



Leverage data
and analytics to
unlock any insight

Empower your teams with
comprehensive training



Maximizing the value of your data

Today, data is *everywhere*—and it's growing at a staggering rate. As forward-thinking organizations embrace the idea of data-driven transformation as a business necessity, they also recognize the need to leverage large data volumes as a catalyst, not a barrier, to growth. Before they can maximize the value of their data, however, organizations must confront critical questions.

As you address these challenges at your organization, you'll need to determine how you can:

- 1. Harness your data**
- 2. Gain meaningful insights into your data**
- 3. Overcome data silos while trying to manage your data**

AWS Training and Certification can help your organization solve for these imperatives by enabling your teams to develop critical data and analytics skills. The knowledge your teams gain and the abilities they develop will allow them to better understand your data—and how to derive the most business value from it.



Putting data to work

Organizations that leverage data to deliver new, innovative customer experiences are achieving a wide range of business results. For example, Airbnb, Lyft, and Snapchat each maximize the value of data in ways that accelerate growth:



Uses data to personalize search and recommended results



Can now manage up to 8X more riders during peak times, gain customer insights that power its shared-ride product, and leverage scalability to store GPS coordinates for all rides



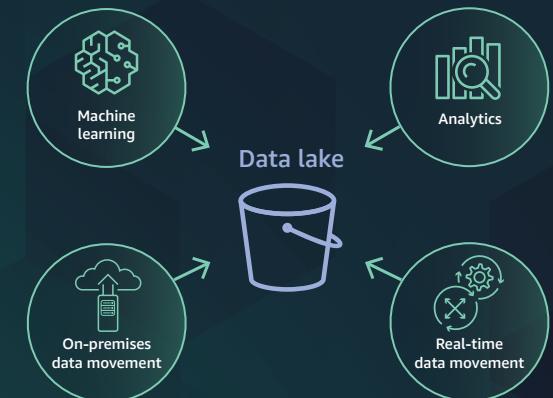
Stores user profiles and serves up relevant ads through data, growing from zero to hundreds of millions of active users in a short time

To stay competitive, organizations increasingly trust data to provide meaningful insights; according to IDG, data analytics is the #1 initiative driving IT investments in 2021.¹

But challenges persist. The influx of structured and unstructured data generated by mobile, IoT, social media, and other emerging technologies is requiring many organizations to rethink their data management strategies.

To overcome these issues, many organizations look to the cloud. The cloud makes it easier and more affordable for businesses to store their relevant data because it eliminates the need for equipment updates, manual monitoring, and management while also reducing electricity costs. The cloud's pay-as-you-go, on-demand compute also makes it easier to analyze and gain insights from data.

Data lakes have also emerged as an essential data and analytics technology. [AWS data lakes](#) act as a centralized repository that can store all types of data at any scale—without the need to first structure the data. From there, organizations can use AWS data lakes to run different types of analytics, from dashboards and visualizations to big data processing, real-time analytics, and machine learning.



Why learn to use AWS data lakes?

Setting up and managing data lakes today involves a lot of manual and time-consuming tasks. AWS Lake Formation automates these tasks so you can build and secure your data lake in days instead of months. [Amazon S3](#) is the best place to build a data lake, offering:

- An unmatched 11 nines of durability and 99.99% availability
- The best security, compliance, and audit capabilities
- The most flexibility, with five storage tiers
- Pricing that starts at less than \$1 per TB per month.

Data needs people to work—and helps people work more effectively

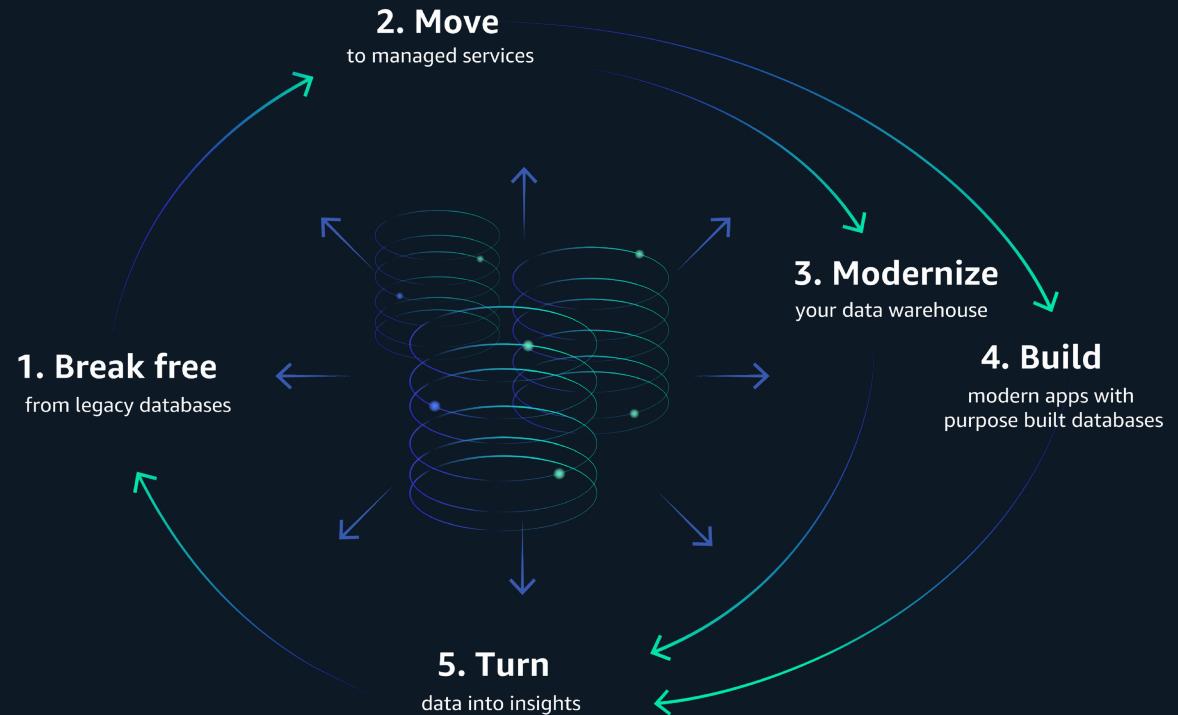
In a 2021 survey by NewVantage Partners, just 24 percent of respondents claimed they had created a data-driven organization. A large majority—92 percent—identified people, business processes, and culture as the principal challenges to becoming data-driven, with only 8 percent pointing to technology limitations as the main barrier.² While the current trend is to anoint data as the world's most valuable business asset, the research appears to support what many have long understood—the most critical business resource is, was, and always will be people.

Individuals with the right skills can see data's potential, access it, understand its complexities, and leverage it into a successful business outcome. But right now, there's a significant skills gap holding progress back. Research shows that finding qualified talent with analytics and big data skills is difficult, with those skills ranking as the third-most challenging to recruit for.³

AWS Training and Certification helps you overcome your skills gaps, allowing you to maximize the business value of your data with the people you already have. We'll help you put the right training strategies and programs in place to spur skills development, spread data fluency, and ultimately fulfill the promise of data-driven transformation—all by investing in your most important resource: your people.



Build momentum with the **Data Flywheel**



One way to understand the kind of skills development required at your organization is through a strategic model we call the Data Flywheel. The AWS Data Flywheel helps ensure that your organization is taking a comprehensive approach to getting the most value from your data. The model spans five stages, each requiring different skill sets.

AWS Training and Certification offers courses that can help your teams gain the skills needed to put the Data Flywheel to work. Below are the key stages of the flywheel. Later in this eBook, we'll cover the courses that provide the needed skills for each stage.

Step 1. Break free of legacy databases

Legacy databases can be expensive. Plus, they are proprietary, create lock-in, offer punitive licensing terms, and come with frequent audits. You can overcome these issues by moving to open-source alternatives like MySQL, PostgreSQL, and MariaDB. But while the simplicity and cost-effectiveness of open-source databases are certainly attractive, you'll still need the performance and availability of high-end commercial databases. That's why AWS built Amazon Aurora, a MySQL- and PostgreSQL-compatible relational database built for the cloud that provides the benefits of both high-end commercial databases and open-source databases.

Services to learn:

[AWS Database Migration Service \(DMS\)](#), [CloudEndure Migration](#)

Step 2. Move to managed services

Managing your databases and analytics infrastructure can be tedious and time consuming. Moving to fully managed services on AWS allows you to spend time innovating and building new apps, not managing infrastructure. Amazon Relational Database Service (RDS) is a fully managed solution that can run your choice of database engines, including open-source engines as well as Oracle and SQL Server. Amazon RDS improves database scale and performance and automates time-consuming administration tasks such as hardware provisioning, database setup, patching, and backups.

Services to learn:

[Amazon Aurora](#), [Amazon RDS](#)

Step 3. Modernize your data warehouse

Traditional approaches to data warehousing can't keep up with the needs of the modern business because they are hard to scale, slow, expensive, rigid, siloed, and complex. To give your Data Flywheel the push it needs to achieve self-sustaining momentum, you'll need to adopt a modern, cloud-based data warehousing strategy—one that allows you to store, process, and analyze more data faster and more efficiently.

Services to learn:

[Amazon Aurora](#) and [Amazon RDS](#), [Amazon DynamoDB](#), [Amazon DocumentDB](#),
[Amazon ElastiCache](#), [Amazon Neptune](#), [Amazon Timestream](#), [Amazon QLDB](#)

31%

*of businesses cite
 "lack of the right skill sets
 to manage and derive
 maximum value from
 cloud investments"
 as one of their top three
 cloud challenges.⁴*



Step 4. Build modern apps with purpose-built databases

Building high-performing, scalable, and available applications that will grow with your business requires a new set of rules. You'll need to change your database strategy and leave complex, monolithic designs behind in favor of highly distributed apps comprised of microservices. Embracing newer purpose-built database types makes the shift to microservices easier, allowing your developers to use the right tool for the right job when building modern apps.

Services to learn:

[AWS Lake Formation](#), [Amazon Athena](#), [Amazon EMR](#), [Amazon Redshift](#), [Amazon Kinesis](#),
[Amazon Elasticsearch Service](#), [Amazon QuickSight](#), [Amazon Personalize](#), [Amazon SageMaker](#)

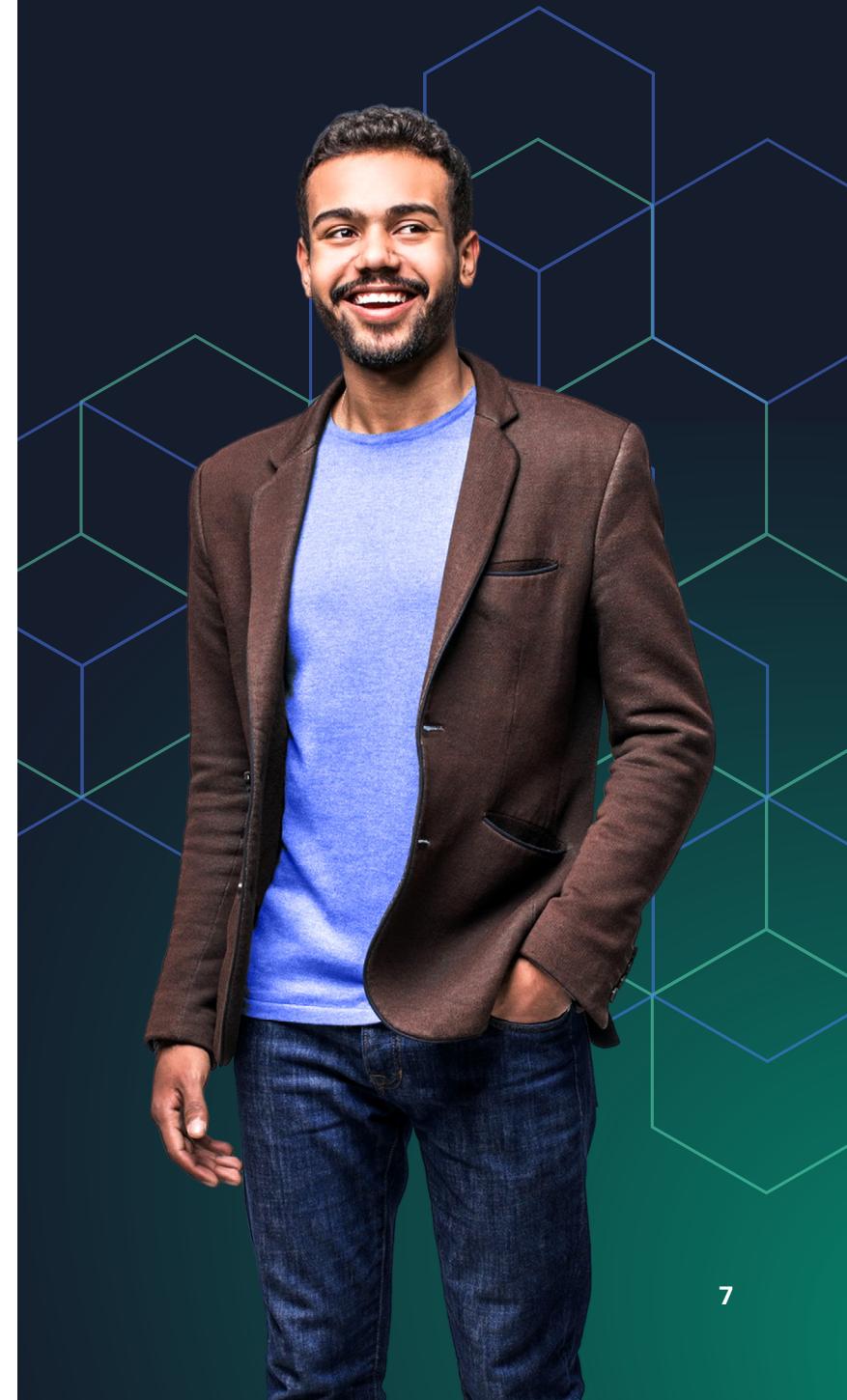
Step 5. Turn data into insights

Now that your data is in the cloud, make it work for you. Put silos and incomplete analytics behind you and start gathering smart, accurate insights faster through data lakes, cloud analytics, and machine learning. Empower end users to see and visualize their data from any device or application.

Services to learn:

[Amazon SageMaker](#), [Amazon AI services](#) (including [Amazon Comprehend](#), [Amazon Forecast](#), [Amazon Textract](#), and many more), [Amazon Managed Blockchain](#), [Amazon QLDB](#)

The Data Flywheel represents a self-sustaining approach that allows you to put data to work. Training gives you the skills to make that vision and model a reality. Building a robust infrastructure that can evolve and support a data-driven organization requires significant skills and knowledge, and AWS Training and Certification helps your teams get there faster and more comprehensively.



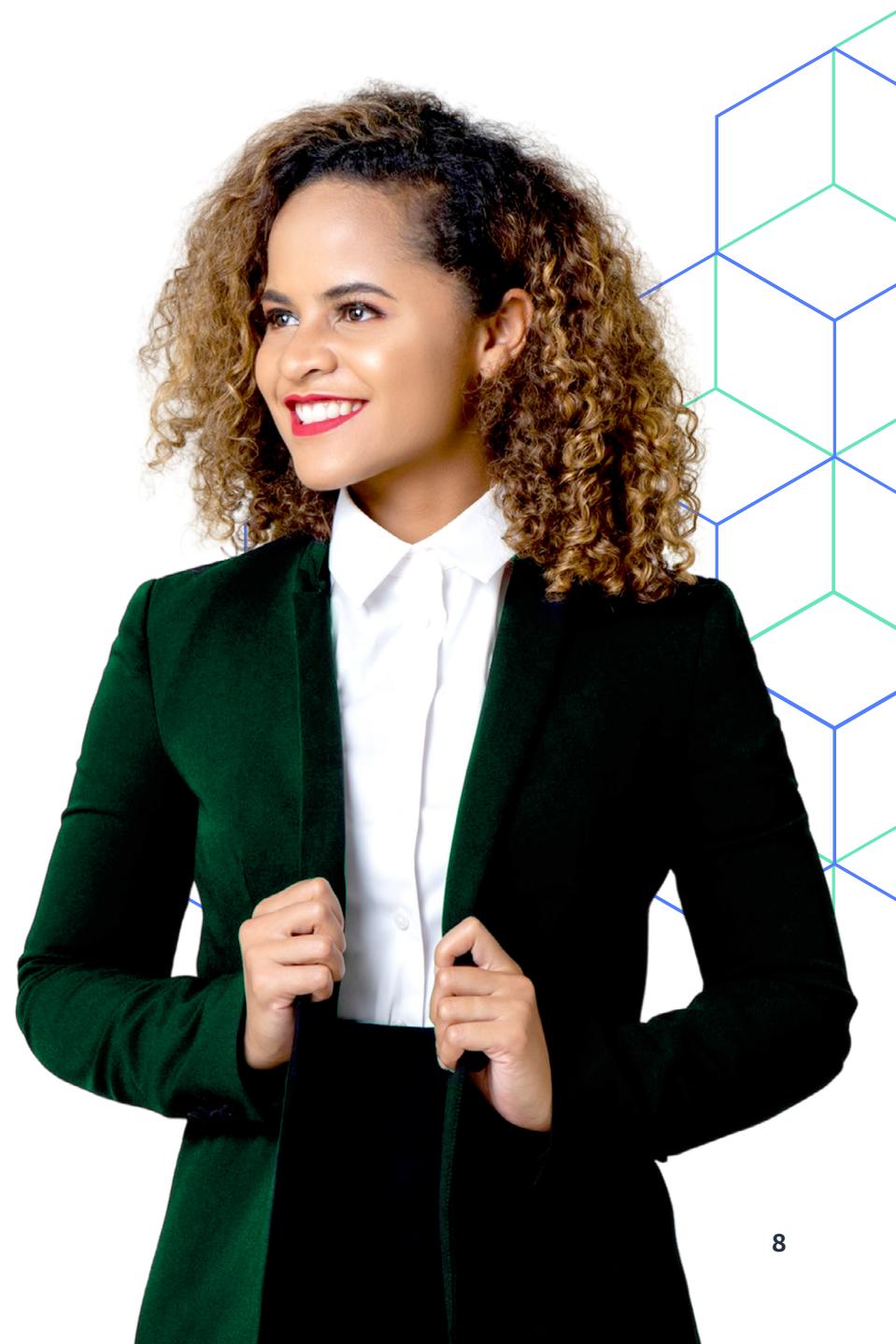
Develop the talent you have, attract the talent you need

Partnering with AWS Training and Certification helps your organization develop a culture of continuous learning, which can aid in your talent recruitment and development efforts. Top recruits may be enticed by your investment in and commitment to skills development, and current employees will feel empowered by new opportunities.

In an ESG Research Insights Paper commissioned by AWS, respondents agreed training helped attract and retain talent.⁵

- **93 percent** said supporting AWS Certification improved team recruitment
- Among organizations with AWS Certified staff:
 - **96 percent** agreed their decision to support AWS Certification improved employee retention
 - **97 percent** said employing AWS Certified staff puts their company in a better position to succeed over the next 3–5 years

Training also accelerates your organization's path toward data-driven transformation. Providing on-site training with your organization's technology gives your employees the opportunity to build real-world analytics skills and become better equipped to manage actual challenges when they arise.



⁵ "Understanding the Value of AWS Certifications to Organizations." ESG Research Insights Paper Commissioned by AWS, October 2020.

How to begin: Courses and training for your needs

Start with an AWS Training and Certification plan that aligns with your organization's needs. Use the Data Flywheel as a guide to understand what skills your team members stand to gain and how they'll use them to generate insights from data. Then dive into our 60+ courses on data and analytics, including self-paced digital courses and instructor-led classroom training, available virtually or in person. Here are just a few examples of the available courses, along with a sample plan.

Fundamental level

[Moving to Managed Databases on AWS](#)

Take a deep dive into the value and process of moving from self-managed databases (on-premises or in the cloud) into fully managed AWS database solutions. You can either watch the steps of the migration process or follow along using your AWS account.

[Introduction to Database Migration](#)

Learn how to migrate a production database using the AWS Database Migration Service (AWS DMS) and AWS Schema Conversion Tool (AWS SCT). Get introduced to the full database migration process, from envisioning to post-production support. AWS DMS helps you migrate data to AWS from common databases quickly and securely while remaining operational to minimize application downtime. AWS SCT lets you modernize applications by migrating your schema and applications to a cloud database like Amazon Aurora PostgreSQL.



Intermediate Level

Break Free of Legacy Databases

In this three-course curriculum, you'll learn about moving from legacy databases into cloud-native databases. Topics include why you'd want to break free and key factors to consider in choosing a cloud-native database. You can follow along or view walkthrough tutorial examples of moving to a cloud-native relational database.

Big Data on AWS

Learn about cloud-based big data solutions such as Amazon Elastic MapReduce (EMR), Amazon Redshift, and the rest of the AWS big data platform. We'll show you how to use Amazon EMR to process data using the broad ecosystem of Hadoop tools like Hive and Hue. We'll also teach you how to create big data environments, work with Amazon DynamoDB, Amazon Redshift, Amazon QuickSight, Amazon Athena, and Amazon Kinesis—and leverage best practices to design big data environments for security and cost-effectiveness.

Best Practices for Data Warehousing with Amazon Redshift

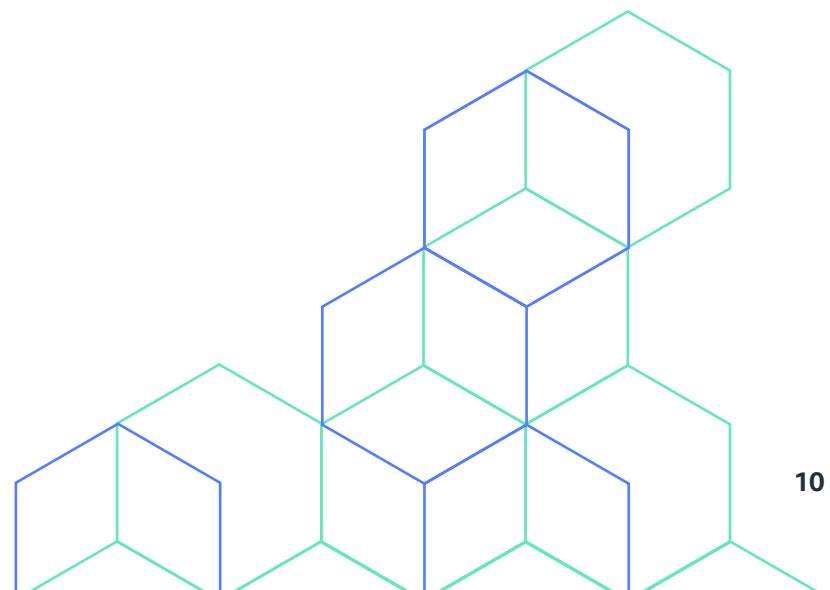
Learn about the concepts of implementing a data warehouse using Amazon Redshift, including basic table design, data storage, data ingestion techniques, and workload management.

Planning and Designing Databases on AWS

Learn about the process of planning and designing both relational and nonrelational databases, including the design considerations for hosting databases on Amazon Elastic Compute Cloud (Amazon EC2). By the end of this course, you'll understand the planning and design requirements of all eight AWS database services, their pros and cons, and how to know which AWS database service is suitable for your workloads.

Building Data Lakes on AWS

Learn how to build an operational data lake that supports analysis of both structured and unstructured data. You will use AWS Lake Formation to build a data lake, AWS Glue to build a data catalog, and Amazon Athena to analyze data. Further your learning with the exploration of several common data lake architectures.



Certification

AWS Certified Database – Specialty

Validate your staff's ability to recommend, design, and maintain the optimal AWS database solution to improve performance, reduce costs, and enable innovation. This industry-recognized credential validates expertise in the breadth of AWS database services and helps you accelerate the use of database technology to drive your organization's business transformation.

AWS Certified Data Analytics – Specialty

Validate your staff's ability to design, build, secure, and maintain analytics solutions on AWS that are efficient, cost-effective, and secure. This industry-recognized credential validates expertise in AWS data lakes and analytics services. Your staff members can demonstrate that they can define AWS data analytics services, understand how they integrate, and explain how AWS data analytics services fit in the data lifecycle of collection, storage, processing, and visualization.



Invest in AWS Training and Certification

As critical as data is and as exciting as “data-driven” sounds, it’s not the most important factor to continued business growth. That honor goes to your people. Continue investing in them with data and analytics skill-building opportunities from AWS Training and Certification.

For these investments to bear the most fruit, you’ll need to get started quickly and strategically. The [AWS Learning Needs Analysis \(AWS LNA\)](#) helps you do exactly that by helping you to align your training investments with your business goals. Use this free assessment tool to identify your organization’s skills gaps across data, analytics, and other cloud topics.

An AWS expert will review the survey results with you and pinpoint areas of need. They’ll then create a targeted, cost-effective training and certification plan that’s right for your organization and addresses the needs of your employees.

Empower your teams with access to 60+ digital and virtual instructor-led courses on data, analytics, and databases built by AWS experts. And help your team build the data and analytics skills needed to unlock any insight.



[Contact us to get started now »](#)

[Learn more about AWS Data and Analytics »](#)