

From Beans to Bytes: Artly's ClickHouse Journey

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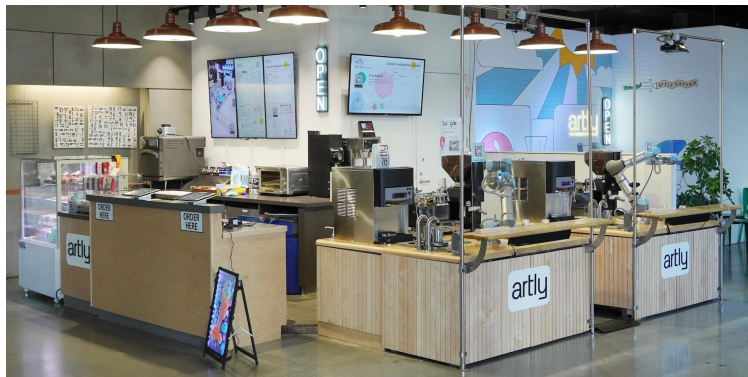
May 20th 2025



Today's Brew

- Meet Artly
- Artly Technology
- Data Analysis
- Looking Ahead

Meet Artly



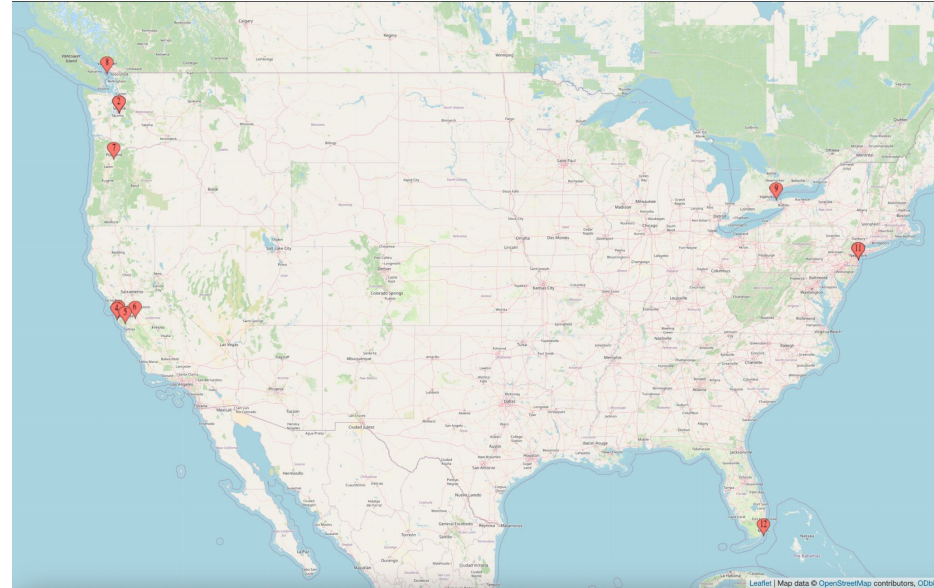
artly
THE BARISTA BOT

Meet Artly

- Barista Bot
- Scale high quality coffee
- Human craft & Robot precision

Meet Artly - To B & To C

- Artly branded coffee shop
 - Seattle
 - San Francisco
- Partnership
 - MUJI. Retail store. Portland OR, NYC, Vancouver BC, Toronto
 - Tesla. Office and factory. California
 - Royal Caribbean.
- Pop-up Events
 - Salesforce
 - Microsoft
 - ...



Meet Artly - Capability

SIGNATURE

Jasmine White Mocha \$6.00
Artly medium roast Espresso, house-brewed Jasmine tea, Chocolate Blanc, half and half

Seattle Fog \$7.00
Single shot Espresso, lavender, house-brewed Earl Grey, oatmilk, herb de provence

Coconut Cardamom Latte \$6.50
Single shot Espresso, coconut cream, cardamom bitter, maple syrup, toasted coconut flakes

Espresso Martini \$5.50
Espresso Doppio, Madagascar vanilla, virgin coffee liquor, malted cream

Guihua Latte \$7.00
Rooibos, Chinese guihoa-blossom syrup, double espresso, steamed whole milk

MATCHA

SilverJade Matcha \$6.25
1st harvest ceremonial Matcha, organic Jasmine Tea, white chocolate, whole milk

Coconut Matcha Cloud \$6.00
Matcha, coconut cream, coconut milk, elderflower cream foam

Matcha Flat White \$5.00
Handcrafted organic Tokyo Matcha, dash of steamed milk

Matcha Latte \$5.00

ESPRESSO

Espresso \$4.50
House-roasted Colombian Washed & Ethiopian Natural blend; cocoa, nuts, cherry, silky, balanced acidity

Americano \$4.50

Cappuccino \$5.00

Flat White \$5.25

Latte \$5.00

NON-COFFEE

Sicilian Yuzu Refresher \$7.00
Juniper berry, Kyoto yuzu juice, angostura bitter, mint

Rainier Morning Dew \$6.00
Chinese Guihua blossom, juniper berry, compressed citrus

Artisan Earl Grey Latte \$5.00
Premium Earl Grey, lavender drop, steamed whole milk

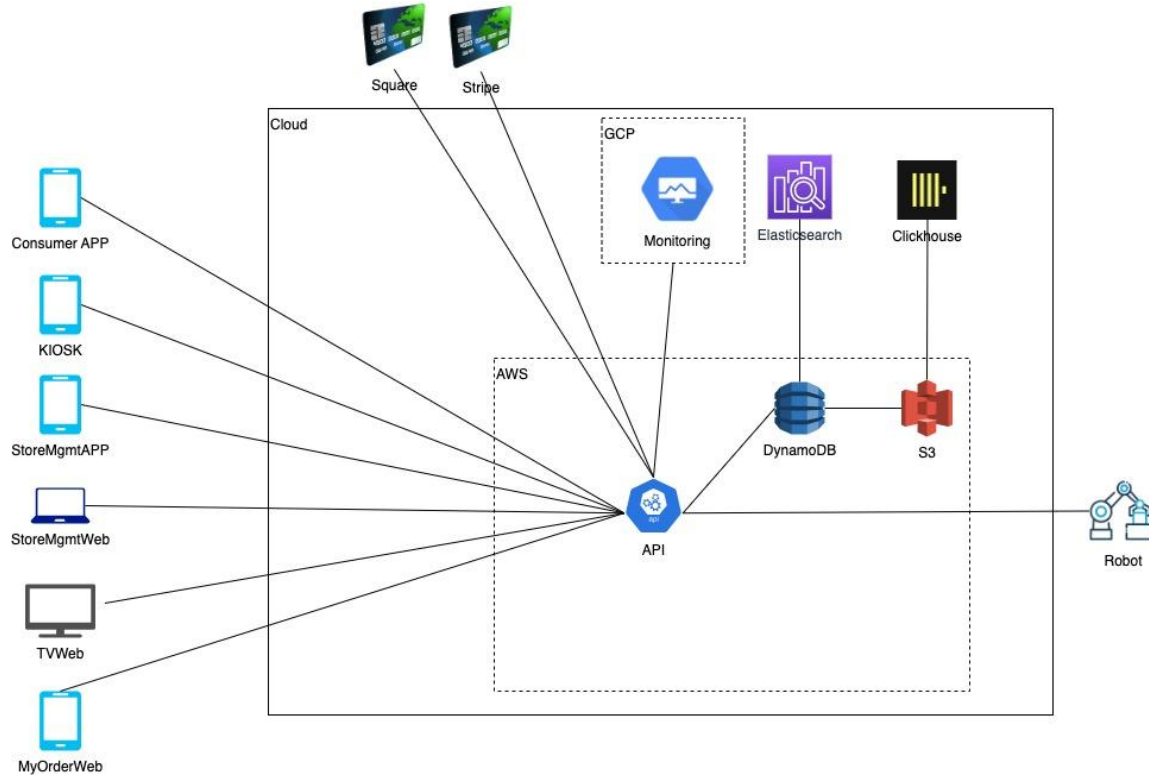
*Prices are for default options



artly coffee

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Artly Technology - Architecture



Artly Technology - Beyond a demo

- Customization
 - Syrup, Milk, Ice Amount, Sweetness, Hotness, Latte Art
- Remote Management
- Quality Control
- Auto-adjustment
 - Latte art, Froth Milk, Grind Bean

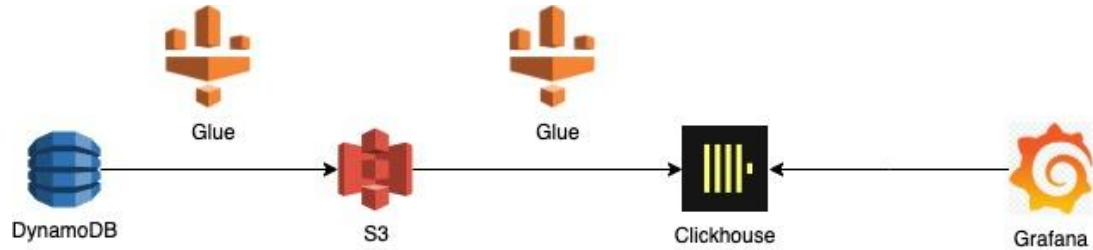
Data Analysis - Requirements

- Scope
 - Sales Data
 - Quality Control
- Availability
- Scalability
- Near real time
- Low maintenance effort
- Affordable

Data Analysis - Elasticsearch + Kibana

- Basic aggregation
 - Total orders. Orders per store
 - Total items. Items per store.
 - Revenue.
- Data Visualization
- Not support complex query
 - Join table and display store name column
 - Analyze customer retention
 - Analyze coupon usage

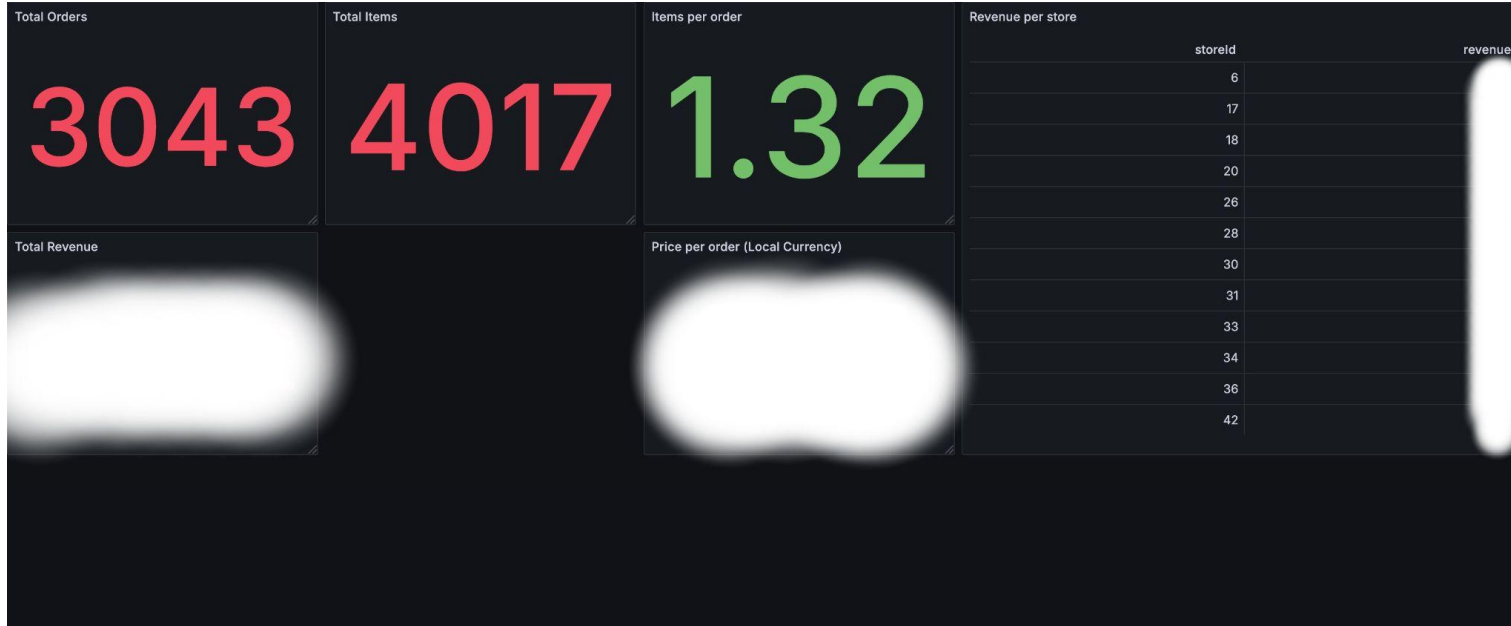
Data Analysis - ClickHouse



Data Analysis - ClickHouse

- Support SQL
- Flexible Query
 - Join table
 - Nested query.
 - Multi-columns filter
- Comprehensive
 - Time series
 - Non-time series
- Data visualization with Grafana
- Great Performance
- Large dataset
- Low maintenance effort
- Affordable pricing

ClickHouse - Data Visualization



ClickHouse - Complex Query

- Repeat customer analysis
 - Recognize repeat customer
 - Recognize purchase pattern
- Promotion analysis
- Open hours analysis
 - Adjust store open hours based on sales data

ClickHouse - Comparison

	ClickHouse	Another OLAP DB
Pricing	1x	2.5x
Latency	1x	3.5x
Scalability	Yes	Yes
Availability	Yes	Yes

Looking Ahead

- Continuing data analysis on user behaviors, recommendations, and promotions
- Migrate system operation history to ClickHouse

Thank you!

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- Artly Coffee <https://artly.coffee>
- Buy/Rent Artly Barista Bot <https://artlybaristabot.com>
- Artly AI <https://artly.ai>