

Data Integration for E-Commerce: What is It, and Why Do You Need It?

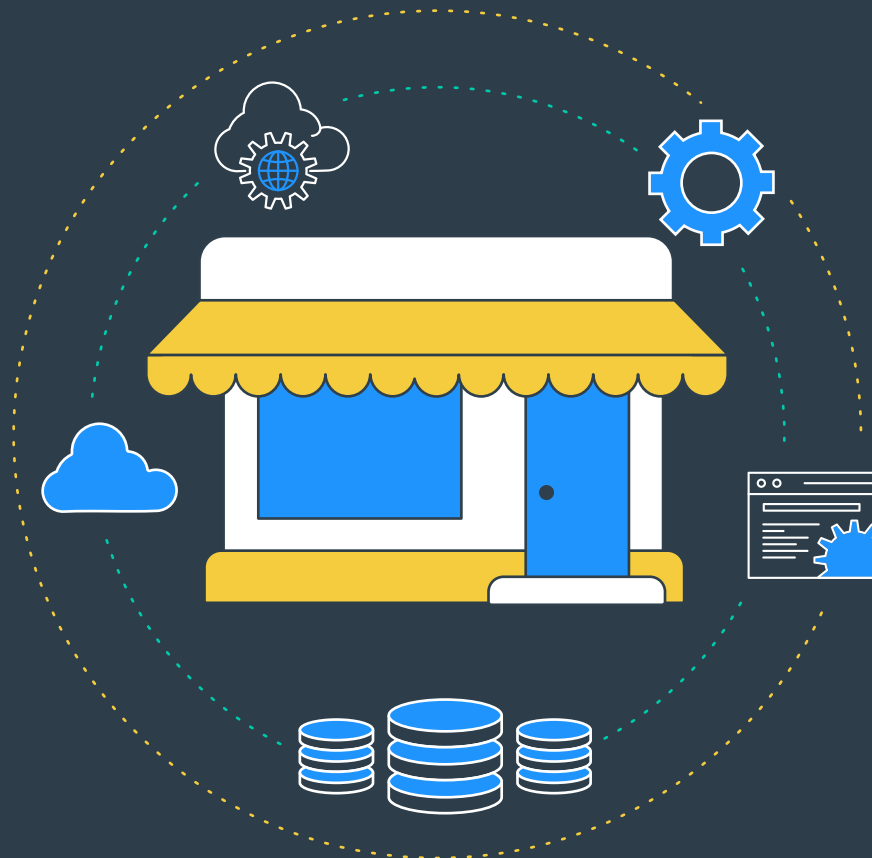
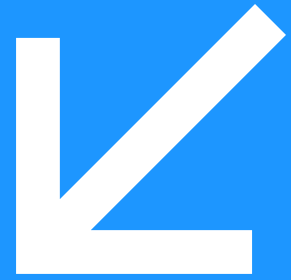


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01

INTRODUCTION

Five things to know about data integration for e-commerce:



Many e-commerce retailers have data in siloed systems, making data integration difficult.



Moving data from these systems to a centralized location like a data warehouse makes it easier to generate e-commerce insights that support business growth.



There are various data integration techniques, including ETL, ELT, Reverse ETL, and Change Data Capture.



Some of the challenges associated with data integration for e-commerce include data loss and data compliance.

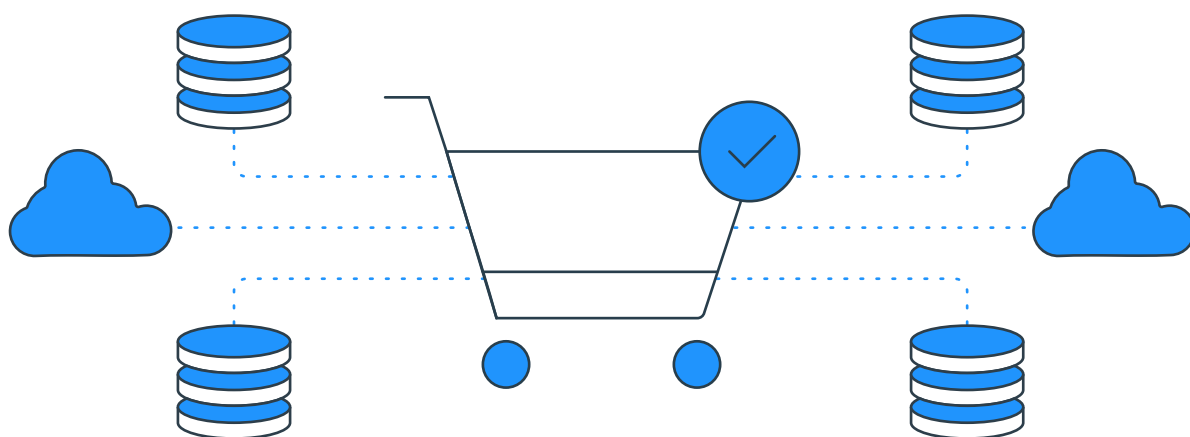


[Integrate.io](https://integrate.io) is a low-code/no-code data warehousing integration solution that makes it easier to move e-commerce data between sources.



E-commerce retailers juggle countless data sources spread across various software platforms. For many merchants, their most critical data exists in siloed systems that don't 'talk' to each other, making [data integration](#) seemingly impossible. Still, retailers somehow need to integrate e-commerce data for decision-making, problem-solving, and business growth. What's the solution?

In this whitepaper, Integrate.io takes a deep dive into data integration for e-commerce—what it means, and why retailers like you need it. You'll learn the benefits of moving data from siloed systems to a centralized destination for data analytics and the different data integration methods that achieve this objective.



Integrate.io is a new data warehousing integration platform for e-commerce. It moves data from disparate systems to a data warehouse of your choice for high-performance data analysis without any jargon or lots of code. With Integrate.io's native connectors, you can transfer data from multiple platforms to a warehouse without data engineering experience and generate powerful insights about your e-commerce enterprise. [Schedule some time with an expert](#) to learn more or email hello@integrate.io for more information.

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WHAT IS DATA INTEGRATION FOR E-COMMERCE?

E-commerce retailers collect, process, and store data from multiple sources and keep it in various systems.

Say you own an e-commerce store. You might have data in Shopify or Magento, data in a customer relationship management (CRM) system (like Salesforce), data on social media, data in a marketing automation tool, data in an enterprise resource planning (ERP) system, and so on. In 2021, organizations worldwide used, on average, 110 software as a service (SaaS) applications alone. While smaller e-commerce companies might rely on fewer programs, they likely use multiple tools to manage their online activities.

The problem is that many of these systems don't communicate with each other, making it difficult for e-commerce retailers to find the data they need or perform data analytics.

Typically, retailers will use several systems simultaneously, further complicating day-

to-day tasks. By moving all this data to a centralized system, it can be easier to support BI activities and generate insights about customers, orders, sales processes, and more.

Data integration involves combining data from multiple siloed sources into a single location. That allows e-commerce retailers to have a 360-degree view of their data activities—or a 'single source for truth' (SSOT). The best location for this data is typically a data warehouse because it enables BI and data analytics, which is something e-commerce retailers can no longer ignore.

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WHY IS DATA ANALYTICS IMPORTANT FOR E-COMMERCE?

Data analytics is important for digital merchants for several reasons:

1 DETERMINING BUSINESS PERFORMANCE

By evaluating patterns in e-commerce data, online retailers can make smarter decisions about their business. For example, data trends might reveal different ways a digital company can cut costs or improve operational efficiency.

2 PERSONALIZING CUSTOMER EXPERIENCES

Another benefit of data analytics is that it helps retailers understand how customers interact with their online business. For example, a particular demographic might be more likely to buy a specific product than other groups. Insights like these help retailers personalize customer experiences and drive more sales.

3 MEASURING MARKETING CAMPAIGNS

Data analytics allows e-commerce retailers to track and measure the success of their marketing campaigns across different devices and channels. For example, retailers can discover whether a specific campaign resonates with prospective customers and how many sales that campaign generates.

4 DISCOVERING PURCHASING TRENDS

Data analytics can reveal which products are the most popular with specific target groups, helping retailers fine-tune product suggestions and further increase sales.



5 HANDLE INFORMATION ABOUT PRODUCTS

E-commerce data integration provides insights into the products you sell on your online store. You can use it to generate information about orders, shipments, and inventory. For example, you can learn which products sell the most units and optimize inventory processes in your warehouse.

6 GET INSIGHTS ABOUT E-COMMERCE PLATFORMS

With data integration, you can generate data analytics about all the e-commerce platforms you use in your business and learn which platforms provide you with the most value and functionality. For example, you can integrate Shopify, Magento, WooCommerce, Opencart, BigCommerce, and other popular websites and view data from these platforms in a centralized data warehouse.

7 IMPROVE EMAIL MARKETING

With the latest e-commerce data insights, you can engage with customers through your email campaigns. By analyzing customers' order histories and purchasing habits, you can send emails with special offers, recommended products, and new items. These emails can also help you improve customer loyalty, increase brand awareness, and solve the problem of abandoned carts.

These insights are typically not possible without integrating data from different systems. Data integration for e-commerce, therefore, can prove invaluable for retailers who want to increase revenue, discover purchasing trends, determine business performance, fine-tune marketing strategies, and personalize customer experiences.

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DIFFERENT DATA INTEGRATION TECHNIQUES FOR E-COMMERCE

There is no one-size-fits-all data integration technique for e-commerce retailers.

It all depends on the amount of data retailers have, the number of systems that store that data, and the insights retailers want to generate.

ETL

Extract, Transform, Load (ETL) is, perhaps, the most popular data integration method right now. It involves extracting data from sources such as an e-commerce platform or CRM, transforming the data into the correct format for big data analytics, and loading the data to a warehouse like Amazon Redshift, Snowflake, or Google BigQuery. From here, you can run e-commerce data through BI tools like Tableau and Looker and generate insights about your online business. ETL is suitable for e-commerce retailers with smaller data loads that don't require complex transformations.

ELT

[Extract, Load, Transform](#) (ELT) reverses the 'load' and 'transfer' parts of ETL. It extracts data from an e-commerce business tool or another source and loads it to a warehouse before transforming the data into the correct format for analytics. ELT might be beneficial for e-commerce retailers with big data loads or large and unstructured data.

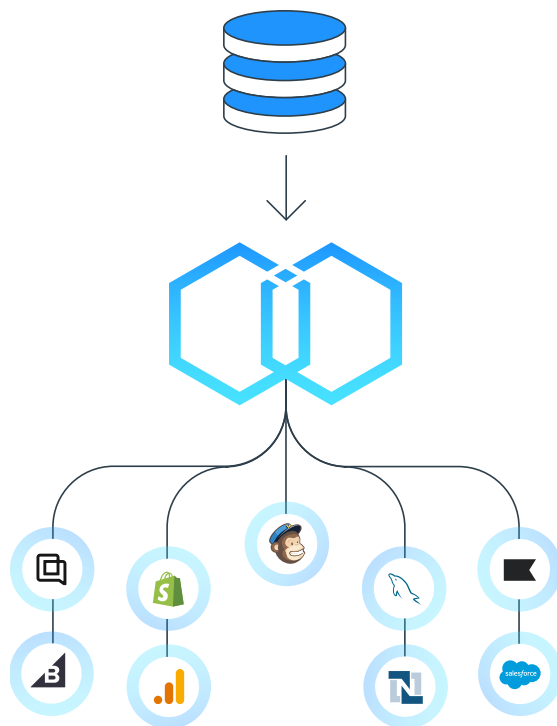


REVERSE ETL

There might be times when you want to move data *from* a warehouse to an operational system of record, such as a SaaS tool you use for sales and marketing. Reverse ETL lets you achieve this goal. This data integration method is valuable if you want to make data available for teams to use in their favorite tools.

CHANGE DATA CAPTURE

Change Data Capture (CDC) tracks changes made to data in a database. It provides real-time insights into database changes, such as updates to tables or deleted activity. This method can help you improve database management in your e-commerce enterprise.



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THE BIGGEST CHALLENGE OF E-COMMERCE INTEGRATION

The biggest challenge associated with the above data integration methods is coding.

Typically, data engineers need to build complex data pipelines to make ETL, ELT, Reverse ETL, or CDC work, and the whole process can take days or even weeks depending on the amount of data that exists in your systems.

Many online retailers have small teams and can't afford to hire a data engineer that costs, on average, \$165,553 per year in the United States (data correct as of April 2022). Some data pipelines are so complex that you might require two or even three data engineers to enable data integration to happen.

The only solution to these problems is to invest in a good data integration platform—one that successfully moves data from e-commerce solutions and other sources to a warehouse with the least amount of code

required. Doing so allows you to transfer data to a target system for forecasting and analytics and generate insights about customer service, customer experiences, inventory management, inventory levels, supply chain management, and other e-commerce tasks.

Unfortunately, many products on the market only perform one or two of the data integration methods listed in the previous section. (A data integration platform might perform ETL but not ELT or Reverse ETL, for example.) That gives you far less freedom when deciding which data integration methods are best for individual data analytics projects. Other products might offer multiple data warehousing integration techniques but still require an intermediate knowledge of code, rendering these platforms useless for many e-commerce retailers.

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OTHER PROBLEMS WITH DATA INTEGRATION FOR E-COMMERCE

There are other problems when moving data between sources for e-commerce analytics.

One of the most recent concerns is the rise in data governance legislation, which dictates how retailers can process data and move it between systems.

GDPR, for example, impacts all retailers with customers in the European Union, European Economic Area, and the United Kingdom. The legislation stipulates harsh fines—up to 20 million Euros or 4 percent of an e-commerce company's annual revenue from the preceding year, whichever is higher—if retailers violate any of its data governance principles. CCPA, similar to GDPR, issues fines to e-commerce retailers with customers in the state of California who don't adhere to its data protection standards.

Another issue associated with data integration for e-commerce is data loss. Some data integration tools are better

than others, and inferior platforms can jeopardize data or even degrade its quality. Then there's general data security. Moving e-commerce datasets between sources can make data vulnerable to cybercriminals. That's why it's important to use a data integration platform that utilizes security protocols such as data encryption.

One common challenge of e-commerce data integration is legacy data. If you rely on older e-commerce systems in your enterprise, it can be difficult to move data to a modern integration platform like a warehouse. Techniques like ETL solve this issue during the 'transform' part of the data integration process. By transforming legacy data into the correct format for analytics, you can generate data from older systems and garner insights into your e-commerce business.

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E-COMMERCE DATA INTEGRATION USE CASES

Here is a use case for e-commerce data integration:

A small e-commerce company sells footwear online to customers around the world, including the European Union and the United Kingdom. The company uses the following systems for day-to-day e-commerce tasks:

- Shopify for collecting transactional data about purchases made through their online store.
- A MySQL relational database to manage inventory in their warehouse.
- Freshdesk to manage customer queries.
- Salesforce to collect information about customers (names, addresses, emails, purchasing habits, etc.).

The footwear company wants to generate intelligence about its e-commerce operations. However, analysis proves difficult because data exists in so many different systems. Ultimately, the company requires a single source of truth for its data activities, making it easier to identify patterns and trends in data.

The company decides to move data from all its systems to the data warehouse Snowflake. By moving data to this destination, the company can run that data through BI tools like Looker and get a deeper understanding of its customers.



Because the company has large amounts of data in several systems, it decides on the ELT integration method to move data to Snowflake. That involves extracting data from sources like Shopify and Salesforce, transforming the data into the correct format for analytics, and moving it to the Snowflake data warehouse. However, the company only has a small team and struggles to build the complex code-heavy data pipelines required for integration. The company is also wary of GDPR principles when moving sensitive customer data to a new target system and wants to avoid an expensive fine for non-compliance.

In this scenario, the footwear company would benefit from investing in a platform that does all the hard work that comes with integration. A good platform will automate the processes associated with moving data to Snowflake and ensure the company complies with GDPR and other data governance regulations.

Integrate.io is a new data warehousing integration solution for e-commerce that performs ETL, ELT, Reverse ETL, and super-fast CDC. It has a simple philosophy: To simplify the entire data integration process and remove all the jargon associated with it. Its out-of-the-box no-code/low-code connectors allow you to move data from a source to a warehouse for analytics without the need for lots of code or data pipeline-building. That means you can perform data integration even if you have no data engineering experience. [Schedule some time with an expert](#) to learn more or email hello@integrate.io for more information about how this platform can benefit your e-commerce enterprise.

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WHAT IS AN E-COMMERCE DATA INTEGRATION PLATFORM?

An e-commerce data integration platform is a tool designed for online retailers who want to move data to a warehouse and generate analytics about their enterprise.

The best platforms sync with all major warehouses and sources such as relational databases, transactional databases, sales channels, and other systems you typically find in an e-commerce tech stack.

Choosing the right data integration solution can be a challenge. You should pick one that streamlines all the tasks associated with moving data to a warehouse, such as coding, manual data entry, synchronization, and pipeline-building. It should support your business needs, save time, help with business processes, and improve functionality.

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EXAMPLES OF DATA INTEGRATION SOLUTIONS FOR E-COMMERCE

Here are some of the most popular e-commerce data integration platforms:

INTEGRATE.IO

[Integrate.io](#) is a data warehousing integration solution that moves data to warehouses like Snowflake, Redshift, and BigQuery without lots of complicated code. This platform streamlines data warehousing for e-commerce retailers with its low-code and no-code connectors and drag-and-drop interface. The only data integration tool on this list specifically built for e-commerce, Integrate.io offers ETL, ELT, Reverse ETL, and very fast CDC capabilities.

Integrate.io makes it easy for you to access e-commerce data. The solution cleanses, normalizes, and transforms data so it's ready for analytics. There's no need to worry about configuration or maintenance, and you can use this platform even if you lack data engineering experience.

TALEND

[Talend](#) is primarily an ETL tool that connects to major data warehouses, helping you generate insights about e-commerce data in your organization. As an open-source ETL tool, Talend won't cost you any money to use; however, you will need to upgrade to its premium paid-for version to receive more features. Talend also requires an intermediate knowledge of coding, making it unsuitable for smaller e-commerce companies that lack data engineering experience.

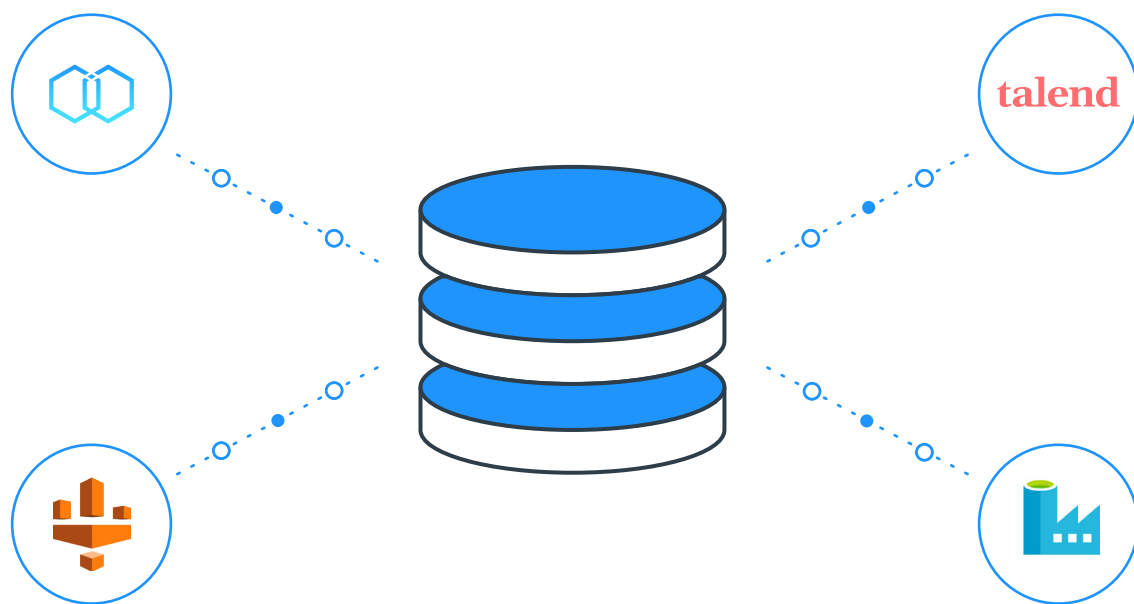


AWS GLUE

[AWS Glue](#) is Amazon's ETL platform. While Glue moves data from sources to destinations seamlessly, its developers have designed the platform to integrate data between Amazon products like Redshift. It also has a high learning curve. Glue runs on Apache Spark, and users need to know code such as Python or Scala to integrate data. engineering experience.

AZURE DATA FACTORY

Azure Data Factory is an ETL tool that comes with over 90 out-of-the-box connectors for data integration. You can use it to repost SQL server integrations and create data-driven workflows that generate insights about your organization. For more advanced data pipelines, Data Factory requires some knowledge of code.



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HOW INTEGRATE.IO HELPS WITH E-COMMERCE INTEGRATION

Integrate.io removes the pain points of e-commerce data integration with the following features:

SIMPLICITY

Integrate.io's easy-to-use interface and no-code/low-code connectors make it simple to build data pipelines for non-engineers. You can quickly set up transformations in a few steps and start the e-commerce data integration process. With over 100 native connectors for e-commerce platforms, transactional databases, SaaS tools, and more, you can move data between sources for deeper e-commerce analytics. Integrate.io also has a simple pricing structure.

API

For more complex data integrations, Integrate.io's API allows for further customization. You can connect monitoring and reporting systems via service hooks and create bespoke data pipelines that move data between all your systems. Integrate.io automates the time-consuming aspects of data integration, allowing you to focus on other tasks in your enterprise.



SALESFORCE-TO-SALESFORCE INTEGRATION

Integrate.io's native Salesforce connector benefits e-commerce retailers who rely on this popular software. You can extract data from Salesforce, transform that data, and even load the data back into Salesforce. This feature is not available with most data integration platforms.

ENHANCED SECURITY

Integrate.io takes security seriously. You can keep data secure with features such as SSL/TLS encryption and security certificate verification. Integrate.io hosts and manages data via Amazon's data centers and AWS technology, providing peace of mind. That helps you comply with e-commerce industry standards and secure your customer's valuable data.



CUSTOMER SUPPORT

Integrate.io provides industry-leading customer support. You can contact a customer rep via telephone, live chat, or email, or set up an online meeting.

Here are some of the things customers say about Integrate.io:

- "Anyone can use it—developers, analysts, business people, etc. It's not overcrowded with functionality and does the things it does do, well. Support is also helpful and available in real-time. I like the drag and drop functionality for creating new data pipelines and how easy it is to schedule packages." ([An administrator in publishing](#))
- "A number of highlights—easy to manage drag and drop features, consistent and reliable hosting, excellent customer service, etc. Online help chat is a massive advantage." ([Anuradha K.](#))
- "Clear UI, easy to use and implement. The number of ETL functionalities is very impressive and the amount of connections to media or more generic data sources is one of the best in the market. It's also very easy to maintain over time all the processes you develop." ([Franck G.](#))

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FINAL WORD

Data analysis is crucial for any e-commerce retailer that wants to learn more about its business operations.

However, many digital merchants have data stored in several siloed systems, making data integration a problem. By moving disparate data to a target system like a data warehouse, you can run e-commerce data through BI tools and generate insights about your business. Unfortunately, building the pipelines required for integration requires programming and data engineering experience, skills many e-commerce retailers don't have.

Investing in a data integration solution makes it easier to warehouse data. The best solutions require no or little code, secure your data, and ensure you comply with the latest data governance regulations.

Integrate.io is the data warehousing integration platform for online merchants who want to identify patterns and trends in e-commerce data. With no jargon and little code, you can optimize the data integration process and grow your business. [Schedule some time with an expert](#) now!

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Interested in learning more about Integrate.io?

Chat with an Expert!

