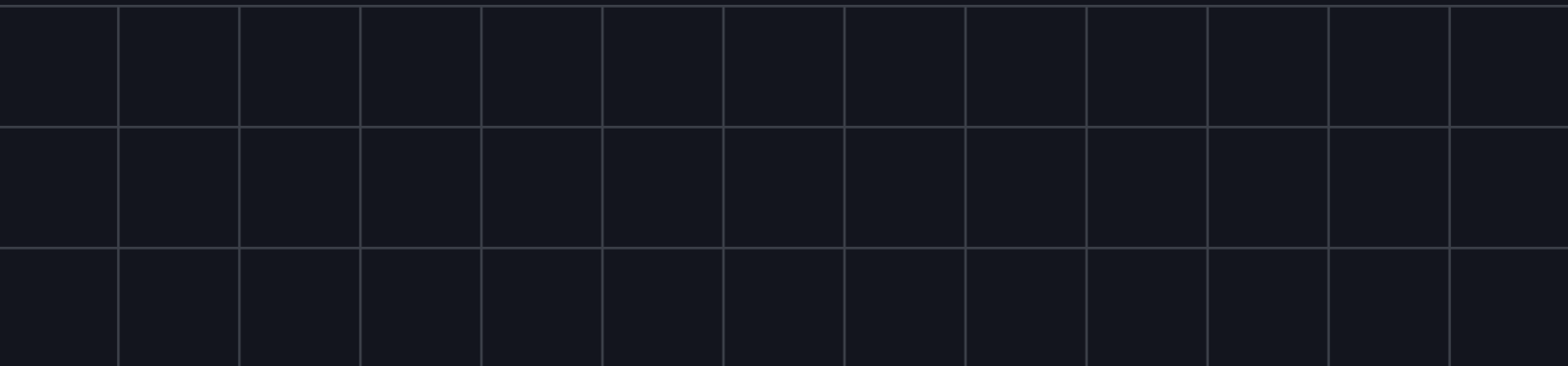




CASE STUDY

How J.B. Hunt Is Driving Freight Transportation Into the Future





J.B. Hunt Transport Services, Inc. is an American transportation and logistics company based in Lowell, Arkansas.

It was founded by Johnnie Bryan Hunt and Johnelle Hunt over 60 years ago and has grown to be a Fortune 500 company that is one of the largest trucking firms in the U.S. It is their mission to build North America's most efficient transportation network and they are working on streamlining freight logistics and providing the best carrier experience possible.

Key Takeaways

- Increased permitted use cases for cloud analytics by 100% with Immuta while also achieving cost savings and productivity gains
- Provided 200+ active users with access to 100+ databases using global PII policies across 250 tables and local PII policies across 50 tables

“Databricks opens up many opportunities for self-service data analytics, data science, and enterprise reporting. Paired with Immuta, we can make all our data available to all types of business analysts, data scientists and data engineers.”

– **Ajay Sahu**, Director Of Enterprise Data Management, J.B. Hunt

Architecture



Industry

Transportation

Challenge

In order to fulfill their goal of becoming the most efficient freight transportation network in North America, J.B. Hunt focuses primarily on connecting carriers with their ideal shipper, taking into consideration details such as price, weight and location.

“What we’re doing from a data science point of view is building pricing models and load recommendation models to improve operations,” explained Doug Mettenburg, Vice President of Engineering and Technology at J.B. Hunt. “But in my 20 years here, data refreshes have only been, at best, every night, and that’s the case across our industry. The problem is, trucks move. Having to wait overnight for data made a lot of what we wanted to provide around tracking and modeling impossible.”

Simply put, legacy architecture, a lack of AI capabilities, and the inability to securely handle big data caused significant roadblocks.

Prior to Databricks and Immuta, J.B. Hunt had their data locked in legacy enterprise data warehouse (EDW) platforms. Their systems struggled to process and store the massive data generated by hundreds of thousands of equipment pieces. They also lacked the necessary levels of data security and the ability to support data streams generated by IoT sensors on their trucks and carriages. J.B. Hunt knew it was time for a change.

Solution

J.B. Hunt's goal was to modernize their data infrastructure by building an open, scalable and unified cloud data architecture. To achieve their goal, J.B. Hunt moved to the Databricks Lakehouse Platform for its ability to unify data engineering and data science functions on one open and scalable platform.

“As we look toward expanding our ML and real-time analytics capabilities, it was critical that we built upon a platform that provides the flexibility to quickly deploy use cases regardless of which cloud or tool sets are being leveraged across our diverse operations – and that’s what Databricks provided us.”

With Databricks Delta Lake, J.B. Hunt not only has the ability to put all their data in one place for easy access across the organization – they can also ensure the performance and reliability of streaming data pipelines at any scale. The support for Delta Lake as the open storage layer brought efficiency and portability to J.B. Hunt's teams as they moved terabytes of their existing data onto the platform. By streaming in real time to Delta Lake – with web, mobile, location, IoT and other application data – J.B. Hunt can analyze larger, more complete data sets to run analytics and ML faster than ever. With MLflow, the data science team is now able to establish reproducibility of code and experiments to ensure they're reusable by multiple data scientists.

Additionally, J.B. Hunt integrated Immuta with Databricks to provide cloud data access control. Immuta gives J.B. Hunt a level of data security that wasn't possible with their legacy EDW.

J.B. Hunt had over 200 users that needed access to sensitive data and they required full auditing, anonymization, and time based access controls. They had tried using manual tools to protect sensitive data but the complexity and staffing requirements to mask and unmask data was too cumbersome and delayed access to the data, resulting in increased costs and limiting analytics. Also, they couldn't risk delays in complying with privacy laws such as the California Consumer Privacy Act (CCPA) that would increase the potential for regulatory fines.

“Before Immuta, we could not make our data widely available to the users due to security concerns,” explained Tina Headrick, Senior Manager of Data Governance and Privacy at J.B. Hunt. “Immuta has allowed us to open up the data to a wide variety of users.”

“Databricks paired with Immuta opens up many opportunities for self-service data analytics, data science, and enterprise reporting,” explained Ajay Sahu, the Director of Enterprise Data Management at J.B. Hunt. “With this modern data stack, we can make all our data available to all types of business analysts, data scientists and data engineers.”

Although large-scale cloud migration projects are often incredibly complex, implementing Immuta on Databricks was straightforward and led to massive cost savings. J.B. Hunt’s operations couldn’t slow down and the solution required flexibility to rapidly create and update data access rules.

REQUIREMENT	OUTCOME WITH DATABRICKS, WITHOUT IMMUTA	OUTCOME WITH DATABRICKS AND IMMUTA
Redaction of older data	✓	✓
Masking sensitive data	—	✓
Delete detail data but keep aggregates	✓	✓
Row-level security	✗	✓
Auditing	—	✓
Manageability	—	✓
Performance	✓	✓

Results

With Databricks and Immuta, J.B. Hunt now has a single, secure, governed source of truth that delivers operational efficiency. Across the company, they've increased permitted use cases for cloud analytics by 100% by using Immuta.

In terms of collaboration, the team has succeeded in bringing the various data teams together to accelerate data science productivity. The company's HR team can run ML models to predict resourcing for their fleets and marketing can quickly perform analytics on Marketo data.

"Immuta has allowed us to automate data access control & privacy protection. As we expand our data estate to Google's BigQuery platform, we will be able to implement consistent data access policies on both Databricks and Big Query," added Tina.

J.B. Hunt has seen a steady rise in the number of Immuta users who are attracted to the platform's ease of use and ready availability of secure data that was previously out of reach for them.

J.B. Hunt has experienced a significant growth in their business operations, and the demand for securely managing data continues to increase.

"We now have a single, secure source of truth to run our business on," added Ajay. "Databricks and BigQuery allow us to show the true value of our data to the company and Immuta allows us to do it securely and in full compliance. To top it off, we're saving huge amounts of time and money in the process."

About Immuta

Immuta enables organizations to unlock value from their cloud data by protecting it and providing secure access. The Immuta Data Security Platform provides sensitive data discovery, security and access control, data activity monitoring, and has deep integrations with the leading cloud data platforms. Immuta is now trusted by Fortune 500 companies and government agencies around the world to secure their data. Founded in 2015, Immuta is headquartered in Boston, MA.

