



Amazon QuickSight

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Enhance your apps with Amazon QuickSight embedded analytics



Agenda

Why embed analytics?

Why Amazon QuickSight

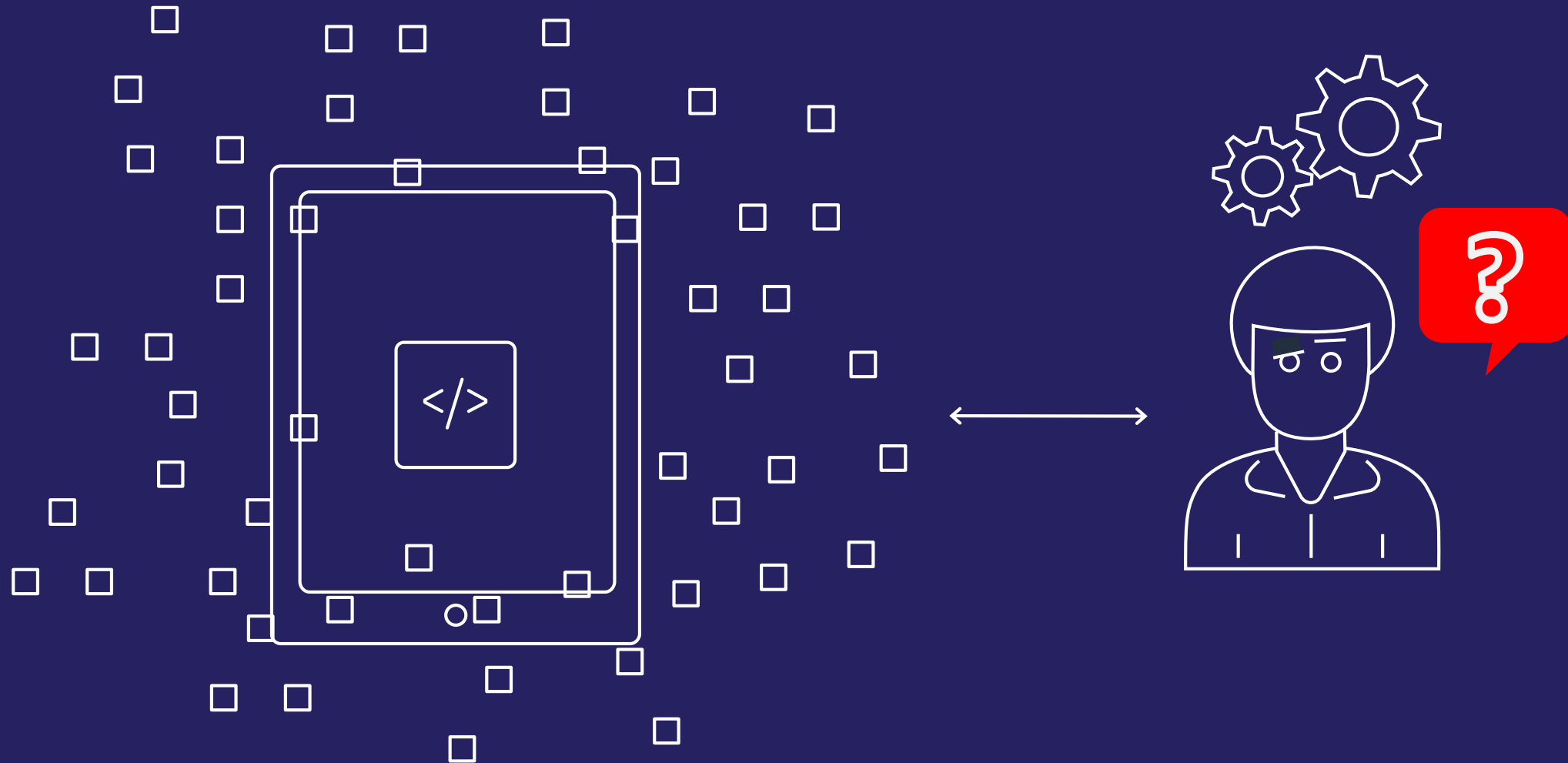
Embed analytics with Amazon QuickSight



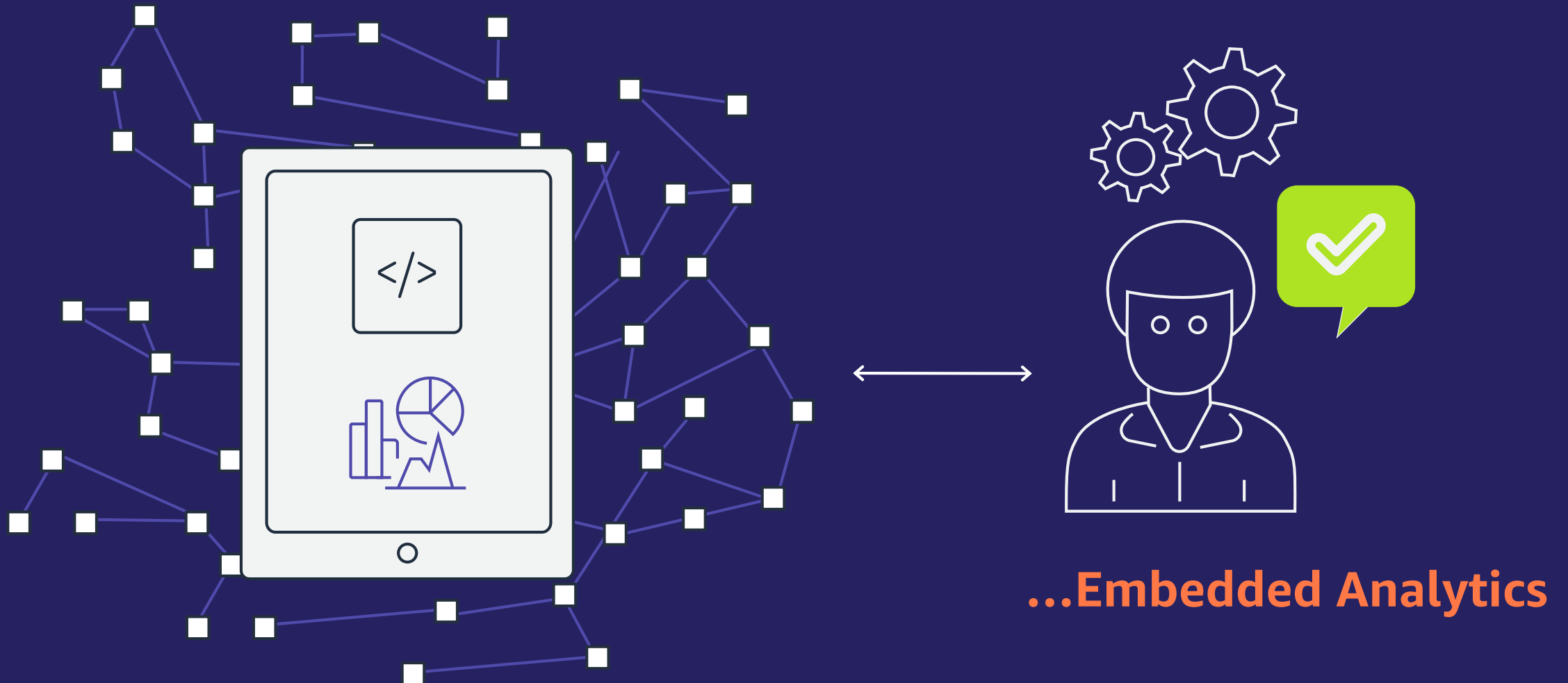
Why embed analytics?



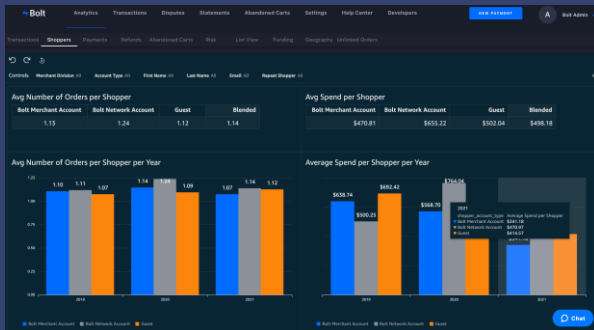
Applications generate a lot of data...



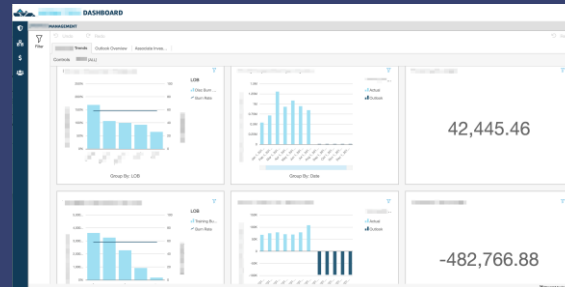
Turn data into insights with embedded analytics



Data-driven experiences for every user



SaaS
apps



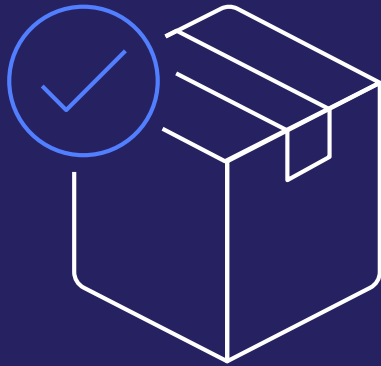
Enterprise
web apps



Public
portals



Accelerate business growth



Product
differentiation



Data-driven user
experiences

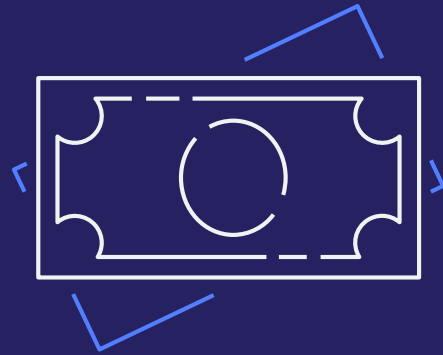


New monetization
opportunities

Reduce technical complexity



Time
to market



Reduce ongoing
expenditure



Deep analytical
capabilities

Why Amazon QuickSight?



Amazon QuickSight



Built for scale

Easily scale from 10s to 100K+ users without servers;
Securely works with data lakes, operational databases, and data warehouses



Developer focused

Quickly embed dashboards in web apps with rich API support via AWS SDK, native multi-tenancy and deep customization options



ML-powered insights for end users

Benefit from Amazon's expertise in ML with built-in NLQ, outlier detection, forecasting, and auto-narratives



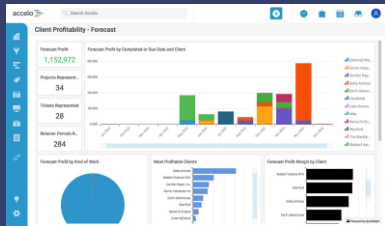
Enterprise ready

High Availability, compliance, data security, granular access-control, and easy connectivity to your data wherever it may be



QuickSight for all your embedded analytics needs

Interactive dashboards



Rich, interactive dashboards with drill-down, filtering and data export capabilities for in-app analytics for 100s of 1,000s of users

Personalized email reports



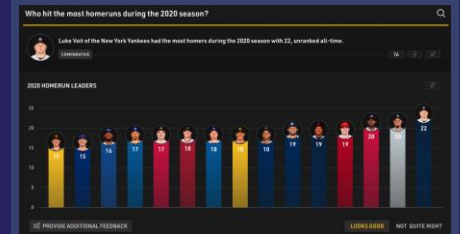
Schedule and send emails to 1,000s of users enforcing data security, user-level defaults and customized branding

Self-service authoring



Customizable QuickSight authoring experience with multi-tenancy controls and governed data access for power users of apps

Natural Language Querying with Q



Embed natural language querying in your applications to provide easy access to deep insights; curate and manage known pattern



Embed analytics with QuickSight



Embed Different QuickSight assets

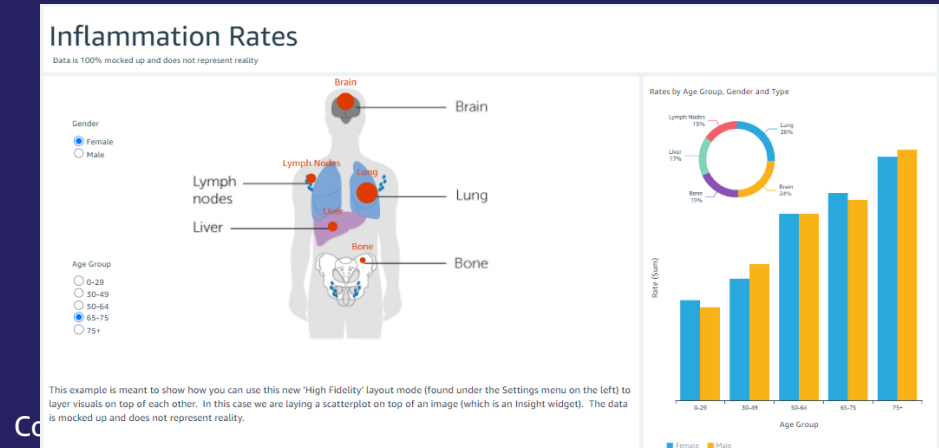
1. Embed dashboard
 1. with 1-click embed capability for your internal apps
 2. with API without user management and enabling multi-tenancy at runtime
2. Embed Q – Natural Language Querying
3. Embed authoring experience – monetization strategy



Embed Dashboards in 3 easy steps



1. Author rich, interactive dashboards



QuickSight | **Income - P&L - Profit & Loss Statement**

USD in \$ millions

	01-JAN	02-FEB	03-MAR	04-APR	05-MAY	06-JUN	07-JUL	08-AUG	09-SEP	10-OCT
Revenue stream 1	587.0	596.3	605.8	615.4	625.2	635.1	645.2	655.4	665.8	676.4
Revenue stream 2	145.6	147.9	150.2	152.6	155	157.5	160	162.5	165.1	167.7
Total Net Revenue	711.6	722.9	734.3	746	757.8	769.9	782.1	794.5	807.1	819.9
Cost of Goods Sold	269.6	273.9	278.2	282.7	287.1	291.7	296.3	301	305.8	310.7
Gross Profit	442.0	449.0	456.1	463.3	470.7	478.2	485.7	493.5	501.3	509.2
Expenses:										
Advertising & Promotion	18.7	19.1	19.5	19.8	20.2	20.6	21	21.5	21.9	22.3
Rent	5.8	5.9	6	6.2	6.3	6.4	6.5	6.7	6.8	6.9
Salaries, Benefits & Wages	251.2	256.2	261.3	266.5	271.8	277.2	282.7	288.3	294	299.9
Travel	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.6	2.7	2.7
Total Expenses	403.0	411.0	419.2	427.5	436.0	444.7	453.5	462.5	471.7	481.1
Earnings Before Interest & Taxes	39.0	38.0	36.9	35.8	34.7	33.5	32.2	30.9	29.6	28.2
Interest Expense	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Earnings Before Taxes	36.5	35.5	34.4	33.3	32.2	31	29.7	28.4	27.1	25.7
Income Taxes	10.9	10.6	10.3	10	9.7	9.3	8.9	8.5	8.1	7.7
Net Earnings	25.5	24.8	24.1	23.3	22.5	21.7	20.8	19.9	19	18



GREENBIRD | **QuickSight**

Your RSU tax statement is here

Hello Gordon

Good news! On Sep 9, 2018 you were awarded RSUs as part of Grant number [ALL]. Of these 37,873 RSUs, 22,723 have now vested and become yours. Your RSUs were released on Sep 9, 2021 and were valued at \$2,583,597.88.

Value of your shares: \$2,297,200.86
 + dividend equivalents: \$286,397.02
 = Value of your vested shares: **\$2,583,597.88**

- Your total tax withheld: \$837,849.60
 = Value of vested shares after withholding: **\$1,745,748.28***

* Go to your brokerage account to see your up-to-date figure

How we've calculated your tax

United States

Tax description	Taxable gain	Employer reportable	Tax withholding rate	Tax amount
ABC	\$145,193.01	\$145,193.01	10.90%	\$15,816.19
DEF	\$268,880.65	\$268,880.65	10.87%	\$29,106.87
GHI	\$422,865.94	\$422,865.94	10.80%	\$45,624.27
United States tax:				\$147,501.24

United Kingdom

Tax description	Taxable gain	Employer reportable	Tax withholding rate	Tax amount
ABC	\$21,594.99	\$0.00	13.22%	\$2,854.74
DEF	\$206,009.24	\$0.00	15.19%	\$45,296.18
GHI	\$527,330.79	\$0.00	13.80%	\$72,821.74
United Kingdom tax:				\$91,576.96

France

Tax description	Taxable gain	Employer reportable	Tax withholding rate	Tax amount
ABC	\$28,149	\$0.18		
DEF	\$58,481	\$0.21		
GHI	\$57,700	\$0.20		

Conditionally rendered visual based on parameters

2. Allow domains for embedding

QuickSight

CEO Sample *Type a question about your data*

Account name: sn-test-account-devtest
Edition: Enterprise + Q

Manage users
Your subscriptions
SPICE capacity
Account settings
Security & permissions
Manage VPC connections
Mobile settings
Domains and Embedding
Account customization
Single sign-on (SSO)

Manage domains for embedded dashboards

Embedded dashboards only work if they originate from domains you explicitly allow.

Domain


Required



Include subdomains ⓘ

Add

Domain	Include subdomains
[Redacted]	Yes
[Redacted]	No
[Redacted]	No





3.1 1-click embed

Share dashboard [Copy link](#) [Copy embed code](#) 


 Copied to clipboard. 

Invite users and groups to dashboard

Manage permissions
Access via QuickSight, link, or embed code

Name	Permission	Save as Analysis
Users & Groups		
	Owner	<input checked="" type="checkbox"/> Allow "save as" 
	Co-owner	<input type="checkbox"/> Allow "save as" 
Shared folders		
No shared folders		

Enable access for

Everyone in this account 

3.1 1-click embed

SharePoint

BROWSE PAGE

Home EDIT LINKS

Embedded sample page

This is a sample page with an embedded QuickSight dashboard

Libraries

- Site Pages
- Shared Documents
- QuickSight Assets

Lists

- Calendar
- Tasks

Discussions

- Team Discussion

Recycle Bin

EDIT LINKS

Site Contents

Pharmaceutical Clinical Trials

Study Participants: 2,500

Initial Participants vs. Study Completed: 91.12% (2,278 / 2,500)

Geographical Location: Map showing locations in the United States (Vancouver, San Francisco, Los Angeles, Chicago, Toronto, New York).

Gender: Bar chart showing Male (approx. 1,200) and Female (approx. 1,300).

Age by Gender: Box plots for Female and Male.

Participants Details Table:

Subject ID	Gender	Age	State	Study Site	Consent	ARM	Completion	Reason Not Completed
subid1	Male	75	FL	SS02	May 9, 2019	null	No	Screen Failure
subid10	Male	64	FL	SS02	Jan 4, 2019	null	No	Screen Failure

ARM: Pie chart showing Drug A (1,125 (45%)) and Placebo (750 (30%)).

Legend: Placebo (purple), Drug B (blue).

Share with all users

No servers needed!

3.2 Embed with API without user management

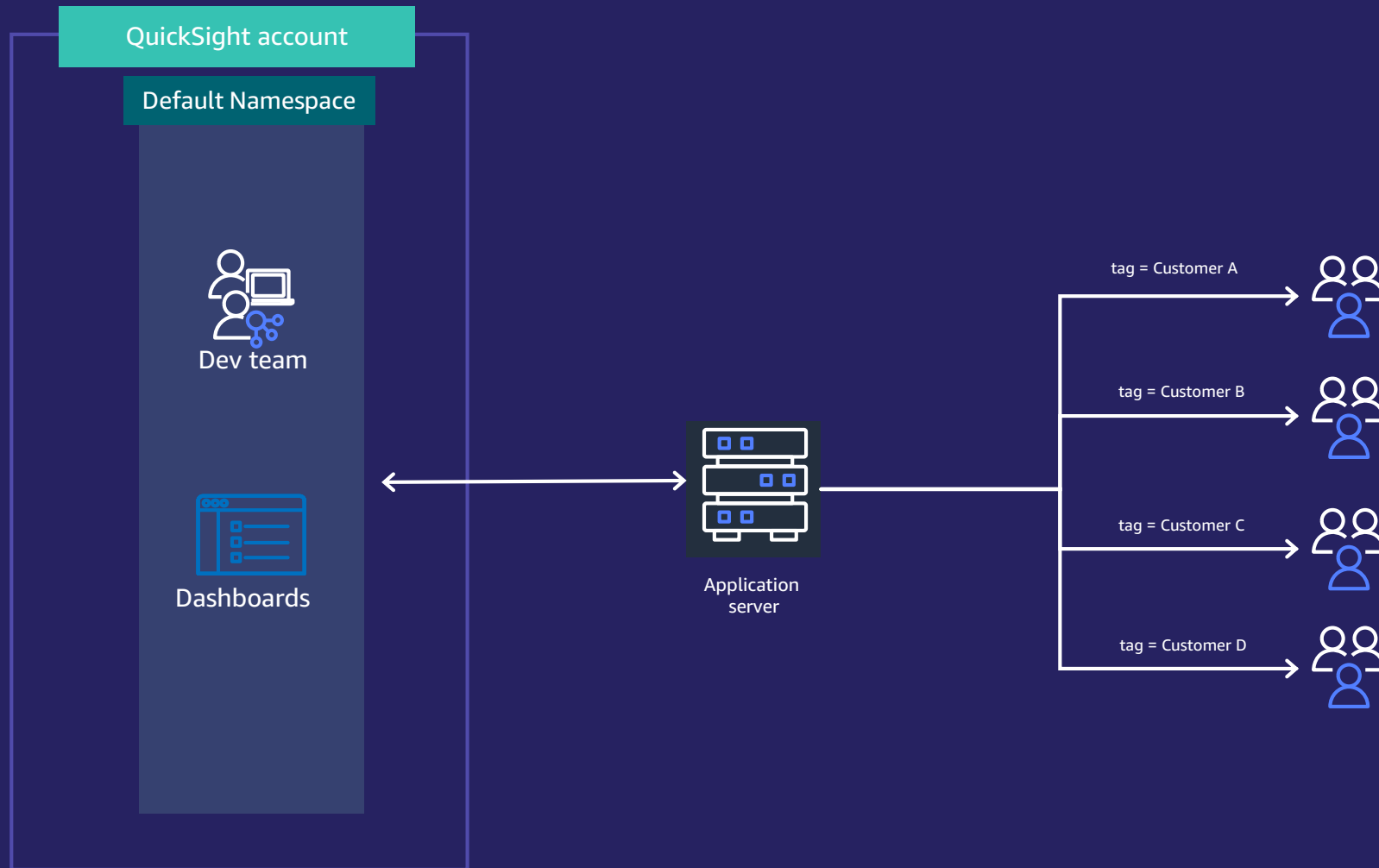
API

GenerateEmbedUrlForAnonymousUser

- *No need to provision users who access the embedded dashboard in QuickSight*
- *You can set session tags on your dataset and pass values to the tags at run time based on which user is accessing the dashboard in your application*
- *Enables multi-tenancy at runtime*

3.2 Embed with API without user management

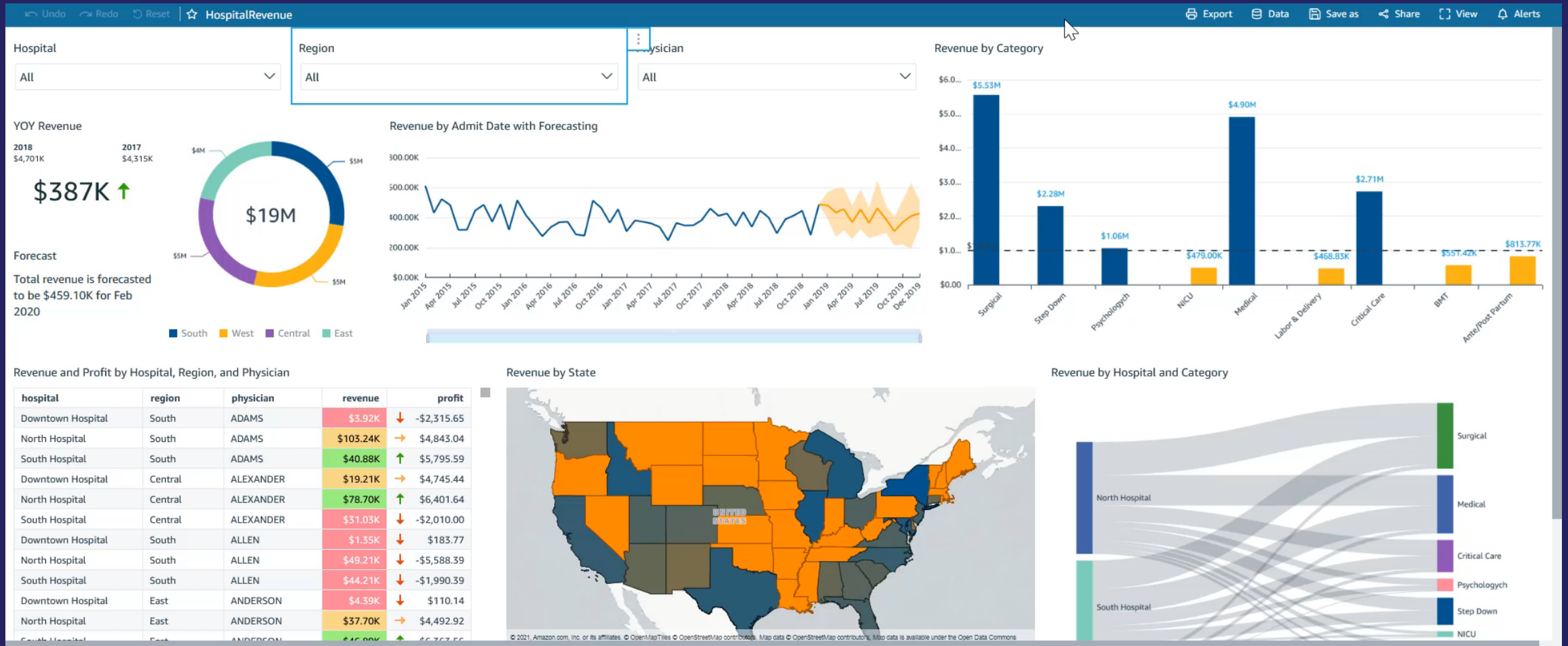
Multi-tenant dashboards for end users



- Data filtered via row-level security with tags specific to each tenant
- No need to create or manage end users in QuickSight

3.2 Embed with API without user management

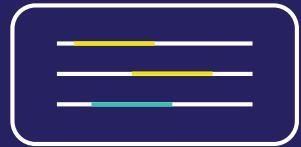
Demo



Embed ML Capabilities

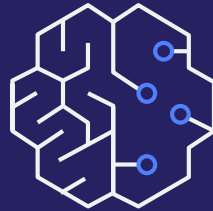


Augment your data with machine learning



Auto narratives

Summarize your business metrics in plain language



ML predictions

Visualize and build predictive dashboards with Amazon SageMaker models

NEW



Q

Ask questions using natural language



Anomaly detection

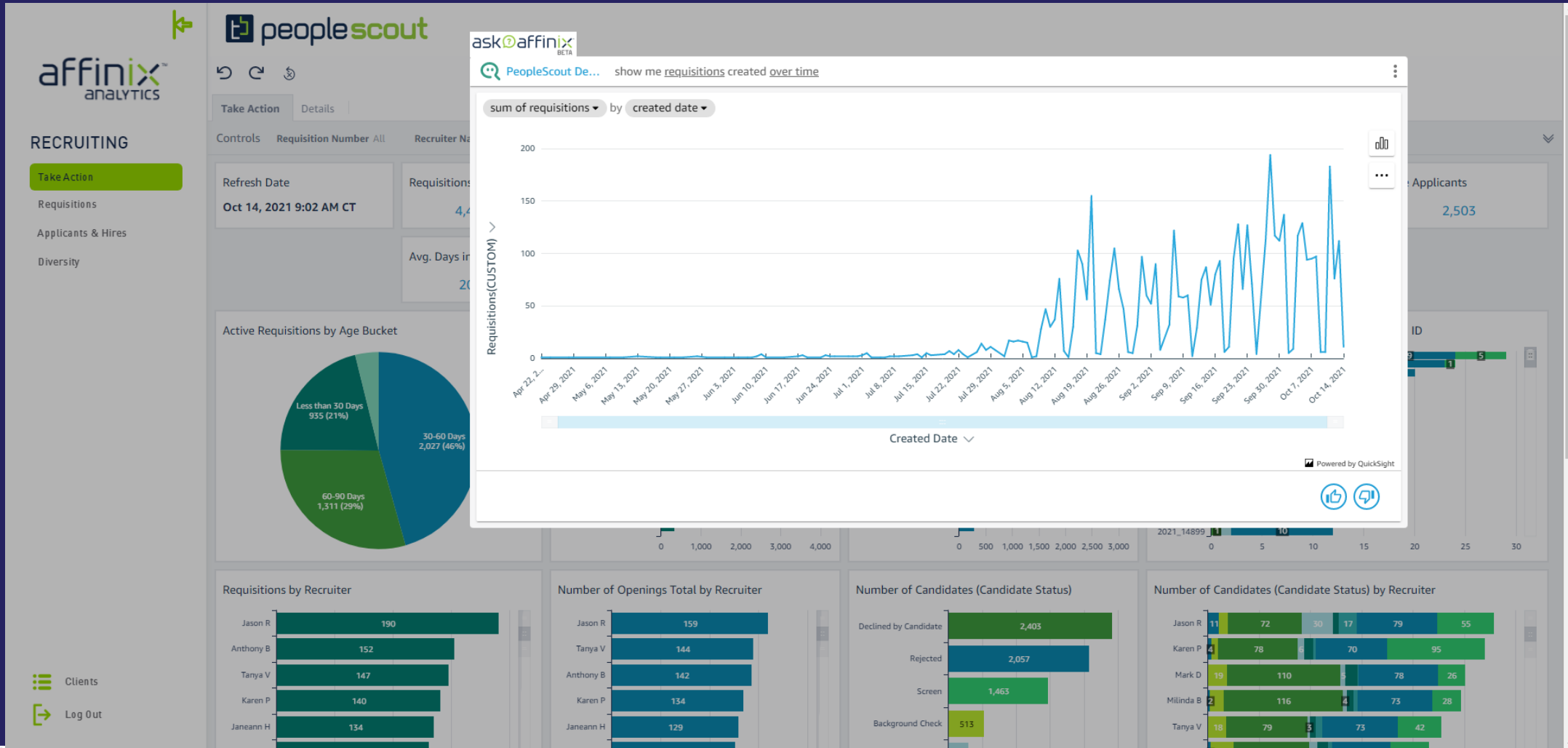
Discover unexpected trends and outliers against millions of business metrics



Forecasting

Machine learning forecasting with point-and-click simplicity

Ask questions in your app with QuickSight Q



Embed Q

API

GenerateEmbedUrlForRegisteredUser

POST /accounts/AwsAccountId/embed-url/registered-user HTTP/1.1

Content-type: application/json

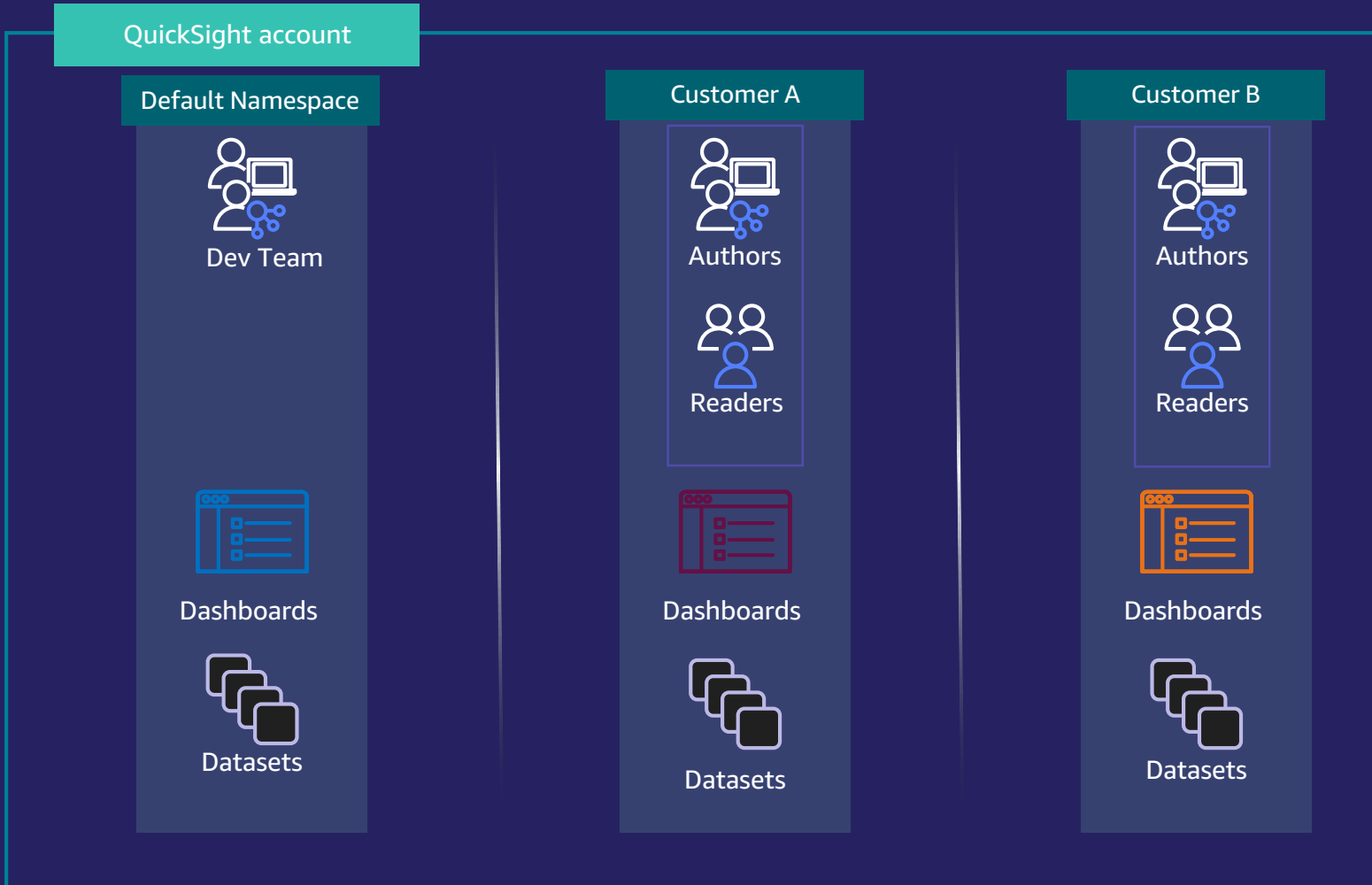
```
{
  "ExperienceConfiguration": {
    "QSearchBar": {
      "InitialTopicId": "string"
    }
  },
  "SessionLifetimeInMinutes": number,
  "UserArn": "string"
}
```



Embed Authoring Experience



Multi-tenant authoring for power-users



- Data filtered via row or column-level security for datasets and dashboards
- Power-users within each tenant can create and share dashboards with others
- Replicate and manage canned, curated dashboards using APIs

<https://democentral.learnquicksight.online/>

Embed Authoring Experience with API

API

GenerateEmbedUrlForRegisteredUser

POST /accounts/AwsAccountId/embed-url/registered-user HTTP/1.1

Content-type: application/json

```
{
  "ExperienceConfiguration": {
    "QuickSightConsole": {
      "InitialPath": "string"
    }
  },
  "SessionLifetimeInMinutes": number,
  "UserArn": "string"
}
```



References

1. AWS documentation: <https://amzn.to/3kiVn4R>
2. API:
 - <https://tiny.amazon.com/1017llghl/docsawsamazquiclateAPIRAPI>
 - <https://tiny.amazon.com/1bxv912pn/docsawsamazquiclateAPIRAPI>
3. JS SDK for customizations: <https://github.com/aws-labs/amazon-quicksight-embedding-sdk>
4. Namespaces: <https://amzn.to/2VJSFv9>
5. Row-level security (RLS): <https://amzn.to/3i7Blb2>
6. 1-click embedding: <https://tiny.amazon.com/13ugcvwsp/awsamazblogbigdembe>
7. Embedding with API: <https://tiny.amazon.com/qqe5yg1c/awsamazblogbigdembe>
8. Email customizations: <https://tiny.amazon.com/l2vql7ii/awsamazblogbigdsend>
9. Developer portal: <https://developer.quicksight.aws/>
10. Learn QuickSight: <https://learnquicksight.workshop.aws/en/>
11. Pricing: <https://aws.amazon.com/quicksight/pricing/>
12. Email: quicksight-embedding@amazon.com



Thank you!