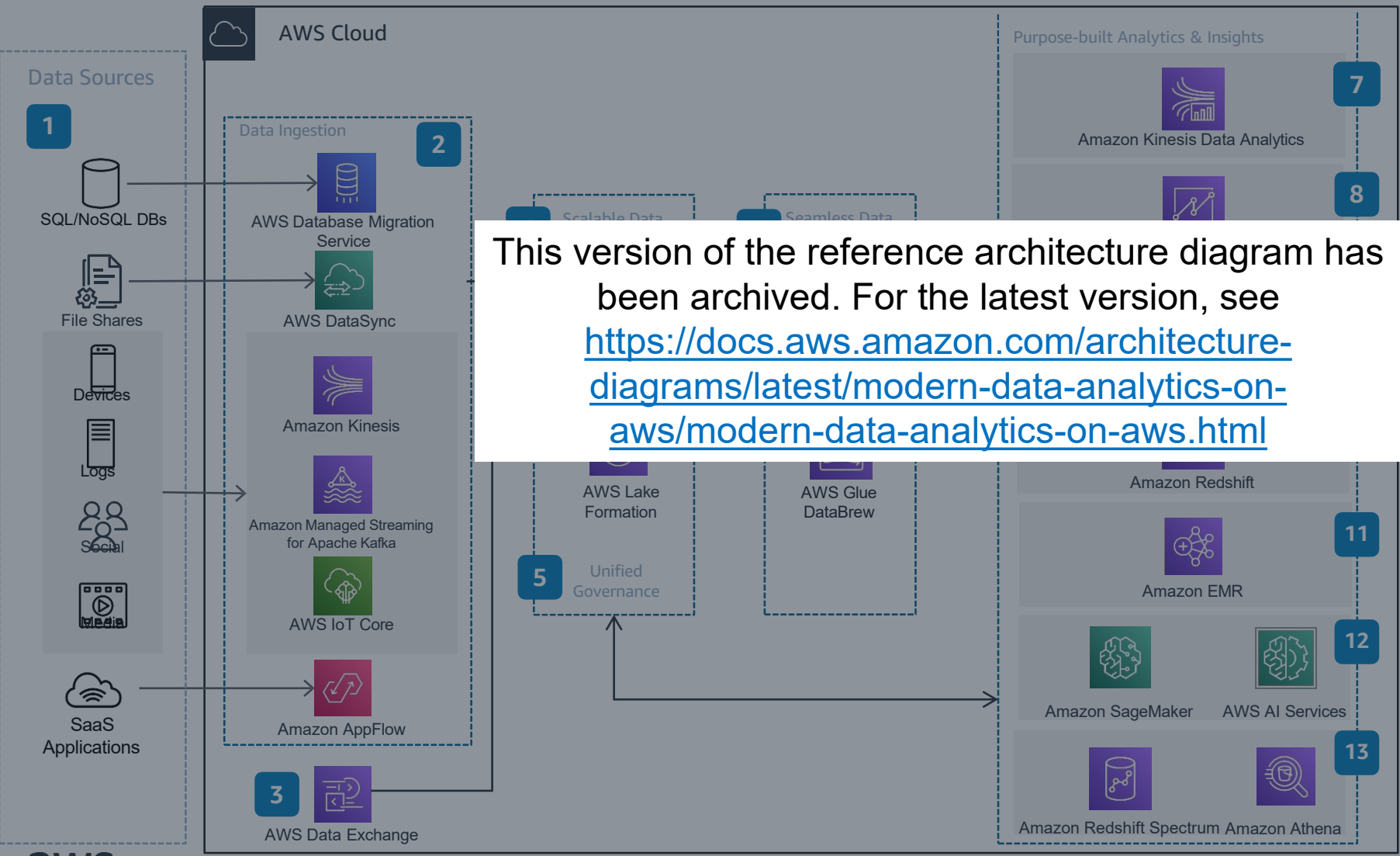


# Modern Data Analytics Reference Architecture on AWS

This architecture enables customers to build data analytics pipelines using a Modern Data Analytics approach to derive insights from the data.



This version of the reference architecture diagram has been archived. For the latest version, see <https://docs.aws.amazon.com/architecture-diagrams/latest/modern-data-analytics-on-aws/modern-data-analytics-on-aws.html>

- 1 Data is collected from multiple data sources across the enterprise, SaaS applications, edge devices, logs, streaming media, and social networks.
- 2 Based on the type of the data source, **AWS Database Migration Service**, **AWS DataSync**, **Amazon Kinesis**, **Amazon Managed Streaming for Apache Kafka**, **AWS IoT Core**, and **Amazon AppFlow** are used to ingest the data into a Data Lake in AWS.
- 3 **AWS Data Exchange** is used for integrating third-party data into the Data Lake.
- 4 **AWS Lake Formation** is used to build the scalable data lake, and **Amazon S3** is used as the data lake storage.
- 5 **AWS Lake Formation** is also used to enable unified governance to centrally manage the security, access control, and audit trails.
- 6 **AWS Glue** and **AWS Glue DataBrew** are used to catalog, transform, enrich, move, and replicate data across multiple data stores and the data lake.
- 7 **Amazon Kinesis Data Analytics** is used to transform and analyze streaming data in real time.
- 8 **Amazon QuickSight** provides machine learning-powered business intelligence.
- 9 **Amazon OpenSearch** can be used operational analytics.
- 10 **Amazon Redshift** is used as a Cloud Data Warehouse.
- 11 **Amazon EMR** provides the cloud big data platform for processing vast amounts of data using open source tools.
- 12 **Amazon SageMaker** and **AWS AI services** can be used to build, train and deploy machine learning models, and add intelligence to your applications.
- 13 **Amazon Redshift Spectrum** and **Amazon Athena** enable interactive querying, analyzing, and processing capabilities.

