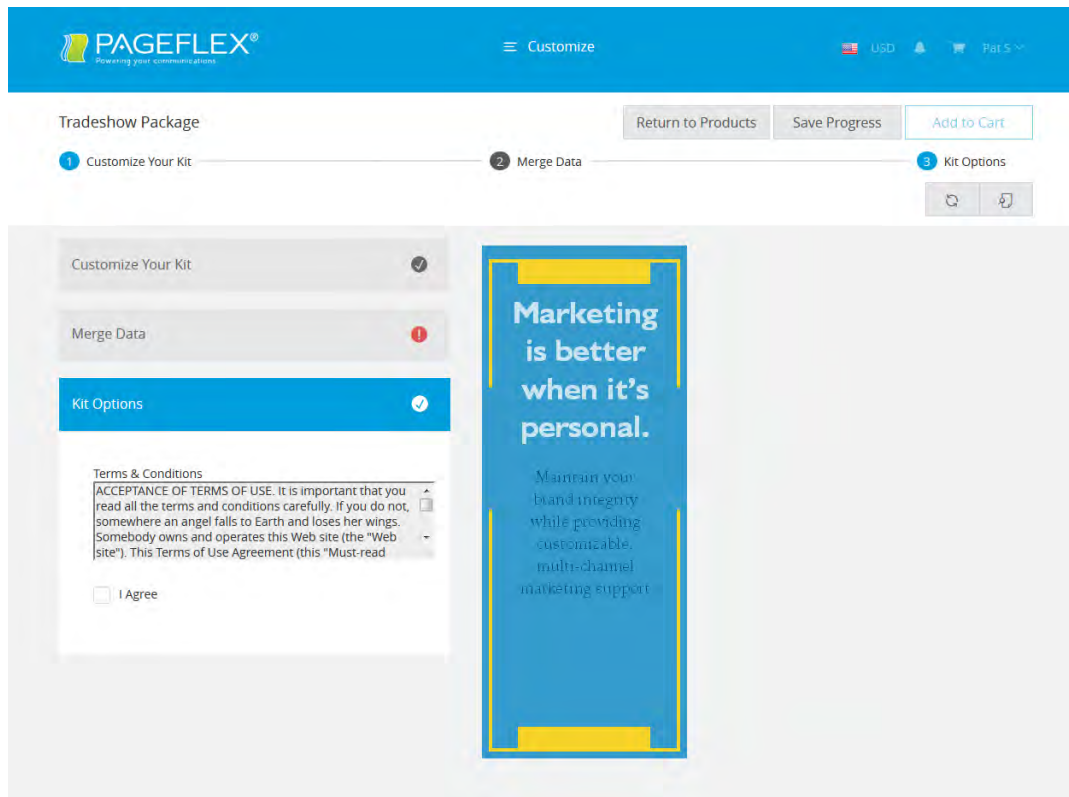
When drilling down from Start into a category page, nested subcategory tiles are comingled with product thumbnails. (Carousels are not supported within subcategories.) Version 9 continues to support displaying the contents of a category as a list, too, which of course is particularly well-suited to hosted PDF products eligible for quick order.

83. Storefront: Dynamic categories

Any category can now acquire its contents automatically based on a member collection rule, instead of by direct product-by-product manual assignment. Admins simply assign a list of search terms to a category's collection rule. Any product which has a search keyword that matches the rule will then automatically appear in that category.

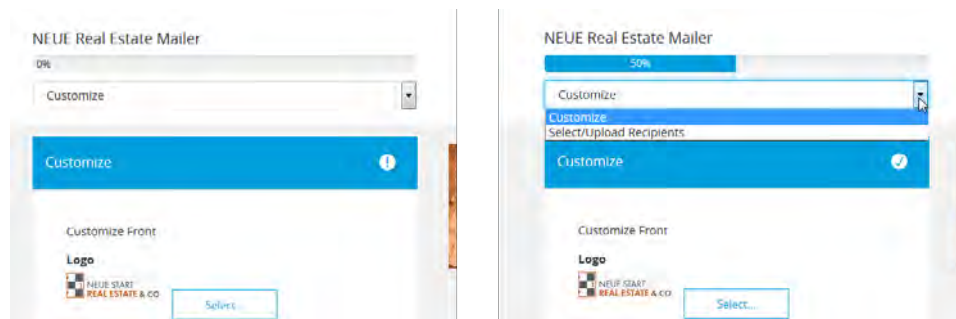
84. Storefront: One-page customization

Version 9 dramatically streamlines the user journey through product customization. Although you have the option to preserve multi-page legacy behavior, Storefront defaults to putting all the steps of a product's customization workflow onto a single page:



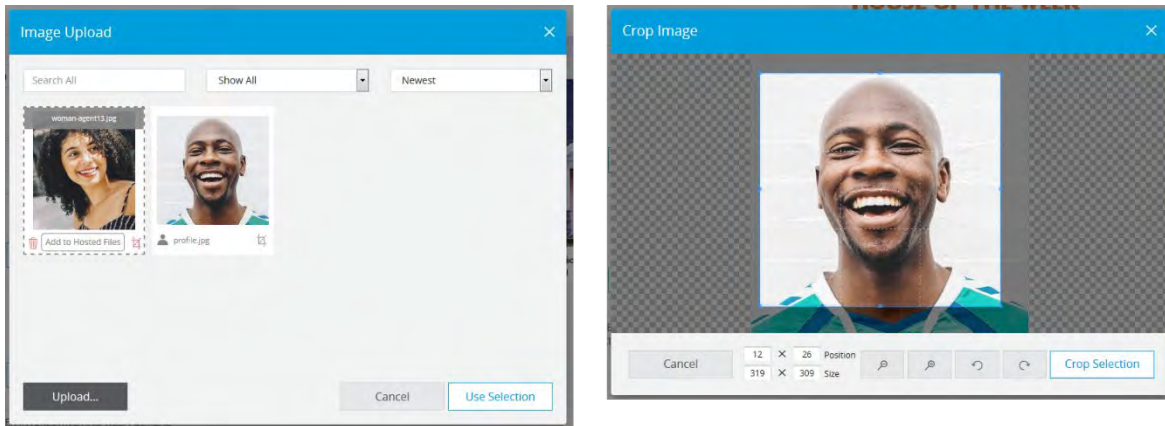
Steps are displayed in accordion panels that expand and collapse as users navigate between them, with color-coded visual cues—green checkmarks, red exclamation marks—denoting steps that are complete or in need of attention.

Navigational options for skipping quickly between customization steps include a dropdown with discretionary progress bar (shown below), or horizontal numeric “stepper” (above).



85. Storefront: New image selection window with improved cropping tool

The image choice control in version 9 functions as a virtual artboard when configured to allow users to upload and crop images, or to upload and save to their file library.



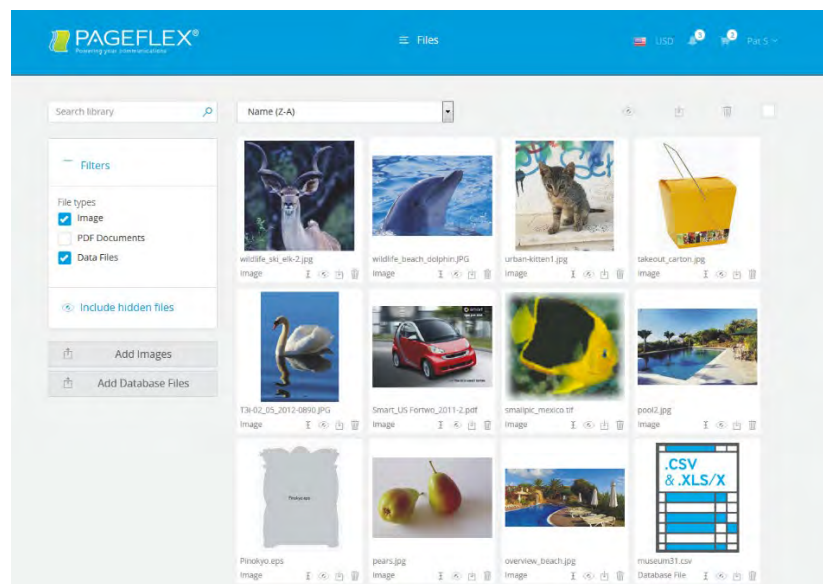
Features of this new modal window include:

- Multiple files may be uploaded and cropped within it before submitting a choice to the background document.
- Until the user exits the customization page entirely their temporary uploaded images—ones they choose not to save to their personal Files repository—will remain available to them as they open and close it.
- Users may choose freely between cropping current upload(s) or previously saved images.
- Cropped images are automatically saved separately, so the original image is never overwritten.
- Search
- Filtering by category
- Sorting by time of upload (newest/oldest) or name

86. Storefront: Redesigned Files page

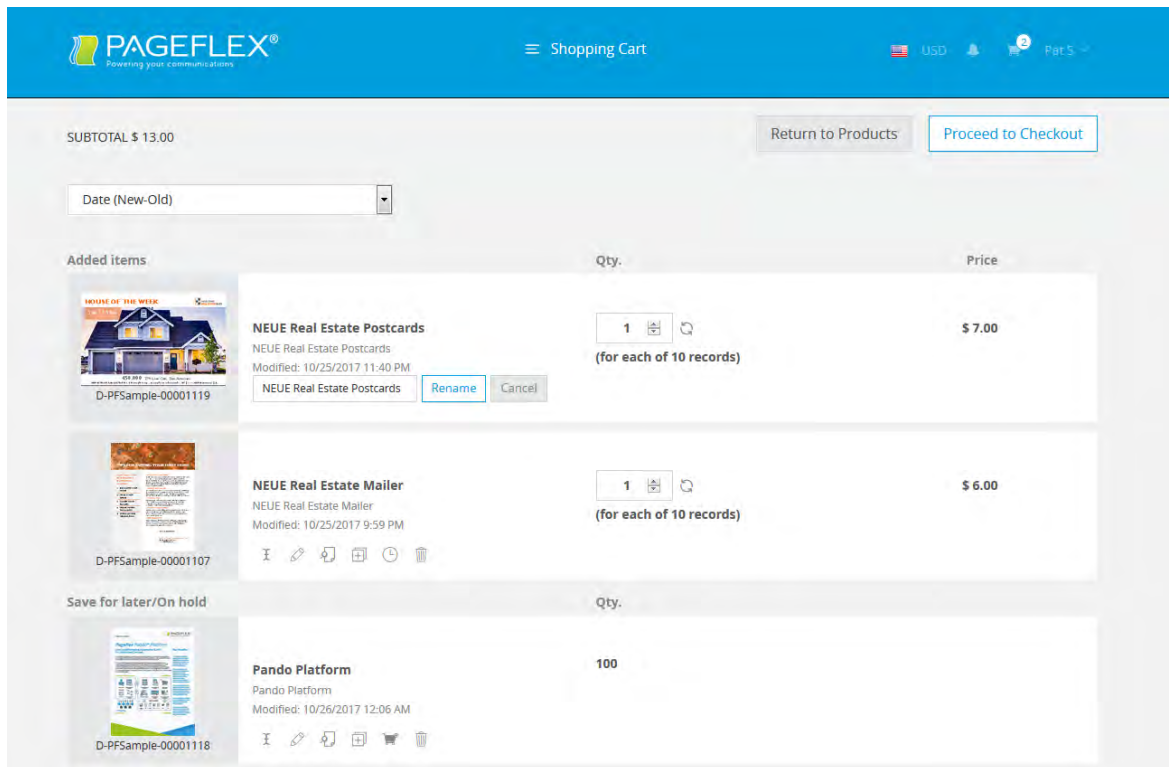
New features of this renamed home for global library assets and user uploaded files include:

- Larger thumbnails
- Filtering by file type
- Super fast, dynamic search
- Sorting by name, upload date, and file type
- Delete—and Undo Delete

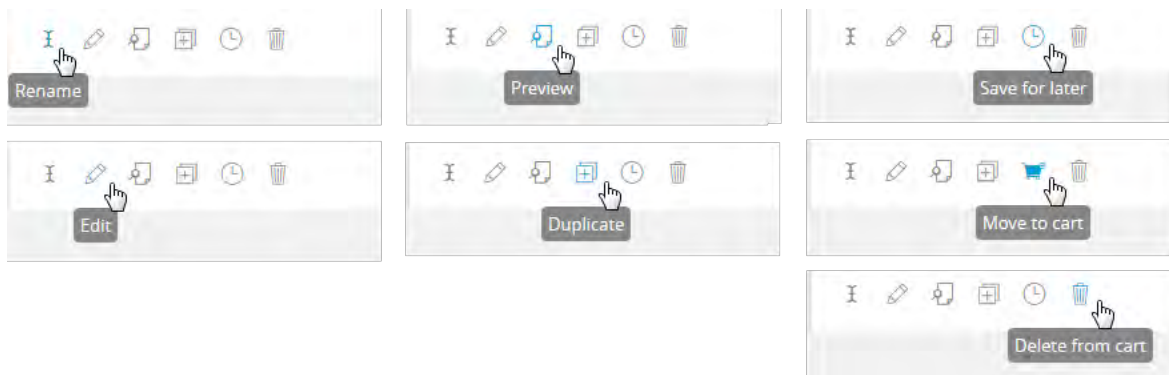


87. Storefront: Redesigned shopping cart

Version 9 adopts a modern, easy-to-scan “card” design for listing the contents of a user’s cart:



Available actions are now represented graphically by quickly-identifiable icons. Included among them is a new action for renaming items, which lets users effortlessly edit their custom item description right in place (shown above).

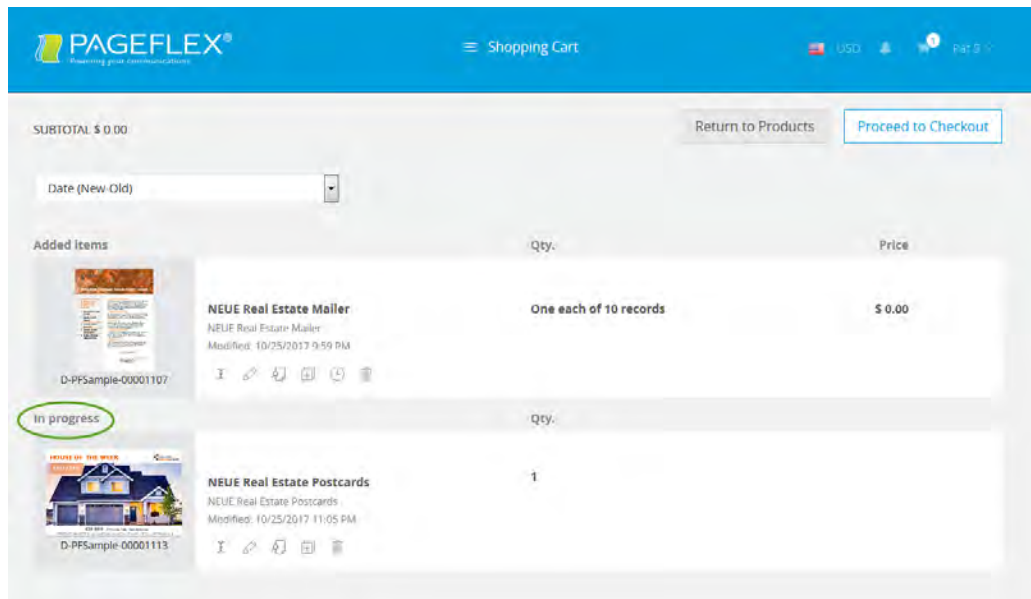


Additional improvements on this page include

- Sorting options—sort each section of the cart by date, price, or the user-defined custom name.
- Undo button—this button appears briefly after any Delete button has been clicked. If no action is taken to click the Undo, the button fades away after five seconds. The duration of that delay may be adjusted via an internal configuration option.

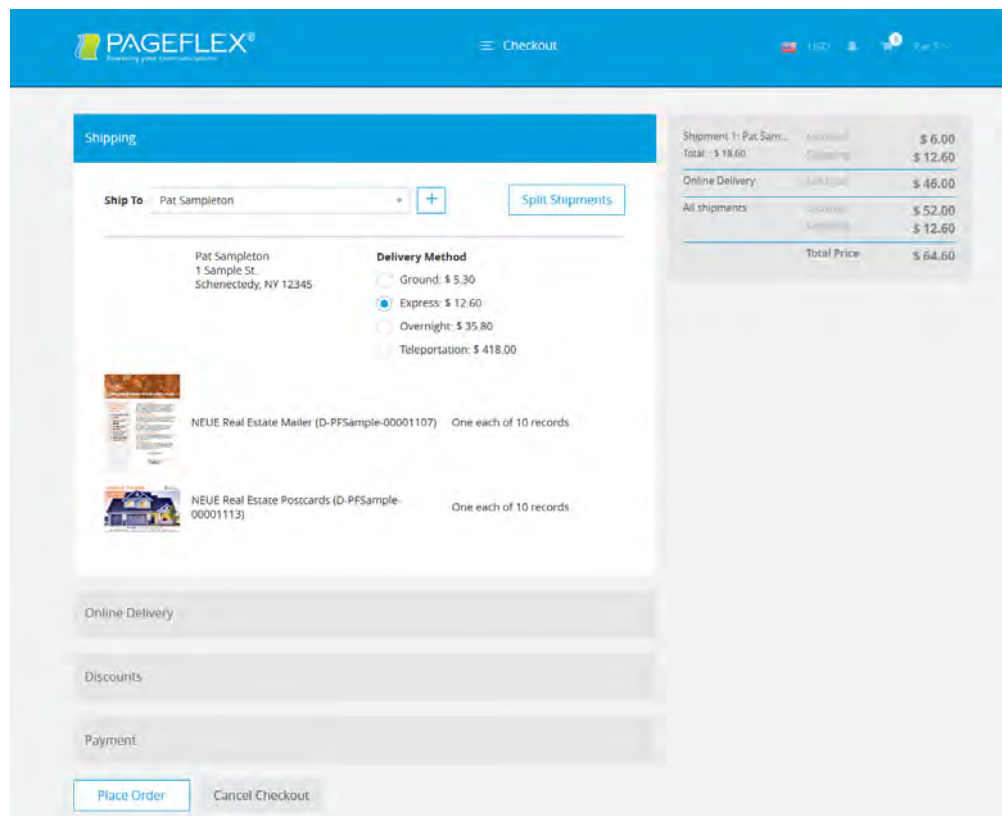
88. Storefront: Ability to save work in progress

A new “Save Progress” button lets users save their unfinished work at any time during customization. If they exit the workflow or the site, they can return to where they left off by finding the product in a new section of the shopping cart labeled “In Progress”:



89. Storefront: One-page checkout

The user journey through checkout is now as condensed as the customization workflow, with shipping, discounts, and payment steps all combined on a single page:



Further improvements to the user experience include:

- Use of lightbox windows—modal windows that dim the background—for the ancillary tasks such as adding new addresses to the address book, splitting an order into multiple shipments, and entering credit card information. With the checkout form still visible in the background, such actions never feel like a detour from the main task at hand.
- A separate “Online Delivery” section for downloadable products that don’t require selection of a delivery method.
- Liberal use of spinners to keep users assured their page is still alive when your chosen parcel carrier’s servers are slow to return rate estimates.

90. Storefront: Discount codes a seamless part of the checkout experience

Discount codes are still configured within the Storefront admin site via the DiscountCodes extension, but version 9 significantly improves how codes are entered by end users.

- There is no longer any need to enter item discounts differently than order discounts
- Codes are entered in a single field that is clearly—and logically—placed between the shipping and payment portions of the checkout page. Storefront figures out the rest.

The screenshot shows the Pageflex checkout interface. The top navigation bar is blue with the Pageflex logo, a 'Checkout' button, and user information. The main content area is divided into sections: Shipping, Online Delivery, Discounts, and Payment. The Discounts section is highlighted with a blue header and contains a text input field for a discount code, an 'Apply' button, and a green 'SAVE20' badge. The Payment section is below it. On the right, a summary table shows the order details.

Shipment 1: Jeff		
Total: -	Subtotal	\$ 104.00
	Shipping	\$ 0.00
Online Delivery		
	Subtotal	\$ 0.50
All shipments		
	Subtotal	\$ 104.50
	Shipping	---
	Handling	\$ 4.00
	Order Discount	- \$ 21.70
	Tax (MA)	\$ 5.20
Total Price		\$ 92.00

91. Storefront: More PCI-compliant credit card payment

Version 9 natively supports extensions that use credit card tokenization, which reduces the burden of PCI compliance. The new Authorize.net API is an example of this: it allows for direct communication between Storefront’s new modal credit card authorization window and the credit card processor without ever sending sensitive information to the Storefront server. If the credit card is validated by the processor, then a single-use token is returned for Storefront to use for all further processing.

92. Storefront: Redesigned Orders and Approvals pages

These summary pages share the new card design style featured in the shopping cart. New lightbox modal windows let users examine specific order or approval details without fostering the perception of having detoured from the page.

93. Storefront: Support for multiple user profile images

The new user Profile page now natively supports image choice fields—as many such fields as needed. This feature renders the Default Image Selection extension from Pageflex Services obsolete. This extension will be automatically disabled if found in a deployment during the upgrade to version 9.

94. Storefront Admin: Redesigned Orders and queue pages

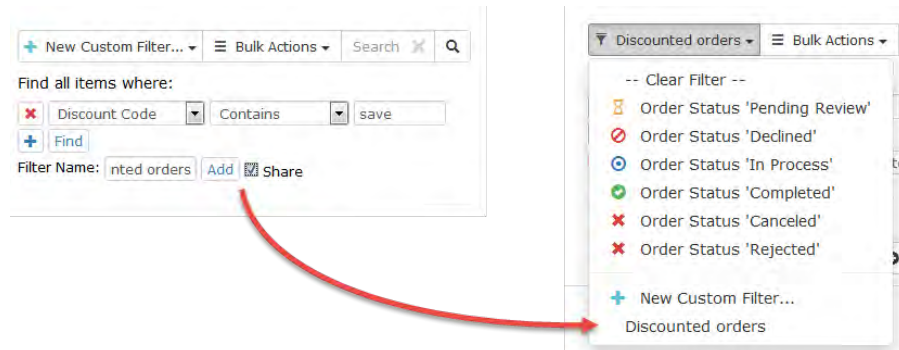
Version 9's new Orders page and its associated queue-specific pages introduce a new List View that flattens order and item details into a united display that focuses production personnel on critical information and actions.

The screenshot shows the 'ALL ORDERS' tab with counts: 140 (green), 1 (red), 21 (blue), and 18 (grey). Below the counts is a table of orders. The first order is G00005271, which is 'Completed' on 10/25/2017 at 7:48 PM, with a total of 4.00. The second order is G00005244, 'In Process' on 10/25/2017 at 3:51 AM, with a total of 8.35. The third order is G00005230, 'In Process' on 10/25/2017 at 12:21 AM, with a total of 30.33. The fourth order is G00005138, 'In Process' on 10/20/2017 at 2:40 PM, with a total of 107.00. The fifth order is G00005111, 'In Process' on 10/19/2017 at 11:07 AM, with a total of 50628.25. Below the orders table is a detailed view of the items for order G00005111. The items are:

Document ID	Quantity	Document's Description	Item Status	Item Price	Order ID	Date/Time Order Created	Proof	Resources
D00008300	100	Business Card	Rendered	\$ 26.00	G00005111	10/19/2017 11:07:37 AM		N/A
D00008309	2000	Product Brochures	Rendered	\$ 160.00	G00005111	10/19/2017 11:07:37 AM		N/A
D00008310	123456	pf flyer	Rendered	\$ 34,569.53	G00005111	10/19/2017 11:07:37 AM		N/A
D00008311	10	Moviez Postcard	Ready for Production	\$ 21.00	G00005111	10/19/2017 11:07:37 AM		N/A
D00008312	20	Moviez Postcard	Ready for Production	\$ 22.00	G00005111	10/19/2017 11:07:37 AM		N/A
D00008351	45	Aston Martin_int DB5_2	Rendered	\$ 0.00	G00005111	10/19/2017 11:07:37 AM		N/A

95. Storefront Admin: Admin order filters can be saved, and shared

Administrators who have been granted the admin access privilege to modify custom global filters may save and share the custom filters they create within the orders pages. Any administrator with at least the privilege to view custom global filters will then see the shared filter within the list of all available order filters.



96. Storefront Admin: Data exports configurable independently of the current page view

Prior to version 9, data exports were inextricably bound to the current page view. No longer: now you do not need to clutter your day-to-day orders page view with columns or fields only required for offline reporting purposes.

97. Storefront Admin: Many new CSS theme attributes exposed in admin UI

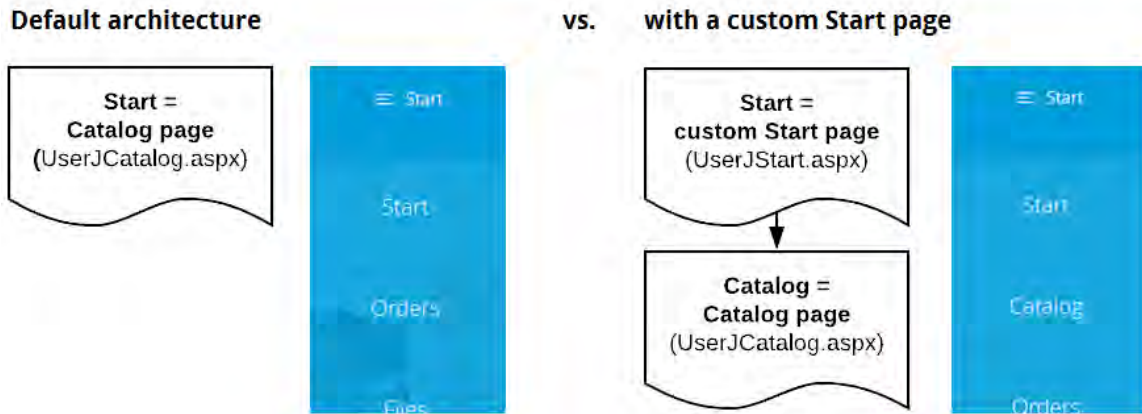
Version 9 offers more extensive control over CSS attributes than ever before within the new admin Themes page:

The screenshot displays the 'Theme Attributes' configuration page in the Storefront Admin. The page is organized into several sections, each with a set of attributes that can be customized. A link to 'Open visual aid' is located in the top right corner.

Section	Attribute	Value	
Global Colors	Primary Color	#009edc	
	Secondary Color	#9fc3b	
	Tertiary Color	#80dee	
	Background	#f1f2f2	
	Background White	#ffff	
Component Colors	Header Fill Color	#009edc	
	Status & Navigation Bar Fill Color	#ffff	
	Files Thumbnail Background	#ffff	
	Icon Color	#00dee	
	Tooltip Background	#888888	
	Price Tip Background	#8fc53e	
	Button Background	#ffff	
	Secondary Button Background	#e6e7e8	
Fonts and Text	Font Family	'Open Sans', Arial, sans-serif	
	Font Size	14px	
	Body Text Color	#333333	
	Header Text Color	#ffff	
	Step Title Color	#ffff	
	Product Link Text Color	#58595b	
	Small Text Color	#8f8f8f	
	Price Tip Text Color	#006633	
Popup Alerts	Error Text Color	#ffff	
	Error Background	#aa2611	
	Warning Text Color	#7a1f00	
	Warning Background	#ff4200	
	Affirmation Text Color	#002e16	
Affirmation Background	Affirmation Background	#8fc53e	
	Button, Modal, and Component Borders	Primary Border	1px solid #009edc
		Secondary Border	1px solid #d1d3d4
		Dark Border	1px solid #58595b
Medium Border		1px solid #e6e7e8	
Light Border		1px solid #ddd	
Extra Light Border		1px solid #fff	

98. Storefront Admin: Designate a custom Start page in addition to (and ahead of) the catalog

In the default architecture of Storefront 9, the top-level catalog page is the landing page upon entering the site, and the page to which users return when they select Start from the hamburger navigation menu. Now version 9 makes it possible to serve custom HTML from a Start page that is separate from the catalog, and that comes before the catalog page in the site's architecture:



The configuration setting is found under the UI Configuration tab of admin Site Options:

The screenshot shows the "Site Options" admin interface. The "UI Configuration" tab is selected. Below the tabs is a section titled "Configure end-user user interface options." with "Update", "Cancel", and "Manage Web Fonts..." buttons.

The "Start Page" section contains:

- "Use Custom Start Page HTML:" with a checked checkbox and a dropdown menu showing "HTML: myhomepage.html".
- "Show Page Header and Footer" with a checked checkbox.

The "Catalog" section contains:

- "Use Custom Catalog HTML:" with an unchecked checkbox.
- "Show Catalog Label" with a checked checkbox.

To be enumerated within the dropdown menu shown above, your custom HTML file must be placed in the deployment's WebPages\Custom\StartPages directory. If you also check the box for "Show Page Header and Footer" then your custom HTML will be paired with the default site header and footer content found in the Inserts folder belonging to the currently active theme.

99. Storefront Admin: New "HTML Includes" site option

Version 9 makes it easier for web developers to augment the appearance and behavior of user-facing web pages directly within the admin UI. Now, rather than manually editing web page elements on the host server to add scripts, links, or other HTML includes to your site's master pages, you can instead insert your code into the <head> element of a deployment's user site via the HTML Includes field under the UI Configuration tab of admin Site Options:

Site Options | General | Login | Localization | **UI Configuration** | Shopping Cart | File Upload

Configure end-user user interface options.

[Manage Web Fonts...](#)

Start Page

Use Custom Start Page HTML: ☐

Catalog

Use Custom Catalog HTML: ☐

Show Category Label: ☒

Thumbnail View Style: Tiles ▾

Steps UI

Show Progress Bar: ☒

Quick Order Features

Show Inventory Quantity: ☐

HTML Includes

Add to HEAD element:

TIP: Wrap script references, links, or other includes with all necessary HTML markup to be used "as is" within the head element.

```
<style>
@import url('https://fonts.googleapis.com
/css?family=Julius+Sans+One|Ubuntu|Oxygen');
</style>
```

In the example shown above, an “@import” script reference to Google Fonts is included, allowing the named fonts to then be specified within the site’s theme (also configurable via the admin UI, as shown on the prior page) for use by the site CSS.

Any text entered into this field is injected into the user site <head> element without any modification or validation. Therefore, in addition to ensuring that proper HTML markup is used it should go without saying that testing is a prerequisite.

100. Storefront Admin: Search added to Products page

Now anyone working within the admin Products page can enjoy the same search functionality available to end users thanks to the new Search field at the top of the page:

Products

Create and manage products to be offered on the end-user site.

[View Archive](#) [Create Categories](#) [Import Pageflex Projects](#)

View: [All Categories] ▾

The search encompasses product name, product code, and Search Keywords assigned to products.

101. Storefront Admin: Automate purging unordered items from user shopping carts

You can now schedule the removal of outdated unordered items left lingering in your users’ shopping carts via the new Shopping Cart Purge setting in the Shopping Cart tab of the Site Options page:

Site Options	General	Login	Localization	UI Configuration	Shopping Cart	File Upload
Show / hide shopping cart columns.						
<input type="button" value="Update"/> <input type="button" value="Cancel"/>						
Pricing						
<input type="checkbox"/> Price table and Shopping Cart show prices including tax <i>TIP: This setting is required for displaying Value Added Tax.</i>						
Shopping Cart						
<input checked="" type="checkbox"/> Allow item quantity to be edited <input checked="" type="checkbox"/> Show tax-exclusive price						
Dynamic Thumbnails						
Poll Time (seconds):		<input type="text" value="5"/>				
Timeout (seconds):		<input type="text" value="60"/>				
Shopping Cart Purge						
Purge old documents?		<input checked="" type="checkbox"/>				
Remove items older than		<input type="text" value="15"/> days.				
Day of purge		<input type="text" value="Sunday"/>				
Start time		<input type="text" value="12"/> : <input type="text" value="00"/> <input type="text" value="AM"/>				

102. Storefront API: New SXI events

Three new events have been added to the SXI API for Storefront extension developers:

- **GetSpecialModuleValue**—Used to acquire miscellaneous information from a SXI extension. For example, to get specifications for credit card or database acquisition forms.
- **ProcessPageLoadJson**—During this event, extensions called can modify the page JSON data before it is sent to the client.
- **SubmitStorefrontJob_Before**—This provides access to the XML command packet that Storefront has generated for the current submission and allows an extension to modify it.

Refer to pages 79, 130, and 138, respectively, of the *Programming Reference Guide* for method details and examples.

103. Storefront API: New “sfjs” API for manipulating web forms

For streamlined custom form development this new JavaScript API offers developer tools and helpers to manipulate the appearance and behavior of forms. It contains the entire index of form steps and fields, along with functions for watching, filtering, formatting, and validating form fields. Refer to Chapter 5, “sfjs API,” in the *Programming Reference Guide* for complete details.

104. Campaign Manager: Touchpoint Triggers & Scheduling

Now in 9.0 it is possible to independently schedule a campaign’s individual touchpoints to commence

- At a fixed or relative launch time, specifiable down to the minute; or
- Conditionally upon the start, completion, or successful occurrence of another touchpoint within the campaign (or the start of the campaign as a whole), with or without a time delay specifiable down to the minute.

You may also define a cadence with which a particular touchpoint should recur. You can designate a specific number of repetitions or set a target end date. Cadence can be set from N minutes to N months, as well as for specific day(s) of the week or month.

For a more detailed description of the conditional and chronological possibilities, please see [What to Know About Triggers & Schedules](#).

105. Campaign Manager: Add Email “Attachments” (PDF Links) When Ordering Campaign Products

With this release you can create variables in your email template that will serve a PDF to the email recipient. (To avoid being removed or blocked by email servers configured to limit or ban certain payloads, these PDFs are embedded within the parent emails as links rather than true attachments.) There are two variations:

- Links to static hosted PDFs uploaded by the end user or selected from the global library when ordering a campaign product within Storefront, and
- Links to variable-data PDFs dynamically customized to accompany the campaign product (i.e. all recipients of the campaign receive a link to the same customized document).

These links are trackable, too, allowing responses to individual PDFs be measured per email recipient.

Campaign Manager’s new Options page has two settings that must be configured to support using these links within an email:

The screenshot shows the Pageflex Campaign Manager Administration interface. The top navigation bar includes 'PAGEFLEX Campaign Manager', 'CAMPAIGNS', 'ADMINISTRATION', 'MAINTENANCE', and 'ABOUT'. Below this is a 'Campaign Administration' header. On the left is a sidebar with 'Administration' and sub-items: 'User Accounts', 'User Groups', 'Site Access', 'Extensions', and 'Options'. The main content area is titled 'Site options' and contains a 'Save' button, a 'Cancel' button, and a checkbox for 'Use Message-ID:'. Below this is a 'Message-ID Template:' field with a tip: 'TIP: enter a Message-ID template of the form <MSG-{order:externalDocId}_{cm:SubmittedJobId}_{time:yyyyMMddhhmmss}_{seq:dec[8]}@loc'. At the bottom are two yellow-highlighted input fields: 'Prefix to flag variables to be used as links:' and 'Prefix to flag job names to be used as links:'.

Prefix to flag variables to be used as links

Use this field to define a prefix for campaign email variables (defined in Pageflex Studio) that will ultimately become links to uploaded assets. At present only PDF files may be used with these variables. Leave this field blank if you aren’t using this feature.

Prefix to flag job names to be used as links

Use this field to define a prefix for campaign email jobs (set up in Studio) whose output that should ultimately become a link in a campaign email. This field should be left blank if you are not using this feature.

106. Campaign Manager: Large-Scale Data Lists

The internal mechanism for uploading data to a campaign has been completely rewritten for 9 with an emphasis on speed and handling large data sets. Thus we have removed any cap to the quantity of records that may be uploaded in a data list. You should nevertheless carefully consider what makes practical sense both in terms of your own hardware environment and your users' patience before allowing unlimited numbers of records in a single upload.

With respect to hardware, as a general rule of thumb the amount of free memory required by the computer processing the upload is equal to three times the size of the uploaded file. As long as there is sufficient free memory available to keep the operating system from having to use the hard drive then the upload process will harness economies of scale to remain performant. With respect to user experience, our testing suggests that if users cannot wait more than four-to-five minutes before abandoning or canceling an upload than you won't want them to exceed more than 250,000 records in a single file. Your users' experience may of course vary from ours.

NOTE: the option to have Pageflex automatically add a unique record ID to data as it is uploaded has been removed, as its use utterly negates the significant performance gains of the new upload mechanism. Henceforth Campaign Manager will expect all uploaded data sets to come with their own unique record identifiers.

107. Campaign Manager: "Go to URL" Action Accepts Variables

The Go to URL action has been modified to accept and parse a variable name in addition to a literal URL.

Variable names must be entered surrounded by double angle brackets. Compound variables are also possible. For example,

```
<<variable1>>_<<variable2>>.mp4
```

would resolve to `cute_kitten.mp4` if the value of variable1 is "cute" and the value of variable2 is "kitten".

108. Storefront: Campaign Manager Plugin Improvements

The plugin that gives Storefront access to campaign products fulfilled through Campaign Manager has been updated in two important ways.

First, assets uploaded to Storefront campaign products are now copied to the Campaign Manager server. The copying can be done one of two ways. If the new **Direct file system access to Campaign Manager assets** checkbox is enabled in the plugin configuration page—

Configure Product Plugin: Pageflex Campaign Manager Plugin

Set the properties of this plugin.

Update Cancel

Unique Name: CampaignManager.Plugins.Storefront.Pageflex.com

Configuration UI: Custom/PluginResources/CampaignManagerPageflex.ascx

Deployment URL: http://123.456.7.890/deployment1

Deployment (root) Password: *****

Diagnostics: ☒ Enable Logging

☒ Direct file system access to Campaign Manager assets

The following fields are required when file system access is selected

UNC path to CM assets: \\OurDesignatedFileShare\Assets

User name: jalfredprufrock

Password: *****

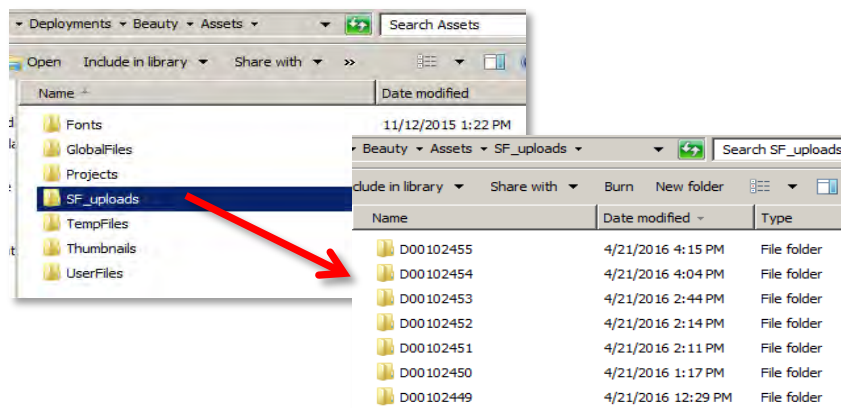
Domain: mydomain

Activation: ☒ Enable Plugin

—then Storefront will assume it has direct access to where the Campaign Manager assets are stored, using the settings provided:

- **UNC path to CM assets**
A share that is set up to point to the root access directory for the Campaign Manager deployment.
- **User name, password, domain**
The credentials that will be used to access that share.

If the **Direct file system access to Campaign Manager assets** checkbox is unchecked then Storefront will transmit the files via HTTP (or HTTPS if the deployment is running in a secure environment). The uploaded files are stored in the Storefront deployment's Assets\SF_Uploads directory, which is automatically created if it doesn't already exist. Within that directory a subfolder is created for the assets uploaded for each document created in Storefront.



The second plugin improvement is to its error handling, which has been made much more robust.

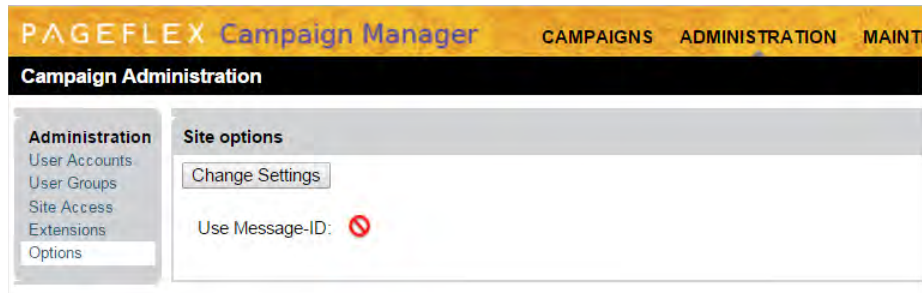
NOTE: it is the responsibility of Storefront admins to set up schema validation for data lists uploaded for use with campaign products. No amount of error handling improvements can help

ordering users or Campaign Manager admins fix problems in the data after the upload has occurred.

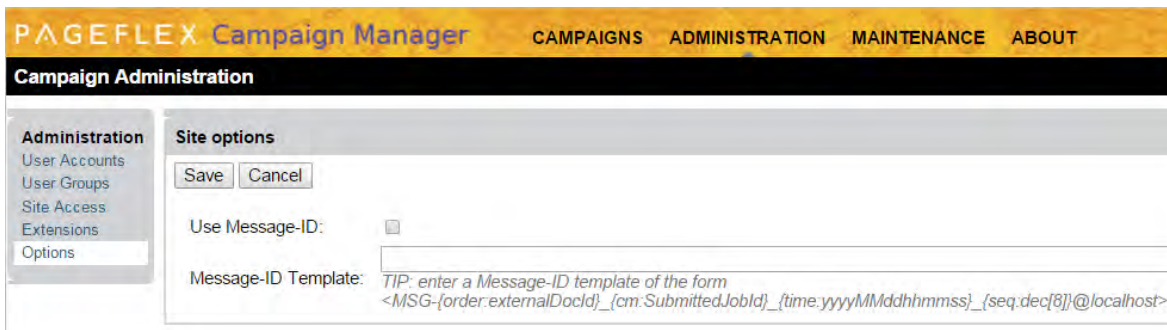
109. Campaign Manager: Configurable Message ID

Version 9 adds support for an admin user to configure the Message-ID embedded within headers of outbound email. See [What to Know About Message-ID Templates](#) for a detailed description of how to employ discretionary variables within the Message-ID template.

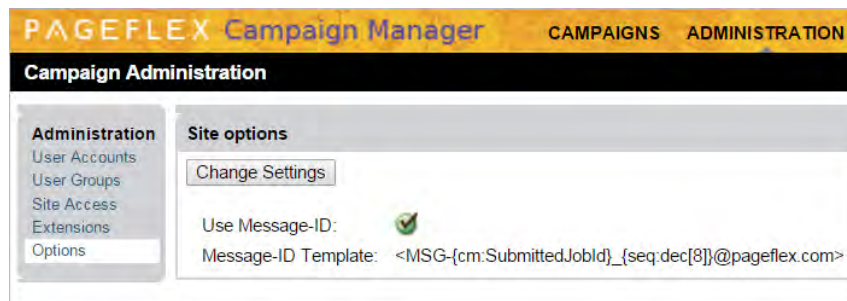
The **Message-ID Template** is defined in the interface of the Campaign Manager admin site via a new **Options** choice under the Administration menu:



Upon clicking the “Change Settings” button to enter Edit Mode, the user is shown a suggested Message-ID format when no ID has been configured:



When the Message-ID template has been defined it is displayed in view-only mode:



VI. Bug Fixes

Each Pageflex 9 release includes fixes to defects reported by customers. We keep [a complete list online](#) for you to peruse at your leisure.

VII. Known Issues

If you are using Storefront extensions that call the SXI event `ValidateForm()`—deprecated for many years, by the way—you should be aware that version 9.4’s [performance improvements](#) will cause that method to fail. If updating such extensions to use preferred alternatives (e.g. the [sfjs API](#)) isn’t a viable option then you may restore legacy behavior by creating a Boolean-value product metadata field with the special reserved name of `__Pageflex__SimplifyFieldSaving` (note the double underscores before and after `Pageflex`) and a default value of `False`.

Other known issues new to version 9 are as follows:

- When configuring a file upload control in a product form, admins have the option of adding Clear and Reset buttons to the form. Neither button is available however for the upload control used in Upload PDF products. The admin configuration checkboxes to include them are, for this one product type, like the buttons found on traffic signals to ostensibly activate a pedestrian “Walk” light: not actually functional.
- Storefront 9 deployments are functional in Microsoft Internet Explorer 11, but IE’s well-documented deviation from HTML standards (specifically, lack of support for certain image- and layout-related CSS attributes) results in flaws in the presentation of the catalog pages. Because of this, we do not claim to fully support IE 11, which is why visitors to a Storefront 9.2 deployment will be shown a one-time-per-session warning that the site is best viewed with Edge, Chrome, Firefox, or Safari. Deployers may modify the warning text by editing the site’s `Strings.resx` file. It is also possible—but not recommended—to disable the warning entirely; to do so, paste the following code snippet into the HTML Includes field of the admin Site Options > UI Configuration page:

```
<script>
skipVersionCheckMessageForInternetExplorer=true;
</script>
```

Like so:

HTML Includes

Add to HEAD element:

TIP: Wrap script references, links, or other includes with all necessary HTML markup to be used "as is" within the head element.

```
<style>
@import url('https://fonts.googleapis.com
/css?family=Julius+Sans+One|Ubuntu|Oxygen');
</style>

<script>
skipVersionCheckMessageForInternetExplorer=true;
</script>
```

Versions of IE prior to 11 are not supported at all due to more severe constraints on site functionality in addition to more sitewide cosmetic flaws.

- While all Storefront extensions included with this release setup kit are fully compatible, other Storefront extensions acquired from Pageflex Services or other parties may not work as expected or intended within new or upgraded deployments. Refer to Section 2, “Review

Your Extensions,” in the [Pageflex Storefront 9.5.0 Upgrade Guide](#) for more guidance on this topic.

Known issues and requirements of past releases that continue to be relevant to version 9 are documented [here](#).

Thank you for choosing Pageflex!

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