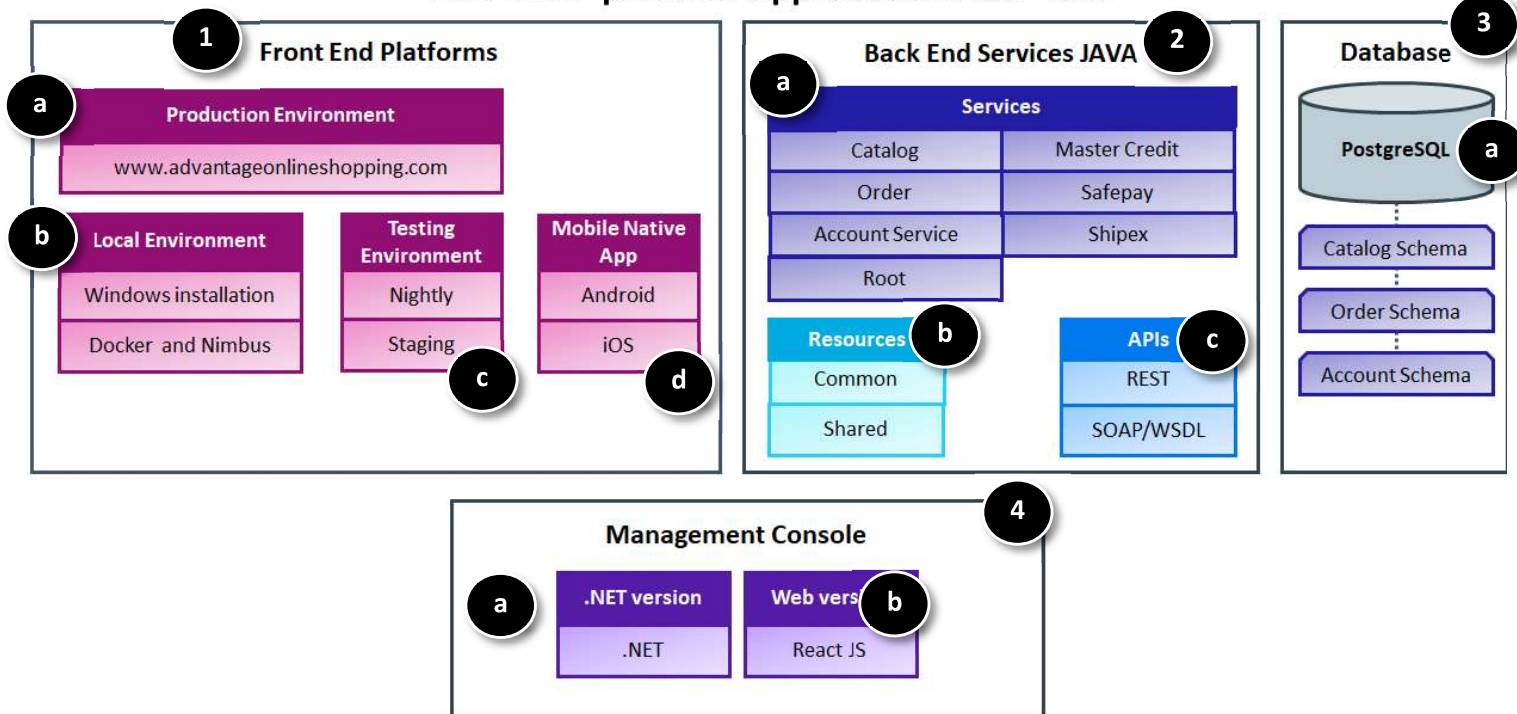


AOS Architecture Diagram

Here is look at how the APS components fit together.

AOS Multi-platform Application Under Test



1. Front-End Platforms

The front end lets you interact with a UI that acts like an e-commerce site so you can find products, put them in a shopping cart, specify quantity, fill out billing and shipping details, and enter payment information. The front end also lets you create an account and manage their orders.

- Production environment.** Let's you run AOS from the browser.
- Local environment.** Let's you run an instance of AOS on your own machine.
- Testing environment:** Lets you run AOS from the browser by using an environment that is not production-quality, but is good for testing.
- Mobile Native App:** Lets you run AOS on your mobile device (Android or iOS).

NOTE: AOS in the production, local, and testing environment is written in Angular JS. The AOS Mobile Native app is written in Kotlin and Objective C.

2. Back-End Services JAVA

- Services.** There are 7 services that act as requests for information:

- Catalog:** Defines all the AOS computer products and their attributes: colors, prices, sizes, types (speakers, tablets, laptops, mice, headphones). The Catalog also contains the demo app configuration parameters that enable the team to make changes in the app very easily (to deliberately make problems they can resolve during a demo).
- Order management:** Handles everything that happens with the shopping cart and costumers orders – history, add, edit, and delete items.

- **Account Service:** Manages the users, their basic attributes, and how they log into the site. A lot happens with this service, as it is for communication and authentication.
 - **MasterCredit:** Mimics payment by credit card when you check out. You can use imaginary 16-digit credit card number, expiration date, and CVS. A request is sent to master-credit service; it performs basic check. The next two services communicate with the database that contains client's previous orders.
 - **Safepay:** Mimics PayPal. Allows user to enter any valid user name and password.
 - **ShipEx:** Service that returns shipping costs based on address. It is a standalone item. We are working to evolve this and use the latest technology. It opens an API, gets requests from the front end, or programmatically and returns shipping information.
 - **Root:** All our front-end schemes, written with angular and java script. In charge of UI, communication from browser to back-end. Basic tasks happen on browser, more advanced happen with requests communicating with back end.
- b. **Resources.** These are additional backend resources:
- **Common:** A service with static files that other files use.
 - **Shared resources:** Similar to **Common**. These are static configuration files that services use when necessary.
- c. **APIs.** These provide a way for users to access AOS features without a UI. We provide two types of APIs:
- REST
 - SOAP/WSPL

NOTE: For details about the APIs, see: [Section 3. AOS Backend: APIs](#)

3. Database

- a. **PostgreSQL database.** This is where catalog, order, and account data is stored.

4. Management Console

- a. **.NET Management Console.** Allows a user to make changes to the contents and behavior of AOS to better demonstrate or test other Micro Focus tools.
- b. **Web Management Console.** Web-based version of the Management Console. It is currently under development.

What are the different environments?

We provide both public and on premise environments for AOS.

Public Environments

These are the three public AOS environments.

- **Production:** This environment has all the functionality of an e-commerce platform where you can search for a product, choose options for the product, add it to your cart, entering billing and shipping information, make a purchase by credit card or SafePay (similar to PayPal), and manage your account. **NOTE:** Of course, with AOS, you never actually pay for the product.
The production environment is the final released version of the product. It is most stable and secure environment, with regular backups. Presales can depend on this site because everything always works. It is our in-house product and is accessible from a browser via this URL: www.advantageonlineshopping.com.
NOTE: The Mobile app also uses this environment.
- **Staging:** This environment is typically used for testing. It changes each time developers make a change to AOS. It is not 100 percent stable. You need an IP address to run a script against it.
- **Nightly:** This environment updates itself each night after the staging environment has run. All changes made during the day appear there. This site is on AWS and is mainly a tool for front-end developers. To access this environment, you need an IP address so you can run a script against it. During an Enablement Activity, such as training or a demo, it is better to run the script against this environment, rather than the Production environment. However, we cannot guarantee availability of the Nightly environment.

What are the different on premise environments?

There are several on premise environments. All of them provide your own local instance of AOS (not on the cloud).

- **Docker:** We provide two Dockerized solutions, each of which has three containers: **AOS main**, **Account service**, and **PostgreSQL**:
 - **All-in one environment:** All three containers run on one host.
 - **Multi-container environment:** Machine cluster where each container runs on a different machine.
- **Windows:** We provide an easy-to-install web application that runs locally on your own machine.

What is the DevOps Story?

Developers can run scripts against all AOS local and public environments. These multiple environments emphasize the DevOps story we tell our customers – that our tools can be used by developers and operators alike for continuous integration, moving ideas from user stories to production:

How does the AOS development team use these environments?

1. Someone opens an AOS user story in Octane regarding a bug or enhancement.
2. The developer performs the necessary task.
3. The developer pushes the updated code to GitHub, the code repository and version manager.
4. Next, the LeanFT or UFT test scripts automatically run. The scripts ensure that functions are not impaired by the new change or enhancement. If the tests pass, the new version is pushed to the staging environment.

5. Each night, code is pushed to the nightly environment. Micro Focus tools monitor the change or enhancement.
6. When the release is ready, the changed code is pushed to the in Production environment.

Now let's look at AOS in all its forms!

Section 2. AOS Front End: Web, Mobile, Local

AOS is available on multiple platforms: local (Windows, Docker, and Nimbus), public Web (www.advantageonlineshopping.com), and as a mobile app. Multiple platforms provide flexibility for users.

IMPORTANT! In this section, our screenshots are from www.advantageonlineshopping.com. However, the AOS user interface looks very similar on all platforms.

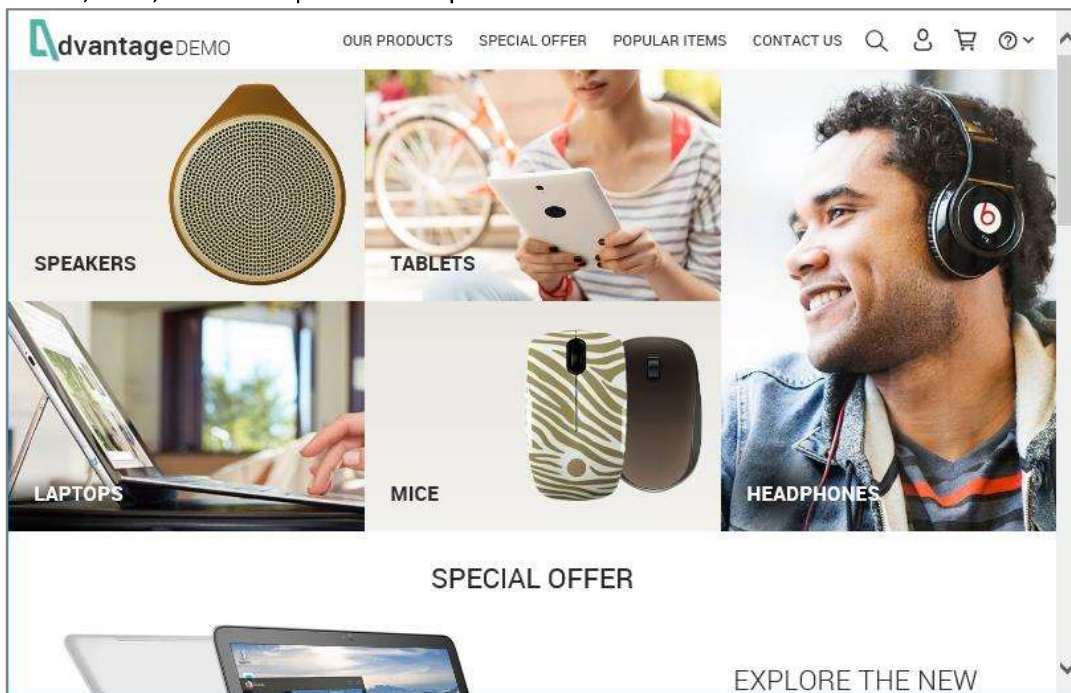
AOS is a SPA (single-page application) consisting of these areas (accessible from the menu at the top of the screen):

- Products
- Search
- Cart
- Account
- Contact Us
- Help (About and Versions)
- Special Offer
- Popular Items

Let's look at the important areas.

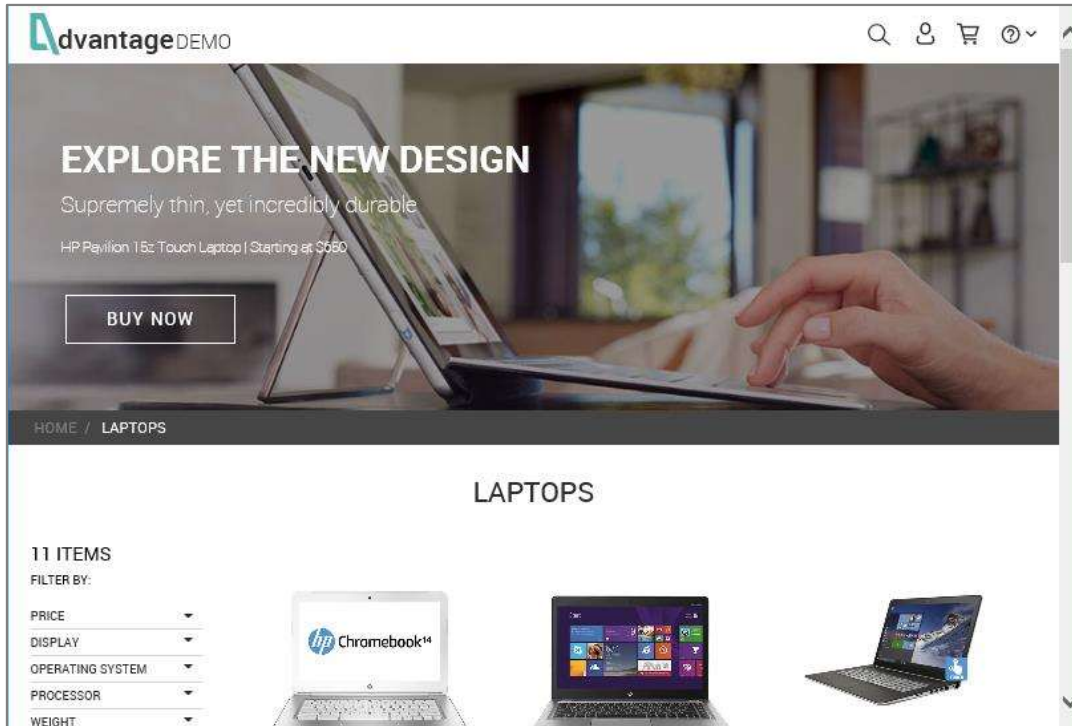
Products

Locate, view, and select products for purchase.

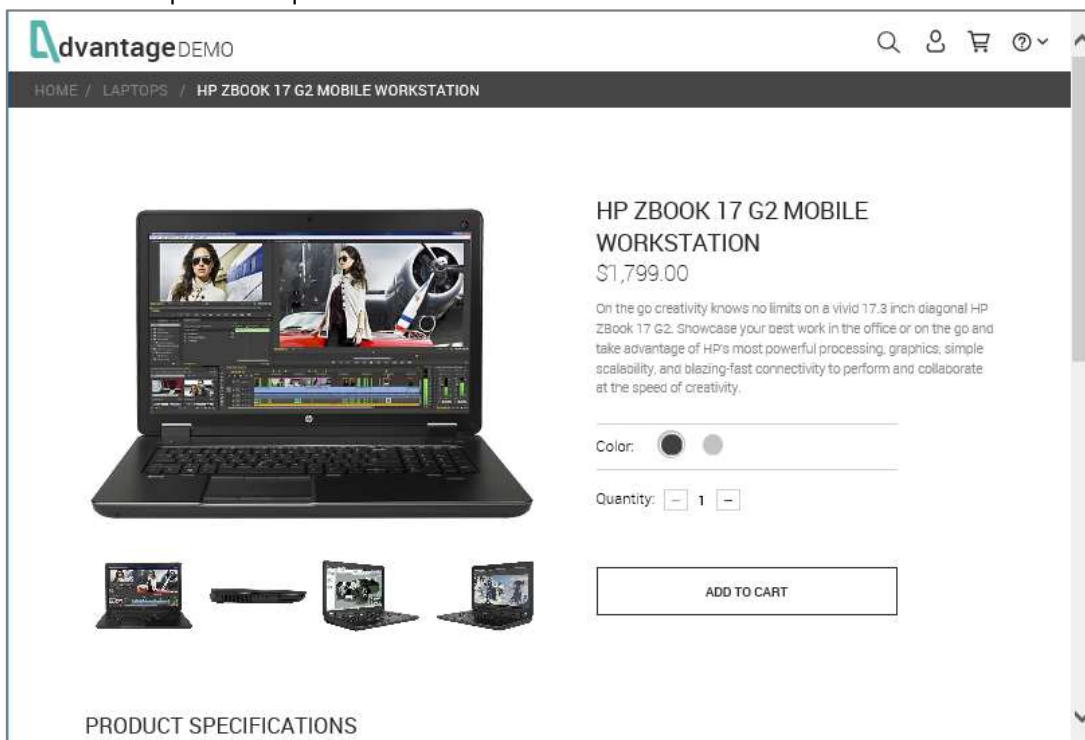


- Products are grouped by categories: Speakers, Tablets, Laptops, and Mice. **NOTE:** You can modify the actual products in AOS using the Management Console. For details, see [Section 4. AOS Management Console](#).


- Select any category and filter by different criteria (price, manufacturer, etc.) to locate a product.



- Find out when a product is sold-out or if there are special offers.
- Select a product, pick its color (or other characteristic), and select a quantity. **NOTE:** With AOS, the quantity ordered for a particular product cannot exceed the number of items in stock.



Search

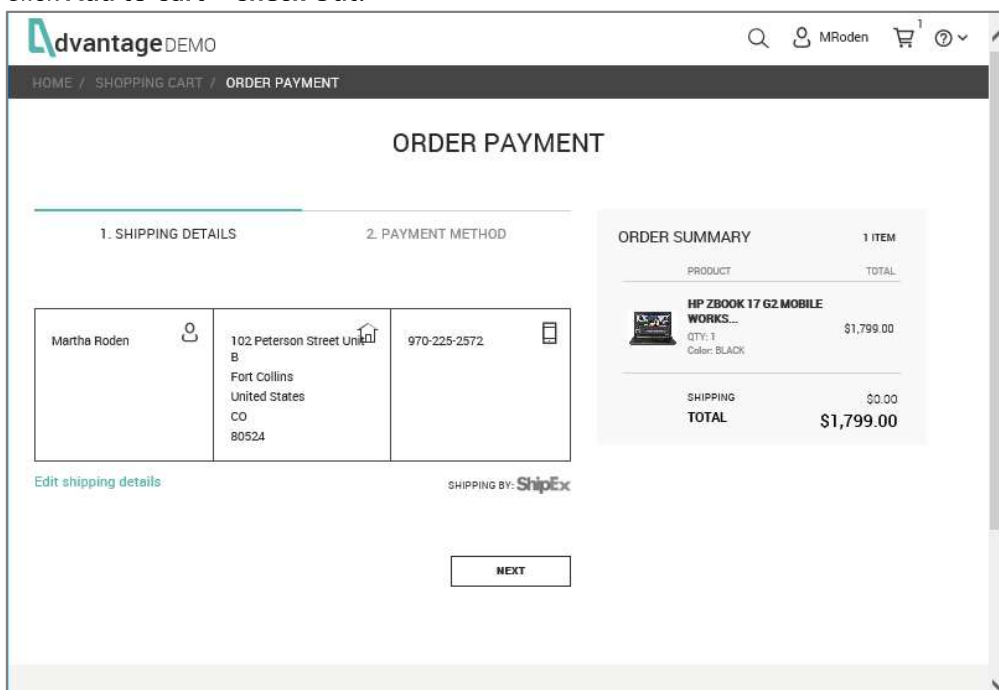
Click the **Search** icon  to search for products.

- Enter partial or complete text for searching and then lists all products containing that text.
- Specify the additional search criteria by category.

Cart (Order and Payment)

This part of AOS allows you to make purchases.

- Click **Add to Cart > Check Out**.



advantage DEMO

HOME / SHOPPING CART / ORDER PAYMENT

ORDER PAYMENT

1. SHIPPING DETAILS

Martha Roden

102 Peterson Street Unit B
Fort Collins
United States
CO 80524

970-225-2572


[Edit shipping details](#)

2. PAYMENT METHOD

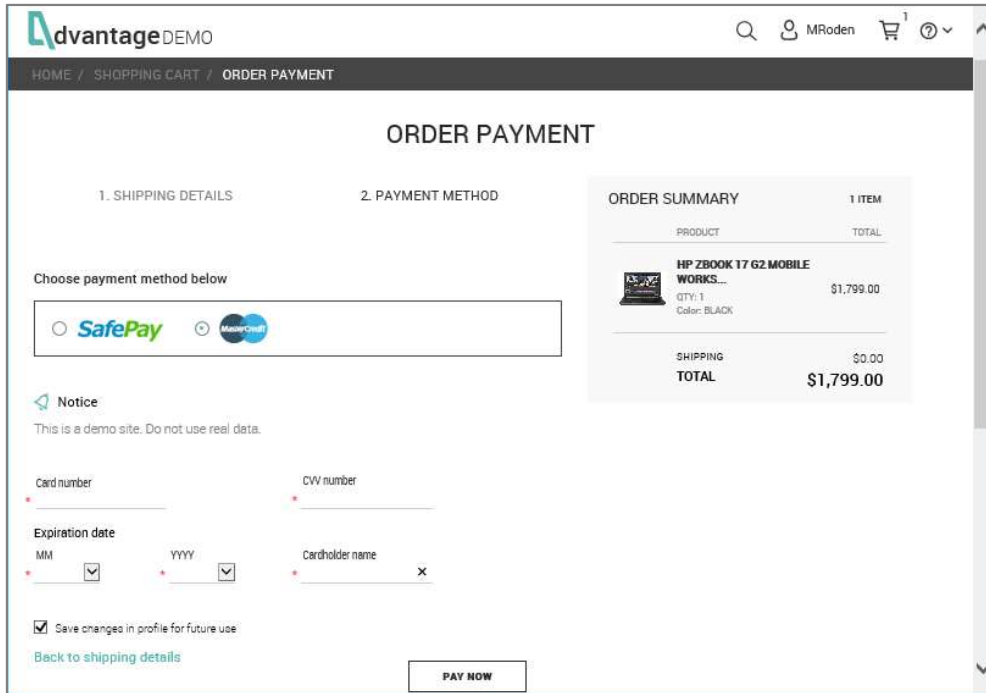
SHIPPING BY: **ShipEx**

NEXT

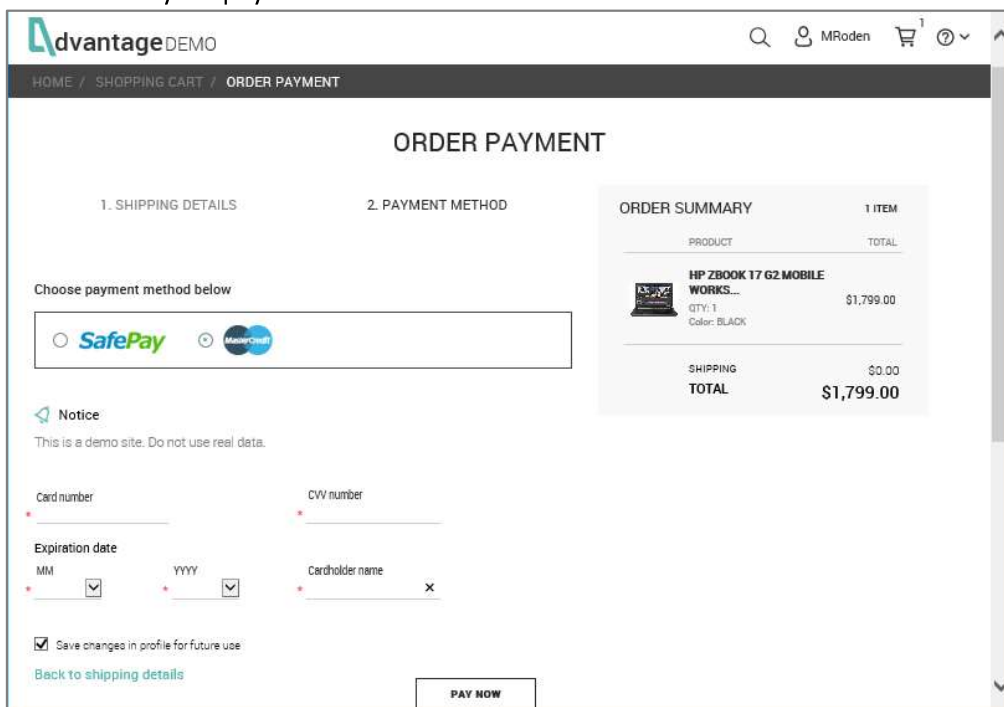
ORDER SUMMARY

PRODUCT	TOTAL
 HP ZBOOK 17 G2 MOBILE WORKS... QTY: 1 Color: BLACK	\$1,799.00
SHIPPING	\$0.00
TOTAL	\$1,799.00

- Verify or edit your shipping details.

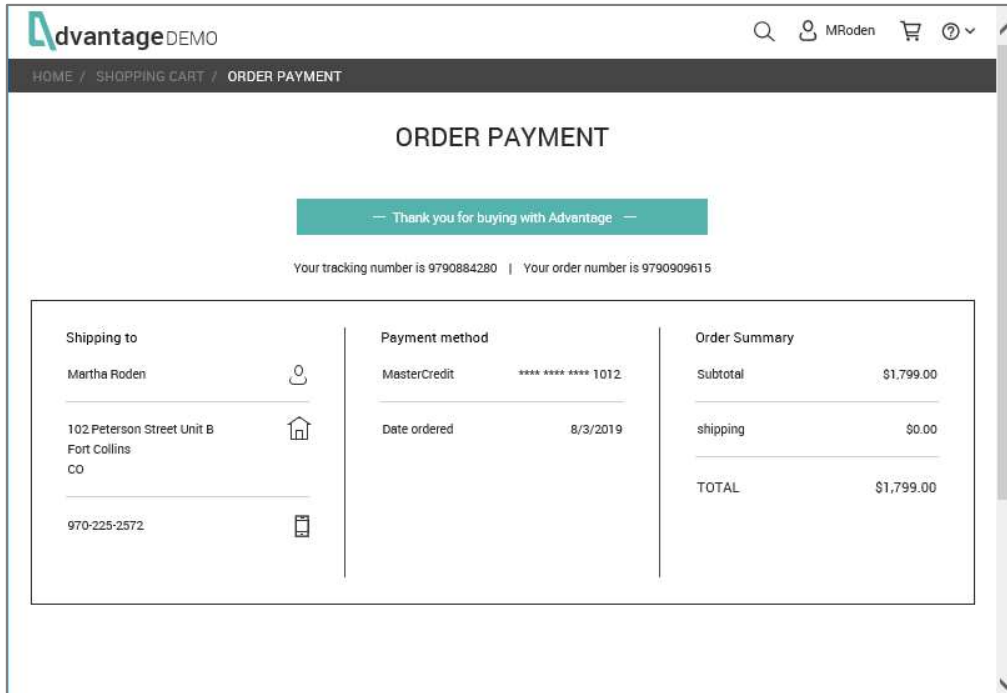


- Enter or edit your payment method.



- **SafePay** (similar to PayPal) – enter any user name or password.
- **Credit Card** – enter a name, card number (any 12 digits), and security code (any 3 digits).
- Click **Pay Now** to make the purchase. **NOTE:** Don't worry; you will not actually be billed.

- View the tracking number and order number on the **Thank You** page.



AdvantageDEMO MRoden

HOME / SHOPPING CART / ORDER PAYMENT

ORDER PAYMENT

— Thank you for buying with Advantage —

Your tracking number is 9790884280 | Your order number is 9790909615

Shipping to	Payment method	Order Summary
<p>Martha Roden</p> <p>102 Peterson Street Unit B Fort Collins CO</p> <p>970-225-2572</p>	<p>MasterCredit **** * 1012</p> <p>Date ordered 8/3/2019</p>	<p>Subtotal \$1,799.00</p> <p>shipping \$0.00</p> <p>TOTAL \$1,799.00</p>