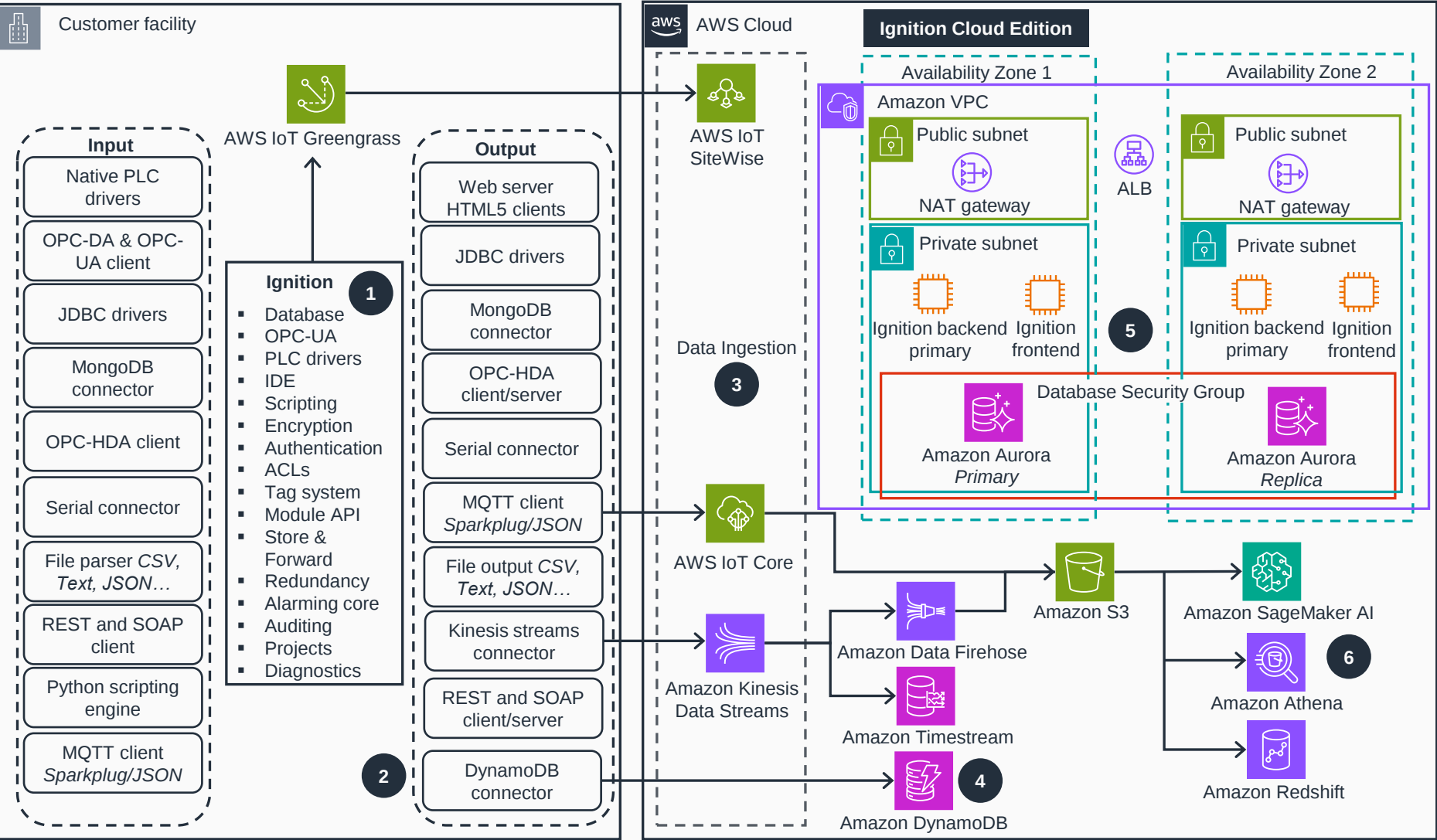


Guidance for Industrial Data Fabric with Ignition on AWS

This architecture diagram illustrates how Ignition integrates OT and IT to combine industrial information across multiple systems. This slide shows Steps 1-5.



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AWS Reference Architecture

- Ignition is an integration hub for the entire plant floor for comprehensive system integration. It connects to programmable logic controllers (PLCs) through native drivers and open platform communications (OPC) protocols, interfaces with SQL databases using Java Database Connectivity (JDBC), and supports MongoDB. It exchanges data with manufacturing execution system (MES) systems like Tulip through the Sandalwood Connector and retrieves enterprise resource planning (ERP) data from systems like SAP using web services.
- Ignition is a bidirectional platform that exposes data through its OPC-unified architecture (UA) server, writes to SQL databases using JDBC, and publishes to MQTT servers using Sparkplug. It also provides RESTful endpoints for third-party integration.
- Ignition connects directly to AWS services through multiple paths: integrating with **AWS IoT Greengrass** through OPC-UA and MQTT, publishing to MQTT servers, sending OT data to **AWS IoT SiteWise** through IoT Bridge for SiteWise, and connecting to **Amazon Kinesis Data Streams** for real-time streaming.
- Ignition can also interact with **Amazon DynamoDB**, a NoSQL database, for storing and retrieving data. Using AWS Injector module Ignition, tag data will flow into **DynamoDB** using an easy-to-read JSON representation.
- Ignition Cloud Edition on AWS Marketplace complements on-premise Ignition, enabling enterprise app and dashboard creation. It connects to **Amazon Aurora** using JDBC, ingests data from on-premises Ignition, and uses NAT gateways for outbound internet connectivity from private subnets.

Publish data to **Amazon Simple Storage Service (Amazon S3)** using **AWS IoT Core** rules or **Amazon Data Firehose**. Load streaming data into **Amazon S3** data lakes, catalog with **Amazon Athena**, or load into **Amazon Redshift** for analytics. Develop ML models using **Amazon SageMaker AI**, and deploy to **AWS IoT Greengrass** for edge-based processing.

Guidance for Industrial Data Fabric with Ignition on AWS

This architecture diagram illustrates how Ignition integrates OT and IT to combine industrial information across multiple systems. This slide shows Step 6.

