



Architecture diagrams for transportation and logistics

Cold Chain Logistics Powered by Mendix and AWS



Cold Chain Logistics Powered by Mendix and AWS: Architecture diagrams for transportation and logistics

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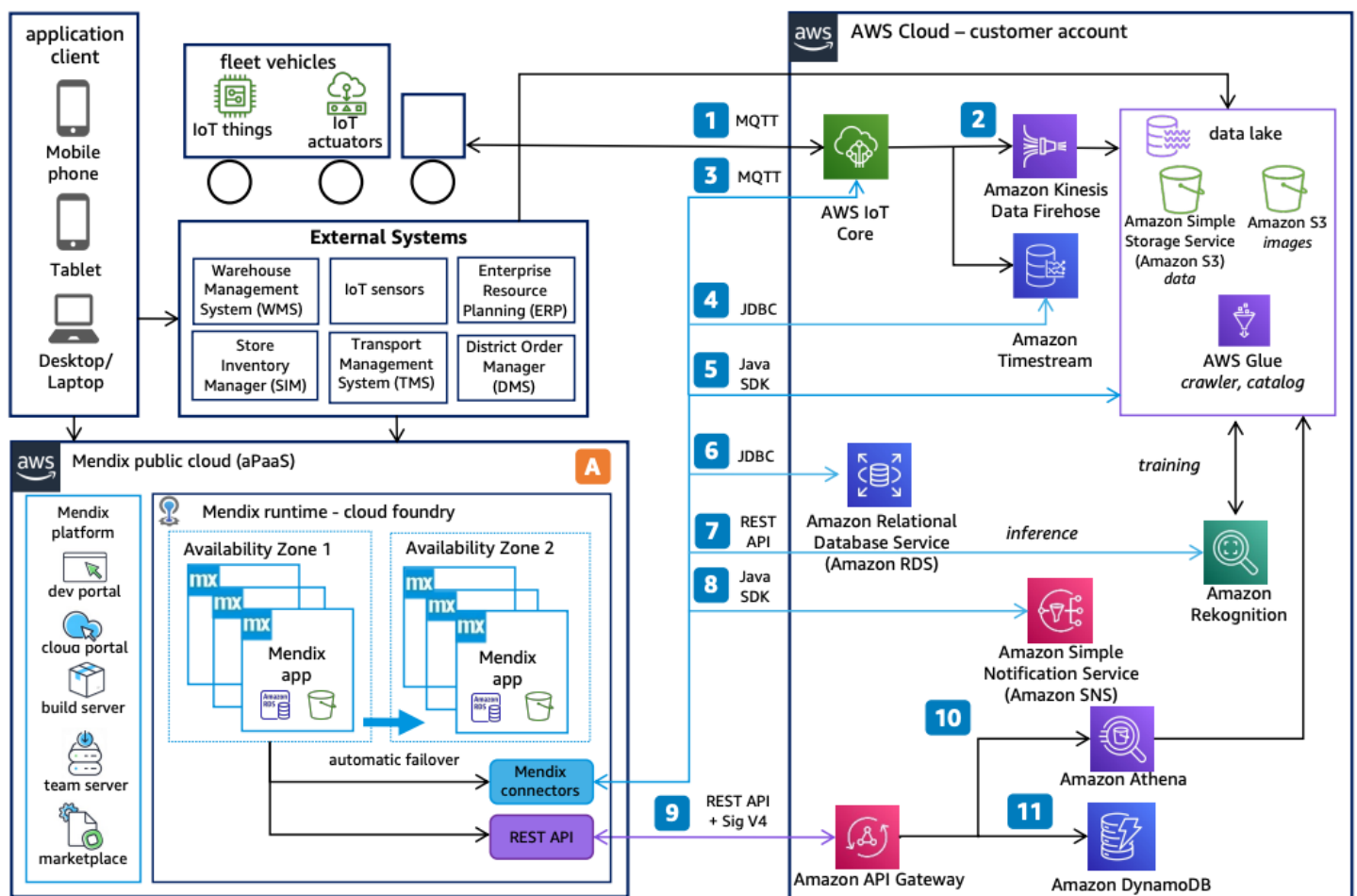
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Cold Chain Logistics Powered by Mendix: Mendix Cloud

Publication date: April 29, 2022 ([Diagram history](#))

With this architecture, you can build low-code cold chain logistics applications on Mendix Cloud, an application platform as a service (aPaaS). Mendix Cloud connects to AWS services through native connectors that use standard AWS SDKs and [Amazon API Gateway](#) endpoints. The solution uses [AWS IoT Core](#) for device connectivity and [Amazon Rekognition](#) for automated image analysis.

Cold chain logistics Mendix Cloud diagram



The following steps describe the integration components for this architecture:

1. Publish telemetry messages from IoT sensors to AWS IoT Core. Process messages according to custom rules and forward them into the backend service structure.
2. Feed information from external systems into the [Amazon Simple Storage Service](#) data lake.

3. Use Mendix connectors for IoT to publish and subscribe to IoT devices by using the MQTT protocol. Include condition-based logic to control actuators by updating a device shadow.
4. Incorporate external databases ([Amazon Aurora](#), [Amazon RDS](#)) directly in your Mendix app by using the JDBC driver with the database connector.
5. Upload, modify, and delete unstructured data and files by using the Mendix AWS and Amazon S3 connector. Back up data for long-term storage or reporting.
6. Analyze images by using the Amazon Rekognition connector microflows.
7. Explore topics and publish messages with attributes by using the Mendix [Amazon Simple Notification Service](#) connector.
8. Access backend services through [Amazon API Gateway](#). Call any AWS service that supports REST API with Signature V4 authentication.
9. Retrieve and analyze data lake content by using standard SQL with [Amazon Athena](#).
10. Store time-series data from IoT sensors in [Amazon Timestream](#). Query records from Mendix by using the database connector (JDBC).
11. Use [Amazon DynamoDB](#) as a backend database for systems that require high-performance data processing at scale.

Further reading

For additional information, see the following resources:

- [AWS Architecture Icons](#)
- [AWS Architecture Center](#)
- [AWS Well-Architected](#)

Diagram history

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3. Use Mendix IoT connectors to publish or subscribe to devices by using the MQTT protocol. Control actuators by updating device shadows.
4. Register your private Amazon EKS cluster in the Mendix private cloud portal. Deploy apps to the cluster by using the Mendix Operator.
5. Incorporate external databases directly in your app by using a JDBC driver with the Mendix database connector.
6. Upload, modify, and delete files by using the Mendix Amazon S3 connector. Back up data for long-term storage.
7. Analyze images by using the [Amazon Rekognition](#) connector microflows.
8. Explore topics and publish messages by using the Mendix [Amazon Simple Notification Service](#) connector.
9. Access backend services through [Amazon API Gateway](#) with Signature V4 authentication.
- 10 Retrieve and analyze data by using standard SQL with [Amazon Athena](#).
- 11 Store time-series data in [Amazon Timestream](#). Query records by using the JDBC database connector.

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