

Hi,
I'm Davon



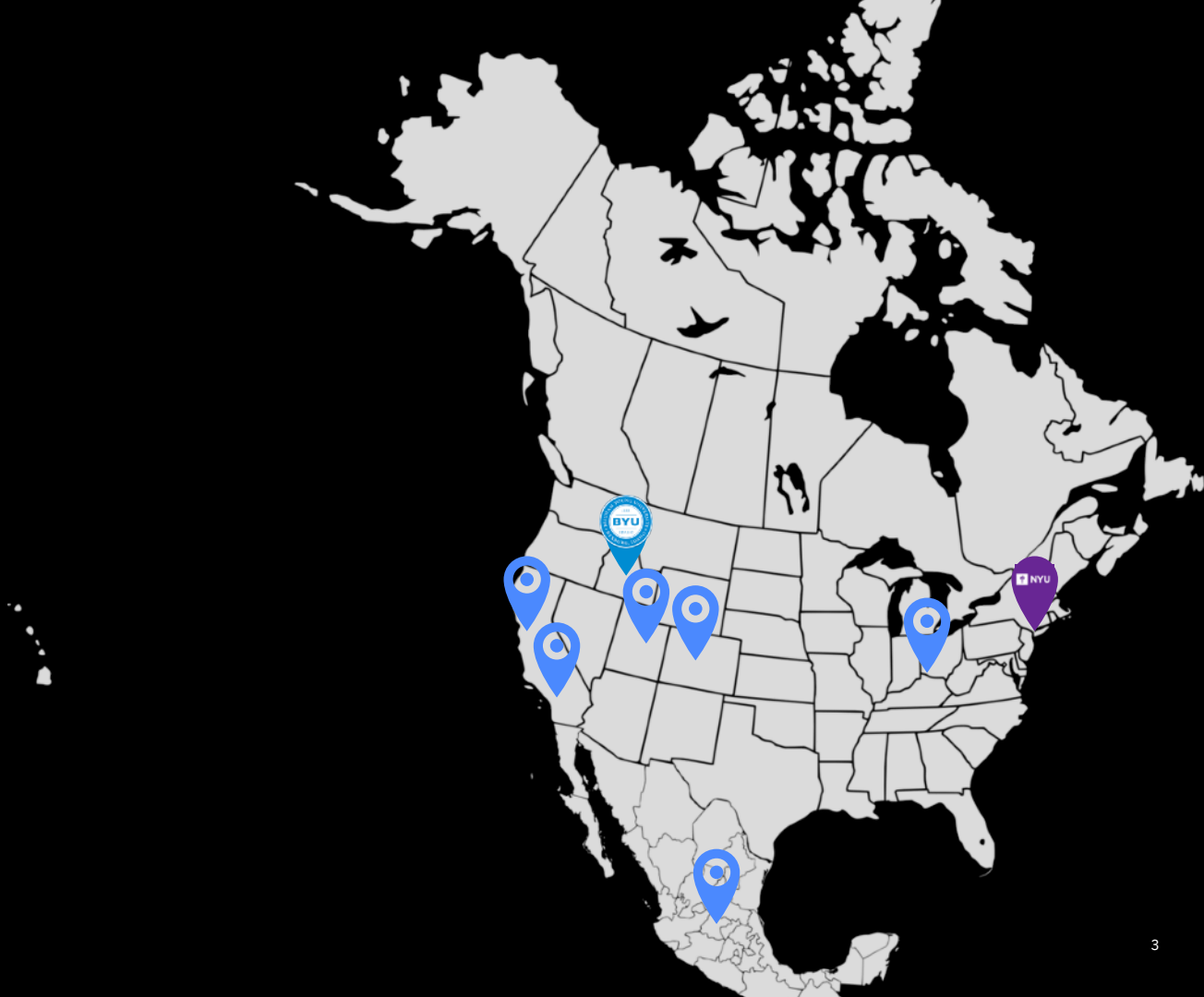
Here are **6**
things

you should know
about me



1

I am from Los Angeles, went to BYU & NYU



2

I got started in Advertising, animating web banners and web development for various brands



3

I've been a designer since 2016 but have an engineering background



4

I am not your
typical designer

Improving
Website
Users with
Dyslexia

5

I love being involved in the design community.

Davon Larson 28 Followers Lists About

How do I explain UX to my parents?

Davon Larson Jun 10 · 6 min read

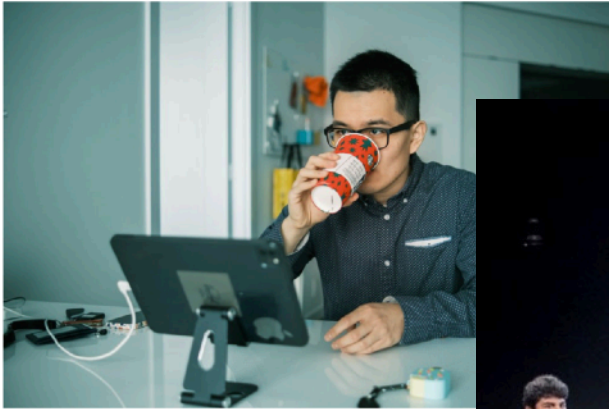


Image from Upsplash

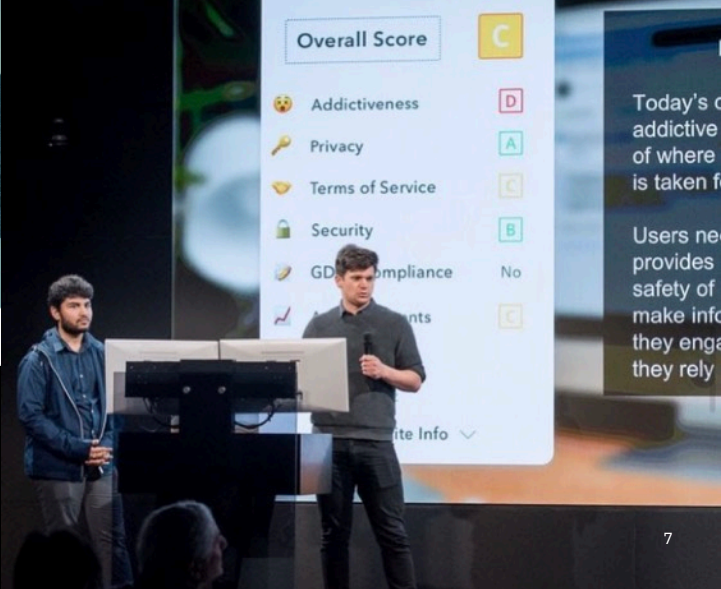
TICKET TO THE FUTURE

Davon Larson

REALITY HACK
MIT XR HACKATHON

SCHEDULED DURATION
16th - 20th
JAN 2020

DESTINATION
MASSACHUSETTS
INSTITUTE
OF TECHNOLOGY



Category	Score
Overall Score	C
Addictiveness	D
Privacy	A
Terms of Service	C
Security	B
GDPR Compliance	No
GDPR Consent	C

Today's...
addictive...
of where...
is taken f...

Users ne...
provides...
safety of...
make info...
they enga...
they rely

6

In 2019 I started working at IBM in Data and AI for a product called **Cloud Pak for Data**



6

AR

VR

Motion Design

Data & AI



6

AR

VR

Motion Design

Data & AI



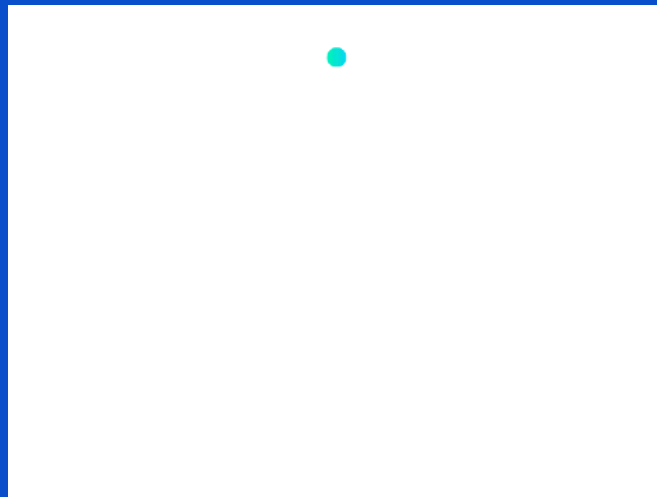
6

AR

VR

Motion Design

Data & AI



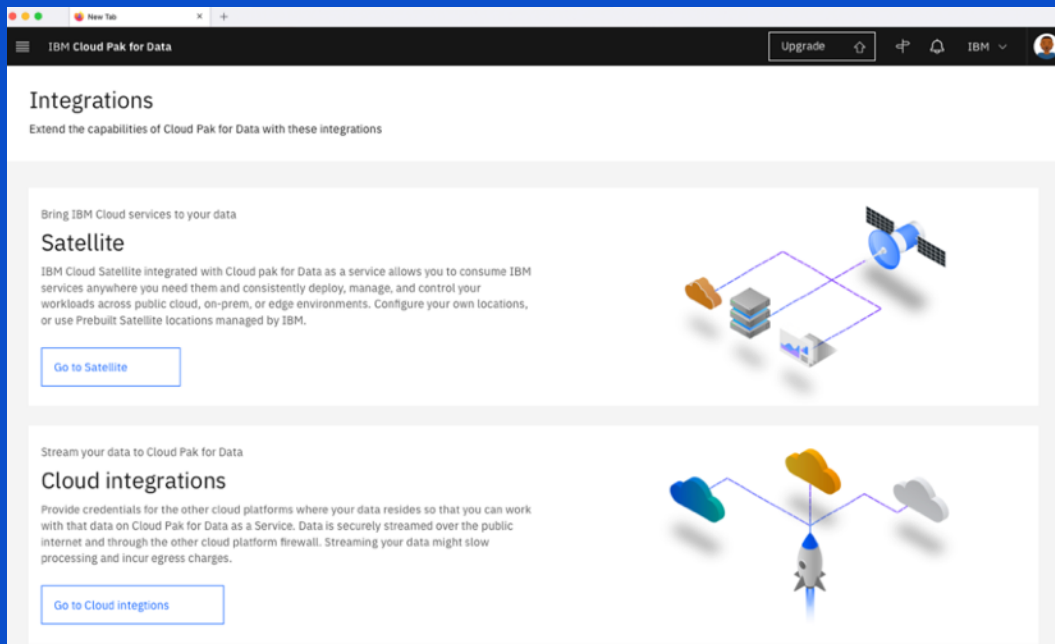
6

AR

VR

Motion Design


Data & AI



The screenshot shows a web browser window displaying the 'Integrations' page for IBM Cloud Pak for Data. The page title is 'Integrations' and the subtitle is 'Extend the capabilities of Cloud Pak for Data with these integrations'. There are two main integration sections:

- Satellite:** A section titled 'Bring IBM Cloud services to your data' with the sub-heading 'Satellite'. The text describes how IBM Cloud Satellite integrated with Cloud Pak for Data as a service allows users to consume IBM services anywhere. A diagram shows a satellite connected to a server stack and a laptop. A button labeled 'Go to Satellite' is present.
- Cloud integrations:** A section titled 'Stream your data to Cloud Pak for Data' with the sub-heading 'Cloud integrations'. The text explains that users can provide credentials for other cloud platforms to stream data to Cloud Pak for Data as a Service. A diagram shows a rocket launching towards three clouds. A button labeled 'Go to Cloud integrations' is present.

The browser's address bar shows 'New Tab' and the page title is 'IBM Cloud Pak for Data'. The top right corner includes an 'Upgrade' button, a home icon, a search icon, a notification bell, and the IBM logo.

- 1. Problem**
 - 2. Research**
 - 3. Iterate**
 - 4. MVP**
- 

Collect Requirements



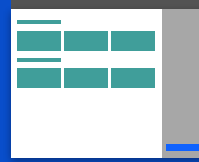
Stakeholder Alignment



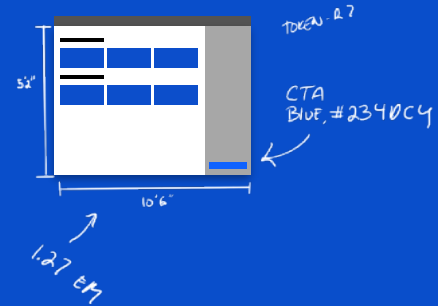
Thumbnails & Wireframes



Medium to Hi - Fidelity



Interaction Specifications



Project Satellite

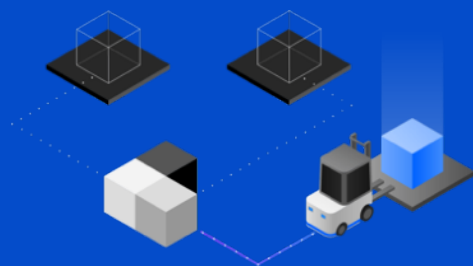
Distributed cloud



15 minutes

OSM

Open source package manager



15 minutes

Operator view

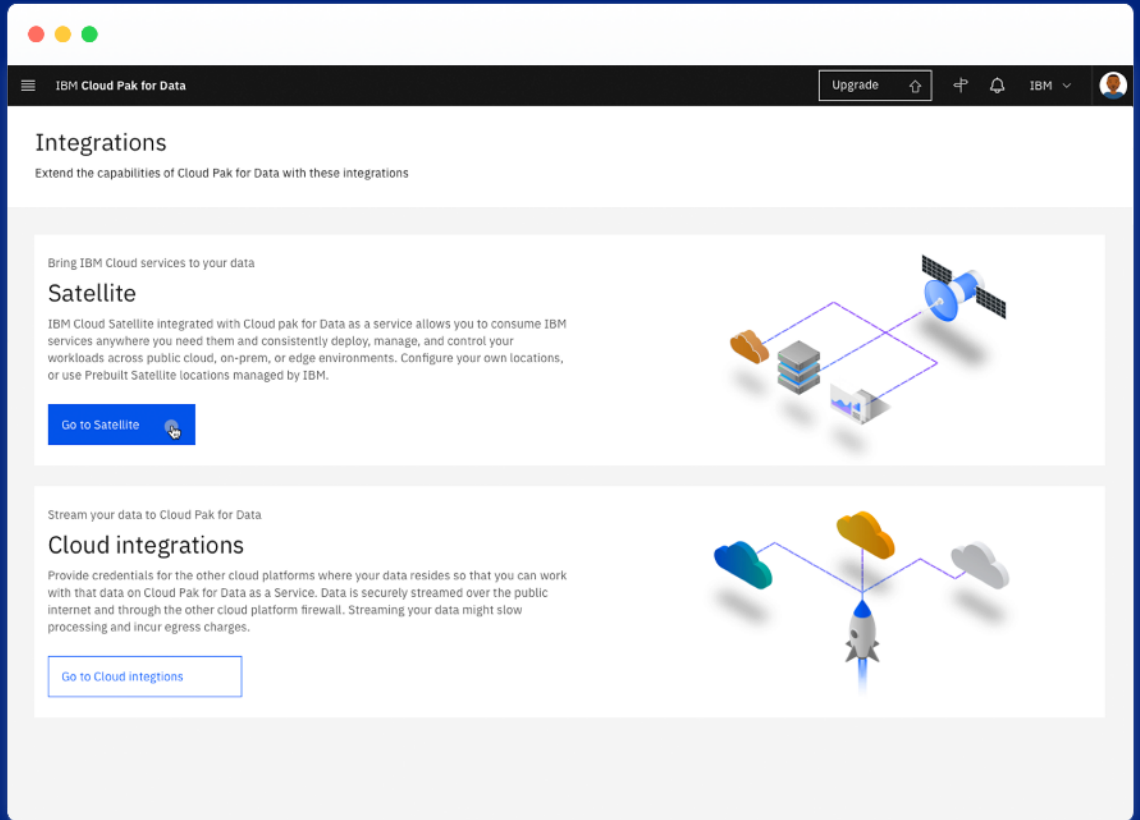
Data ops dashboard



5 minutes

IBM Data and AI with SATELLITE

Enabling a **distributed cloud**
model for our users



The screenshot shows the 'Integrations' page in the IBM Cloud Pak for Data interface. The page title is 'Integrations' and the subtitle is 'Extend the capabilities of Cloud Pak for Data with these integrations'. There are two main sections: 'Satellite' and 'Cloud integrations'. The 'Satellite' section includes a diagram of a satellite connected to cloud and server icons, and a 'Go to Satellite' button. The 'Cloud integrations' section includes a diagram of a rocket launching towards three cloud icons, and a 'Go to Cloud integrations' button.

IBM Cloud Pak for Data

Upgrade

Integrations

Extend the capabilities of Cloud Pak for Data with these integrations

Bring IBM Cloud services to your data

Satellite

IBM Cloud Satellite integrated with Cloud pak for Data as a service allows you to consume IBM services anywhere you need them and consistently deploy, manage, and control your workloads across public cloud, on-prem, or edge environments. Configure your own locations, or use Prebuilt Satellite locations managed by IBM.

[Go to Satellite](#)

Stream your data to Cloud Pak for Data

Cloud integrations

Provide credentials for the other cloud platforms where your data resides so that you can work with that data on Cloud Pak for Data as a Service. Data is securely streamed over the public internet and through the other cloud platform firewall. Streaming your data might slow processing and incur egress charges.

[Go to Cloud integrations](#)

Cloud Pak for Data

SaaS

IBM Cloud Pak for Data | All | Search | Upgrade | IBM

Learn by example
Step through solving a specific business problem in a sample project.
Take a guided tutorial

Work with data
Create a project for your team to prepare data, find insights, or build models.
Create a project

Extend your capabilities
Add tools, databases, or other features by creating services instances.
Create a service

Quick navigation
Projects
Catalogs
Deployments

Support
Documentation
FAQ
Share an idea
Stack overflow
Manage tickets

What's new
Track machine learning models in a model inventory (beta) (Watson Knowledge Catalog)
Oct 07, 2021
Credit card information required for all new accounts

Overview

Recent projects

Predict customer interest to optimize a campaign with ML + DO	Jul 13, 2021 10:09 AM
Playback Demo	Apr 20, 2021 08:36 AM
Ocean data	Nov 11, 2020 04:48 PM
Jobs data	Nov 11, 2020 04:46 PM
Payment plan prediction	Nov 11, 2020 11:45 AM

Recent catalogs

Test 2	Apr 22, 2021 10:49 AM
Your services	
Watson Assistant-Id Watson Assistant	Oct 04, 2021 12:42 PM
Db2-m4 Db2	May 13, 2021 11:38 AM
Watson Studio-eh Watson Studio	Apr 16, 2021 01:43 PM
Secure Gateway-ent Secure Gateway	Mar 08, 2021 07:11 AM
Db2-dav Db2	Feb 03, 2021 01:32 PM
Model-ent	

Notifications

- Project export complete**
Playback Demo was exported successfully.
Jul 19, 2021 09:41 AM
- David Lebutsch added Davon Larson to Predict customer interest to optimize a campaign with ML + DO**
Jul 12, 2021 10:09 AM
- Alexander Lang added David Lebutsch and Jason McGee to Playback Demo**
Apr 20, 2021 08:36 AM
- Alexander Lang added Gabriela Moreno Cesar to Playback Demo**
Apr 16, 2021 11:21 AM
- Alexander Lang added Davon Larson to**

Deployment spaces (1)

ACME AIRLINES INC.

Acme Airlines Texas opened a new route to Paris, they want to train a model that will automatically set prices based on historical consumer behavior.

The data resides on AWS in Paris and GCP in Amsterdam

How am I going to use this data with Watson studio?

Data Scientist

ML Engineer

Systems Admin

Transferring the data to Texas is complicated because of GDPR

Streaming the data is expensive because of egress charges

Would it be possible to create a compute environment in Paris?

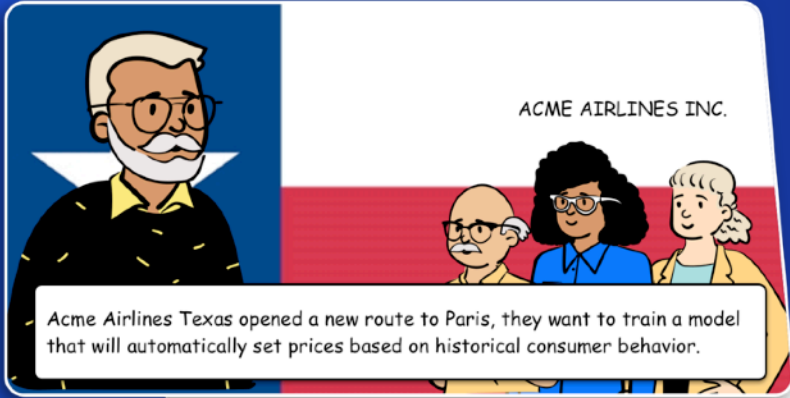
I have an idea...

Let's set up a location using IBM Cloud Software or Openstack

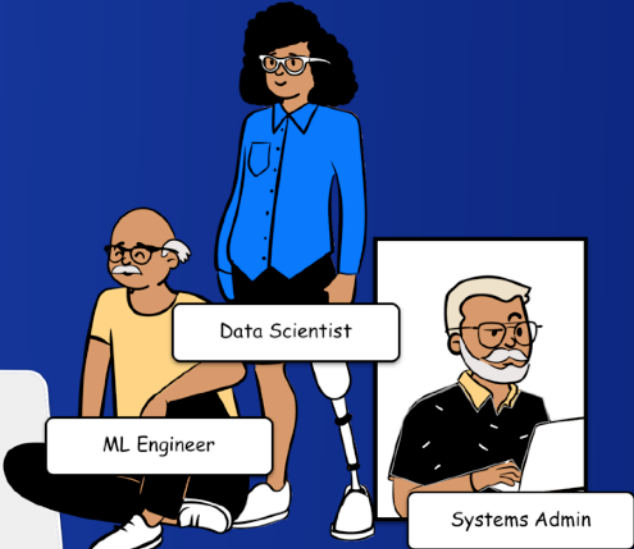
Where we can shift the workload into France without moving the data

Wow, this makes GDPR compliance much simpler

And training this model is faster than ever



The data resides on AWS in Paris and GCP in Amsterdam



Transferring the data to Texas is complicated because of GDPR...

...Streaming the data is expensive because of egress charges



How am I going to use this data with Watson studio?



Transferring the data to Texas is complicated because of GDPR...

...Streaming the data is expensive because of egress charges



Would it be possible to create a compute environment in Paris?

I have an idea...



Let's set up a location using IBM Cloud Satellite on CPDaaS...



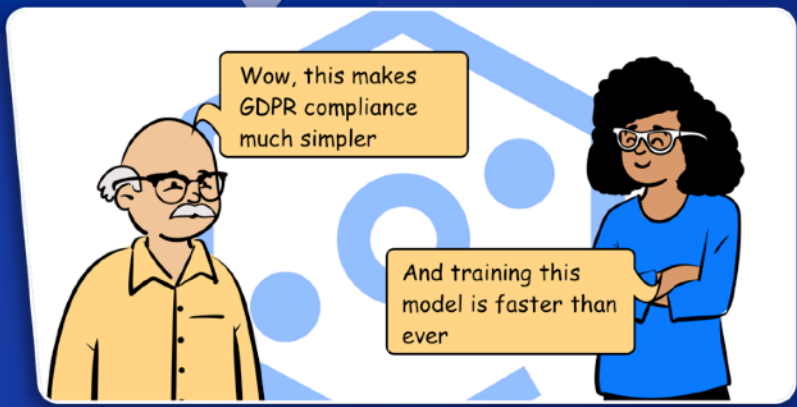
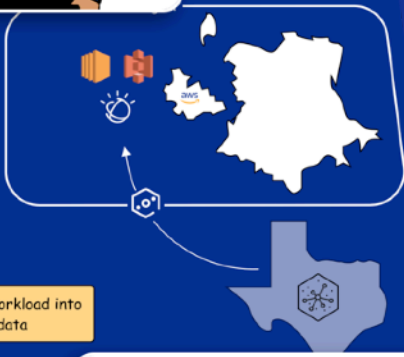
...Where we can shift the workload into





Let's set up a location using IBM Cloud Satellite on CPDaaS...

...Where we can shift the workload into France without moving the data

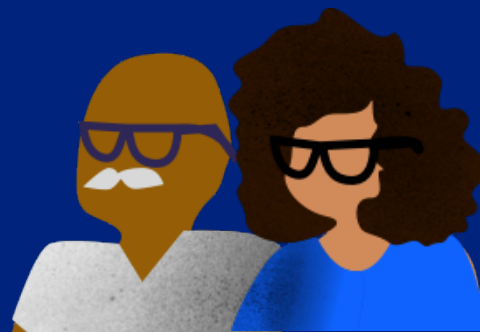


Background

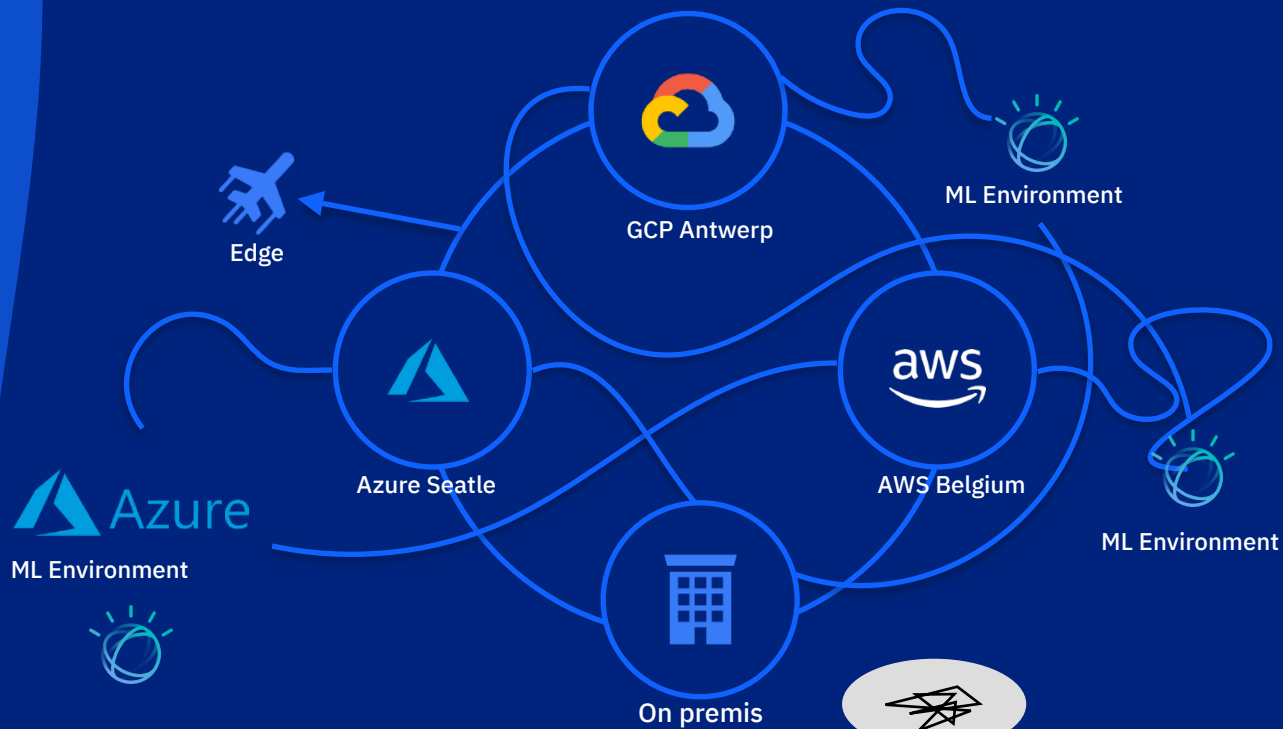


Distributed cloud

Dream
Reality



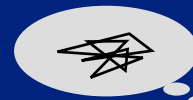
Background



Distributed cloud

Dream

Reality

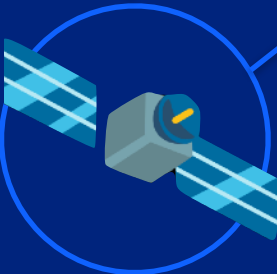
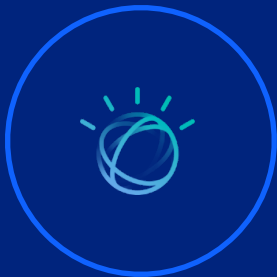


Background

Distributed cloud

Dream
Reality

ML environment

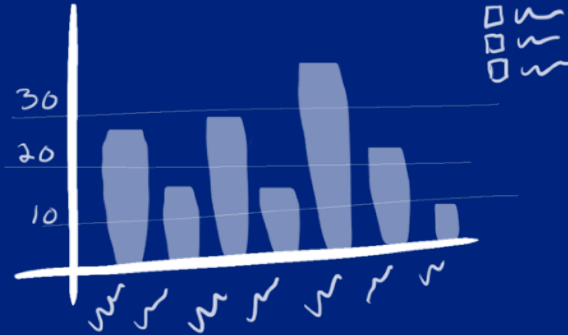


IBM Satellite



Goal

Create a UI that allows **Admins** to configure and manage their satellite locations

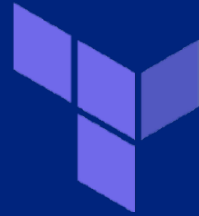


Challenges



Team
Domain
Architecture

Challenges

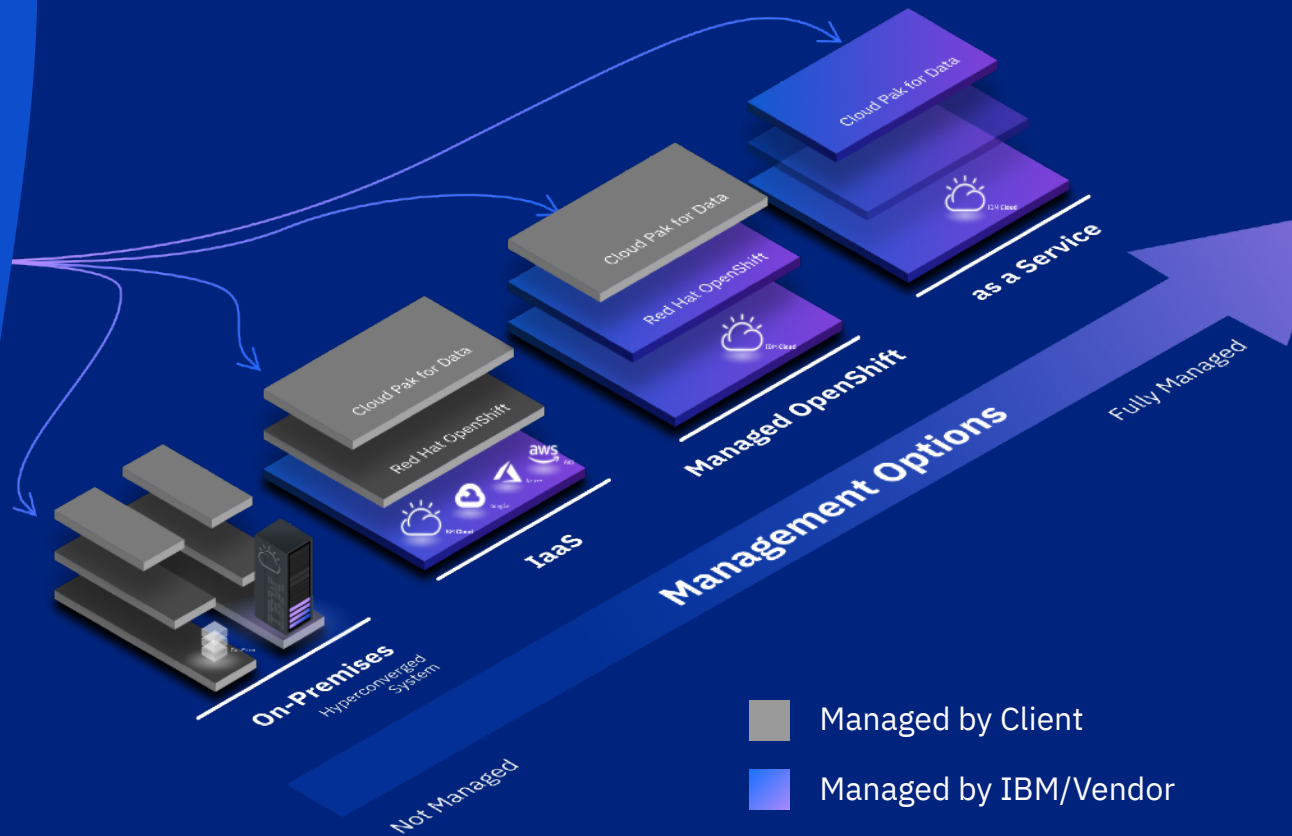


Team
Domain
Architecture



Challenges

Team
Domain
Architecture



Challenges

Team
Domain
Architecture

Custom

Shared ownership

IBM manages

Customer owns and pays



Plan B

Client ownership

Customer owns, manages, and pays



Prebuilt

IBM ownership

IBM manages and pays

Customer owns



Custom

Shared ownership



Plan B

Client ownership



Prebuilt

IBM ownership



What did we learn from Users?



1. **Admins** prefer control over convenience



2. **Data Scientist** care about speed



3. **Engineers** want the ability to manage and debug 24/7



As a data scientist, Chris needs to train models for solving business problems. She needs access to data to train the model but the data for her different projects is located on different locations. It could be on any of the popular clouds that her company uses or her company's on premises infrastructure. She is presented with different solutions to train her model given that data is located on different locations. We want to understand as a Data Scientist which solution if any would you like to use to train the model.

Have you ever wished to use a single platform for your data science needs?

Concept 1



For this particular project, the data is located on her company's AWS



She downloads the data to her local machine from the cloud and uses tools on her local machine to train the



Summary: No matter where the data is located, she downloads the data to her local machine and uses the local version



As a data scientist, Chris needs to train models for solving business problems. She needs access to data to train the model but the data for her different projects is located on different locations. It could be on any of the popular clouds that her company uses or her company's on premises infrastructure. She is presented with different solutions to train her model given that data is located on different locations. We want to understand as a Data Scientist which solution if any would you like to use to train the model.



For this particular project, the data is located on her company's AWS cloud. She logs into AWS account and decides to download the data to her local machine.



She downloads the data to her local machine from the cloud and uses tools on her local machine to train the model. She uses the local version of Watson Studio for data science needs and saves all her work on the local machine.



Summary: No matter where the data is located, she downloads the data to her local machine and uses the local version of Watson Studio to train her model. All her projects can be found in Watson Studio on her local device.

** Watson studio is a data science platform that helps cleaning the data and training the model. One of the services it contains is Jupyter notebooks.

Have you ever wished to use a single platform for your data science needs?

Concept 1



For this particular project, the data is located on her company's AWS



She downloads the data to her local machine from the cloud and uses tools



Summary: No matter where the data is located, she downloads the data to her local machine and uses the local version

Have you ever wished to use a single platform for your data science needs irrespective where data is located?

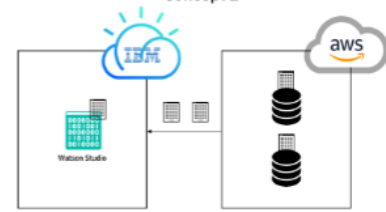
Concept 2



Chris wants to use Watson Studio for her data science needs. She logs in to IBM cloud to access Watson Studio.



The data for this project is located on AWS cloud so she selects AWS cloud to access the data. Watson studio fetches data from AWS cloud to access the data and she can now finally train the model.

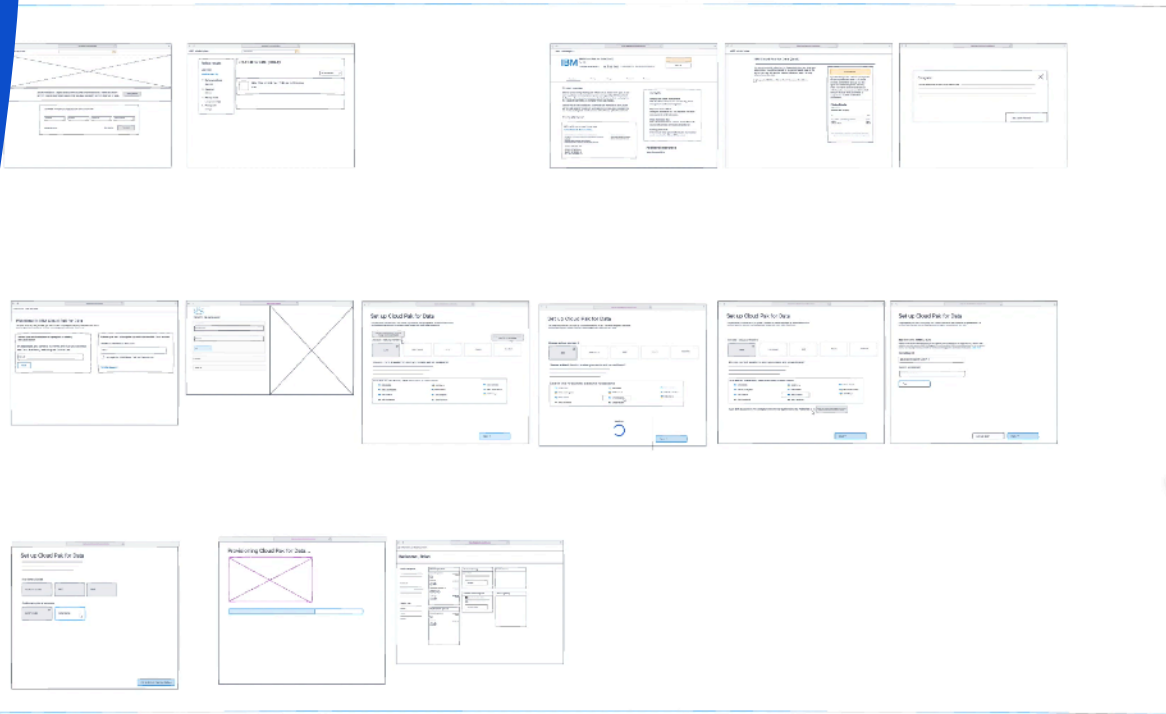


The data moves from AWS to IBM cloud. The data is not stored on IBM cloud but just moves for training the model. The egress charges apply depending on the volume of data. Some latency might be experienced based on the size of data

Process

ations

Does a buyer sign up for CPDaaS through the AWS marketplace?



Lo-fi
Testing
Hi-fi
Delivery

Does a data scientist control where their assets are stored?

Process

Lo-fi

Testing

Hi-fi

Delivery

The screenshot shows the 'Set up Cloud Pak for Data' wizard. At the top, the title is 'Set up Cloud Pak for Data'. Below it, a paragraph explains that it's a starter set of services managed on IBM Cloud, including Watson Studio, Watson Machine Learning, and Watson Knowledge Catalog. The next step is 'Where do you want to host Cloud pak for Data', with the instruction 'Bring the worlds most powerful machine learning tools to where your data lives.' There are four buttons for cloud providers: IBM Cloud, AWS, Microsoft Azure, and Google Cloud Platform. The next step is 'Choose your default region', with the instruction 'Awesome! We can set up a location for you at one of our select Accelerated Locations and charge you directly.' There are three columns of region buttons: US (Dallas), Europe (London, Frankfurt), and Asia (Tokyo). The final step is 'Managed from', with the instruction 'Select the region closest to you, or where you plan on hosting your data and services.' There are four buttons for managed regions: Dallas, London, Tokyo, and Frankfurt. At the bottom, there are two buttons: 'Finish set up' (highlighted in blue) and 'Advanced set up'.

IBM Cloud Pak for Data

All Search

Set up Cloud Pak for Data

A starter set of Cloud Pak for Data services, fully managed on IBM Cloud. Provision the integrated Lite versions of Watson Studio, Watson Machine Learning, and Watson Knowledge Catalog; add more services as you need them.

Where do you want to host Cloud pak for Data

Bring the worlds most powerful machine learning tools to where your data lives.

IBM Cloud AWS Microsoft Azure Google Cloud Platform

Choose your default region

Awesome! We can set up a location for you at one of our select Accelerated Locations and charge you directly.

US Europe Asia

Dallas London Tokyo

Frankfurt

Managed from

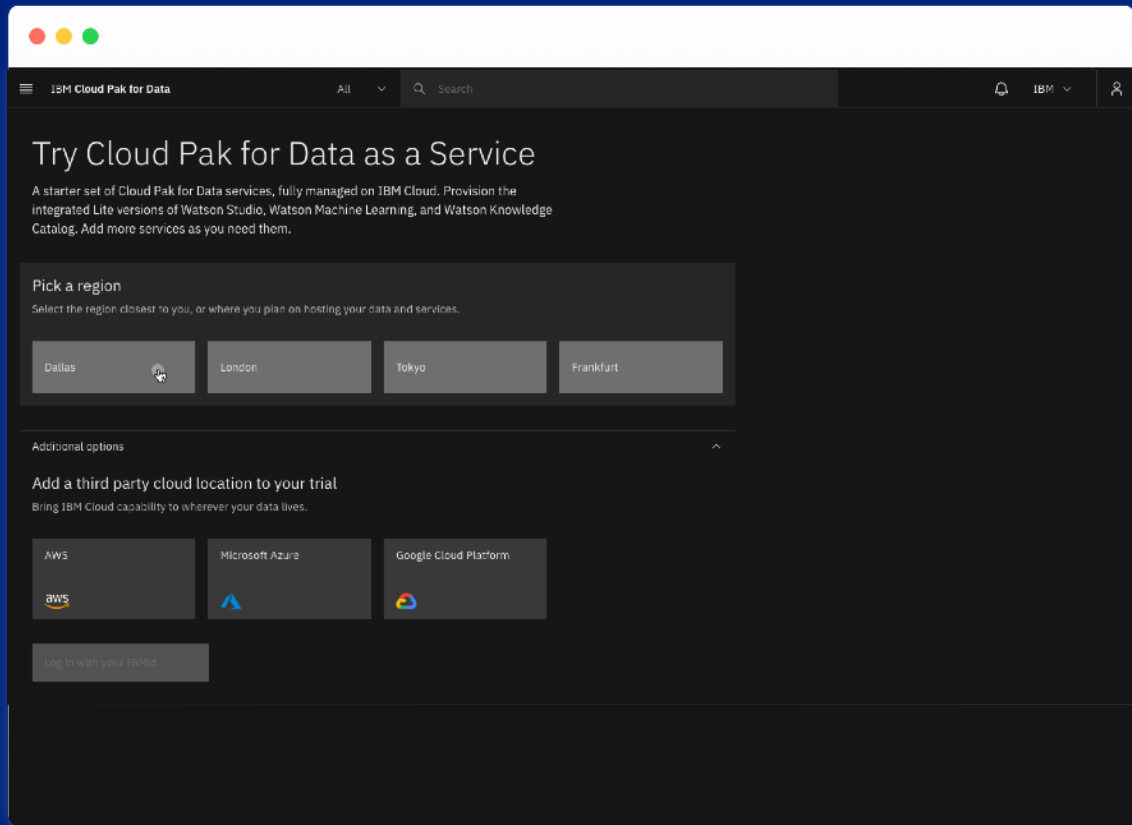
Select the region closest to you, or where you plan on hosting your data and services.

Dallas London Tokyo Frankfurt

Finish set up → Advanced set up

Process

Lo-fi
Testing
Hi-fi
Delivery



Try Cloud Pak for Data as a Service

A starter set of Cloud Pak for Data services, fully managed on IBM Cloud. Provision the integrated Lite versions of Watson Studio, Watson Machine Learning, and Watson Knowledge Catalog. Add more services as you need them.

Pick a region

Select the region closest to you, or where you plan on hosting your data and services.

Dallas London Tokyo Frankfurt

Additional options

Add a third party cloud location to your trial

Bring IBM Cloud capability to wherever your data lives.

AWS Microsoft Azure Google Cloud Platform

Log in with your IBMid

IBM Cloud Pak for Data

All Search

IBM

Try Cloud Pak for Data as a Service

A starter set of Cloud Pak for Data services, fully managed on IBM Cloud. Provision the integrated Lite versions of Watson Studio, Watson Machine Learning, and Watson Knowledge Catalog. Add more services as you need them.

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Pick a region




Select the region closest to you, or where you plan on hosting your data and services.


Dallas <input checked="" type="radio"/>	London	Tokyo	Frankfurt
---	--------	-------	-----------

Additional options

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AWS <input checked="" type="checkbox"/> 	Microsoft Azure 	Google Cloud Platform 
--	--	--

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Dallas London Tokyo Frankfurt

Additional options

Add a third party cloud location to your trial

Bring IBM Cloud capability to wherever your data lives.

AWS Microsoft Azure Google Cloud Platform

Log in with your IBMid



Log in to IBM Cloud Pak for Data

Starter edition

Need an account? [Sign up and try for free](#)

Dallas ▾

Username

[Forgot ID?](#)

Enter your IBMid

Continue →

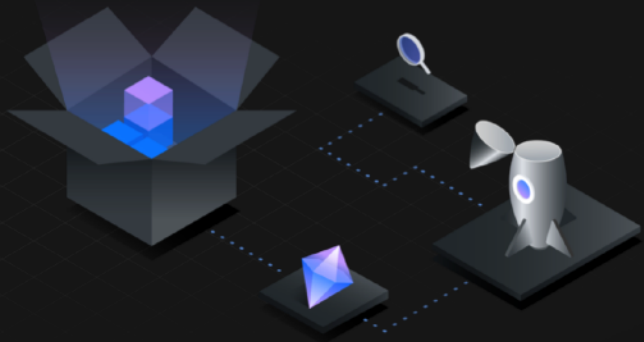
Remember ID

Need help? [Contact the IBM help desk](#)





Provisioning your **Cloud Pak for Data** core services



50% done



Details ⓘ

Go to CPDaaS

✕ IBM Cloud Pak for Data
Upgrade ↑
🔗
🔔
IBM

Filter navigation

- View all projects
- Graph sandbox
- Catalogs**
- View all catalogs
- No recent catalogs
- Governance**
- Data dashboard
- Policy manager
- Business glossary
- Deployment spaces**
- View all spaces
- Space Test
- Services**
- Services catalog
- Service instances
- Gallery**
- Administer**
- Integrations

Work with data

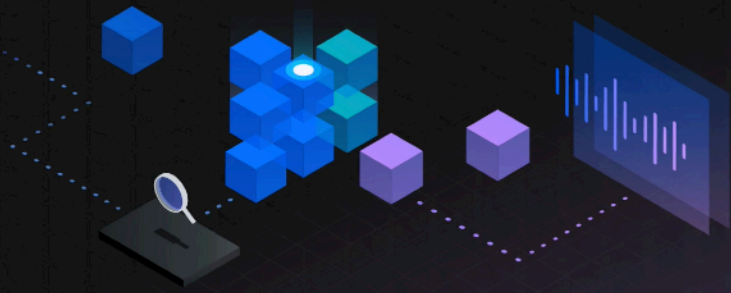
Create a project for your team to prepare data, find insights, or build models.

[Create a project](#)

Extend your capabilities

Add tools, databases, or other features by creating services instances.

[Create a service](#)



Overview

Recent projects	Recent catalogs	Notifications
<div style="display: flex; justify-content: space-between; align-items: center;"> Graph sandbox Aug 10, 2020 11:10 AM </div> <div style="margin-top: 5px;">DL</div>	<div style="display: flex; justify-content: space-between; align-items: center;"> Space Test Sep 01, 2020 4:15 PM </div>	<p>🚫 No notifications</p> <p>You will see your most recent notifications here.</p>
<div style="display: flex; justify-content: space-between; align-items: center;"> Deployment spaces </div>	<div style="display: flex; justify-content: space-between; align-items: center;"> Test catalog Apr 02, 2020 4:24 PM </div>	

 Plan A
Feb Beta



Integrations

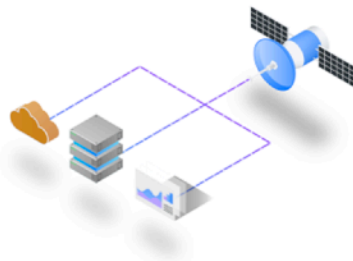
Extend the capabilities of Cloud Pak for Data with these integrations

Bring IBM Cloud services to your data

Satellite

IBM Cloud Satellite integrated with Cloud Pak for Data as a service allows you to consume IBM services anywhere you need them and consistently deploy, manage, and control your workloads across public cloud, on-prem, or edge environments. Configure your own locations, or use Prebuilt Satellite locations managed by IBM.

[Go to Satellite](#)

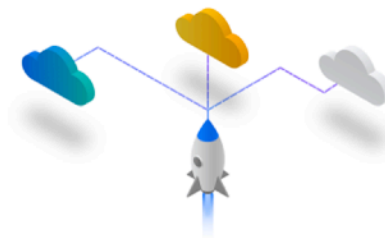


Stream your data to Cloud Pak for Data

Cloud integrations

Provide credentials for the other cloud platforms where your data resides so that you can work with that data on Cloud Pak for Data as a Service. Data is securely streamed over the public internet and through the other cloud platform firewall. Streaming your data might slow processing and incur egress charges.

[Go to Cloud integrations](#)





[Integrations](#) /

IBM Cloud Satellite

[Documentation](#)

Create an IBM Satellite location for each cloud platform where you want to work with your data. Then, deploy Cloud Pak for Data as a Service at your Satellite locations. Or, monitor your Prebuilt Satellite location managed by IBM.

Satellite locations Prebuilt satellite locations

Filter by: Provider ▾ Services ▾ Status ▾

Find a location or service by name, IP address, or tag

New location +

Name	Provider	Region	Services	Status
------	----------	--------	----------	--------



Start creating locations

Click New location to specify where to set up a new Satellite location.

[Integrations /](#)

IBM Cloud Satellite

[Documentation](#)

Create an IBM Satellite location for each cloud platform where you want to work with your data. Then, deploy Cloud Pak for Data as a Service at your Satellite locations. Or, monitor your Prebuilt Satellite location managed by IBM.

Satellite locations **Prebuilt satellite locations**

Filter by: Provider ▼ Services ▼ Status ▼

🔍 Find a location or service by name, IP address, or tag

Name	Provider	Region	Services	Status
▼ prebuilt-sat-eu-amster	AWS	EU (Amsterdam)	3 Enabled	✔ Enabled
▼ prebuilt-sat-us-texas	AWS	US South (Texas)	3 Enabled	✔ Enabled
▼ prebuilt-sat-us-la	AWS	US West (Los Angeles)	3 Enabled	⚠ Attention required

[Integrations /](#)

IBM Cloud Satellite

[Documentation](#)

Create an IBM Satellite location for each cloud platform where you want to work with your data. Then, deploy Cloud Pak for Data as a Service at your Satellite locations. Or, monitor your Prebuilt Satellite location managed by IBM.

Satellite locations **Prebuilt satellite locations**Filter by: Provider ▼ Services ▼ Status ▼

🔍 Find a location or service by name, IP address, or tag

Name	Provider	Region	Services	Status
▼ prebuilt-sat-eu-amster	AWS	EU (Amsterdam)	3 Enabled	✅ Enabled
▼ prebuilt-sat-us-texas	AWS	US South (Texas)	3 Enabled	✅ Enabled
^ prebuilt-sat-us-la	AWS	US West (Los Angeles)	3 Enabled	⚠️ Attention required
📍 WatsonStudio		Dallas	Watson Studio	✅ Active
💡 KnowledgeCat		Dallas	WKC	✅ Active
📅 ServiceAddedAfter...		Dallas	Assistant	⚠️ Issue #00199



[Integrations](#) /

IBM Cloud Satellite

[Documentation](#)

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Satellite locations Prebuilt satellite locations

Filter by: Provider ▾ Services ▾ Status ▾

Find a location or service by name, IP address, or tag

New location +

Name	Provider	Region	Services	Status
------	----------	--------	----------	--------



Start creating locations

Click New location to specify where to set up a new Satellite location.



Set up a new Satellite location

Choose a provider to create a new location

An active account is required. You will enter your access keys to establish the location.

[Documentation](#)

Amazon AWS

Google cloud platform

Microsoft Azure

Custom

Location details

The Satellite location creation template below will automatically provision all the required resources need to create this location. [Learn more](#)

Location name

Region

AWS access key ID

Summary

United States of Amer...

3 Satellite location **\$\$ CUH**

Network SVI-Cloud-1
Name cp4d-aws-sat-location
User IP 172.16.10.1/32
IBM IP 172.16.10.2/32
Location US Central (Austin)
BGP ASN Customer IP 645556

Add-ons



Set up a new Satellite location

Launch template name

your-defaulted-template-name

Encrypted storage

No

Subnet

subnet-4k3f9

Security groups

sg-5395hj293k30

Network platform

Virtual private cloud (VPC)

Delete on termination

Yes

Auto assign public IP

Yes

Edit



Advanced settings

Description that can take two or three lines. It describes what this section is for and what options the user needs to select.

Shutdown behavior

Stop

Detailed CloudWatch monitoring

Disabled

Subnet

Termination protection

Disabled

Metadata accessible

Enabled

Auto assign public IP

Edit



Summary

United States of Amer... ▼

3 Satellite location

\$\$ CUH

Network SVI-Cloud-1
Name cp4d-aws-sat-location
User IP 172.16.10.1/32
IBM IP 172.16.10.2/32
Location US Central (Austin)
BGP ASN Customer IP 645556

Add-ons ▼

Enter promo code

Apply

Total cost*



2 CHU

[View Terms and Conditions](#)

Create

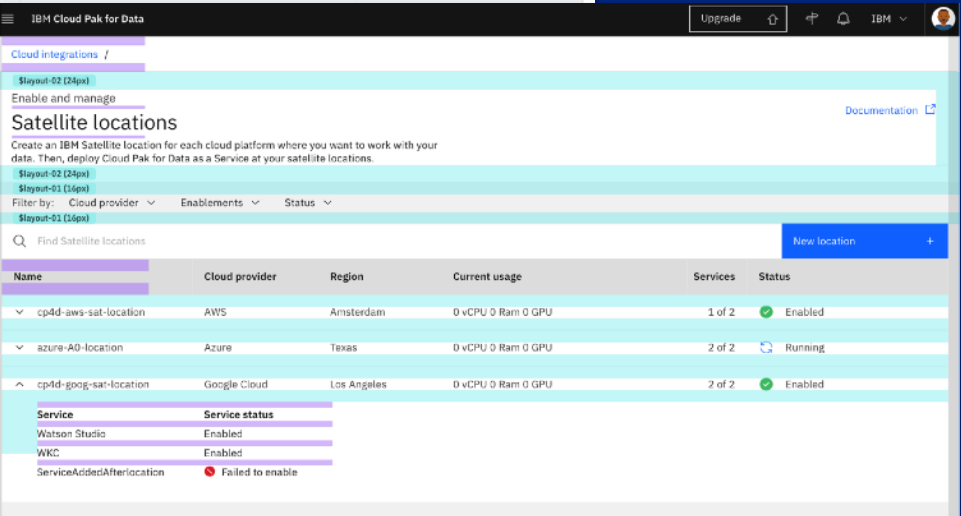
Add to estimate

Process

Lo-fi
Testing
Hi-fi
Delivery

Design deliverables

Story or Github Issue	Status	Description	Owner
UX Reboot	⚠️	UX Reboot designs	@Danielle Liao @andrew.lee1 @godiva.reisen @davon.larson
Cloud Catalog Details Page	⚠️		
HSA	✅		
Login MZR Usability	✅		
Satellite Plan C	⚠️		
Satellite Link	✅		
Satellite Plan A	❌		
What's New	✅		
Terms Modal	✅		



The screenshot shows the IBM Cloud Pak for Data interface. The main heading is "Satellite locations". Below the heading, there is a filter section with "Filter by: Cloud provider", "Enablements", and "Status". A search bar contains "Find Satellite locations" and a "New location" button. A table lists the following satellite locations:

Name	Cloud provider	Region	Current usage	Services	Status
cp4d-aws-sat-location	AWS	Amsterdam	0 vCPU 0 Ram 0 GPU	1 of 2	Enabled
azure-A0-location	Azure	Texas	0 vCPU 0 Ram 0 GPU	2 of 2	Running
cp4d-goog-sat-location	Google Cloud	Los Angeles	0 vCPU 0 Ram 0 GPU	2 of 2	Enabled

Below the table, a "Service" section shows the status of various services:

Service	Service status
Watson Studio	Enabled
WKC	Enabled
ServiceAddedAfterlocation	Failed to enable

Summary

“CPD & **Satellite** resulted in a performance improvement which reduced scoring latency on some time critical models from **10 seconds** to under **1 second**”

- Anonymous CTO

Impact
Takeaways

Summary



Treat engineers like your users, with **empathy**



With enough patience, you can **figure out anything**. Including Data Science, and Kubernetes



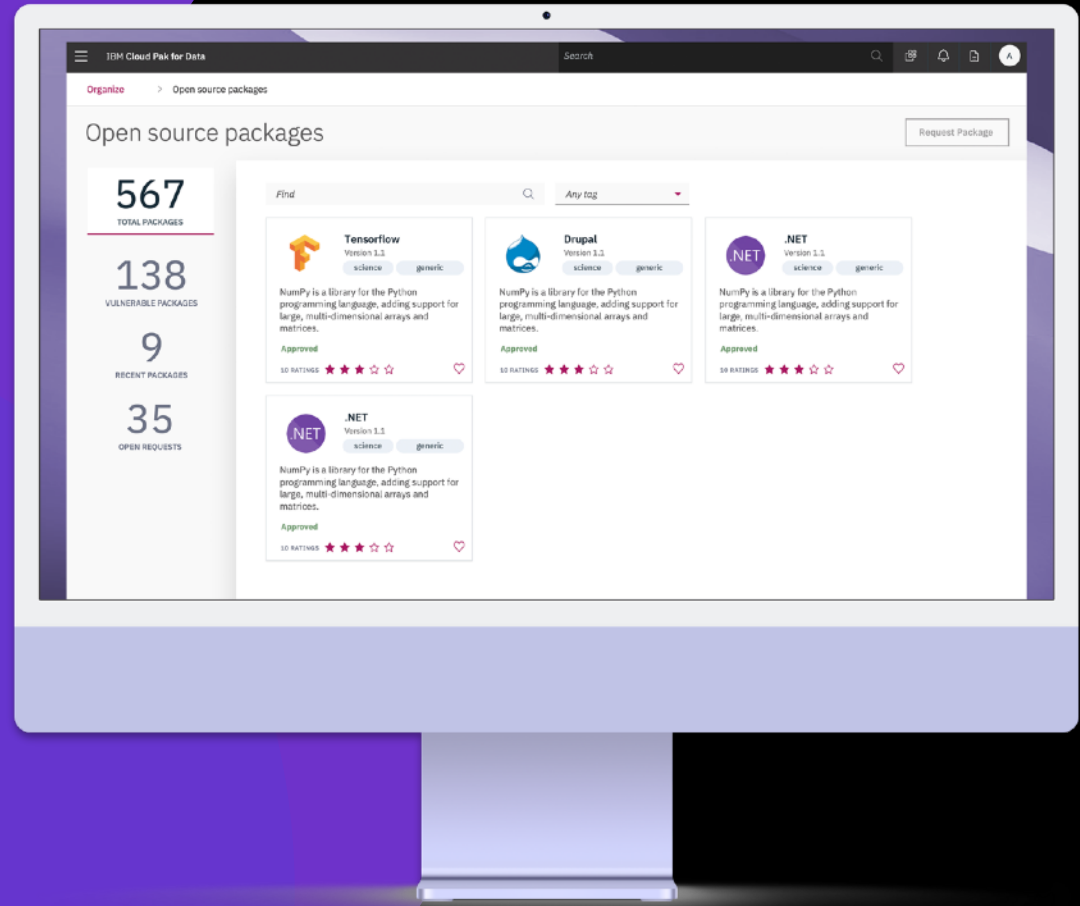
Ambiguity is an opportunity to create something new.

Impact Takeaways

Open source package manager

Enabling
developers to
reduce the risks
of **open source**
code

User: Data Scientists and ML
Engineers



Why

Dev team leads and CIOs are nervous about what open source packages their devs are introducing into their stack

But open source is key to modern software design

“One vulnerable package, Apache Struts, lead to the 2017 hack of Equifax, and allowed hackers to access personal data of 143 million Equifax customers.”

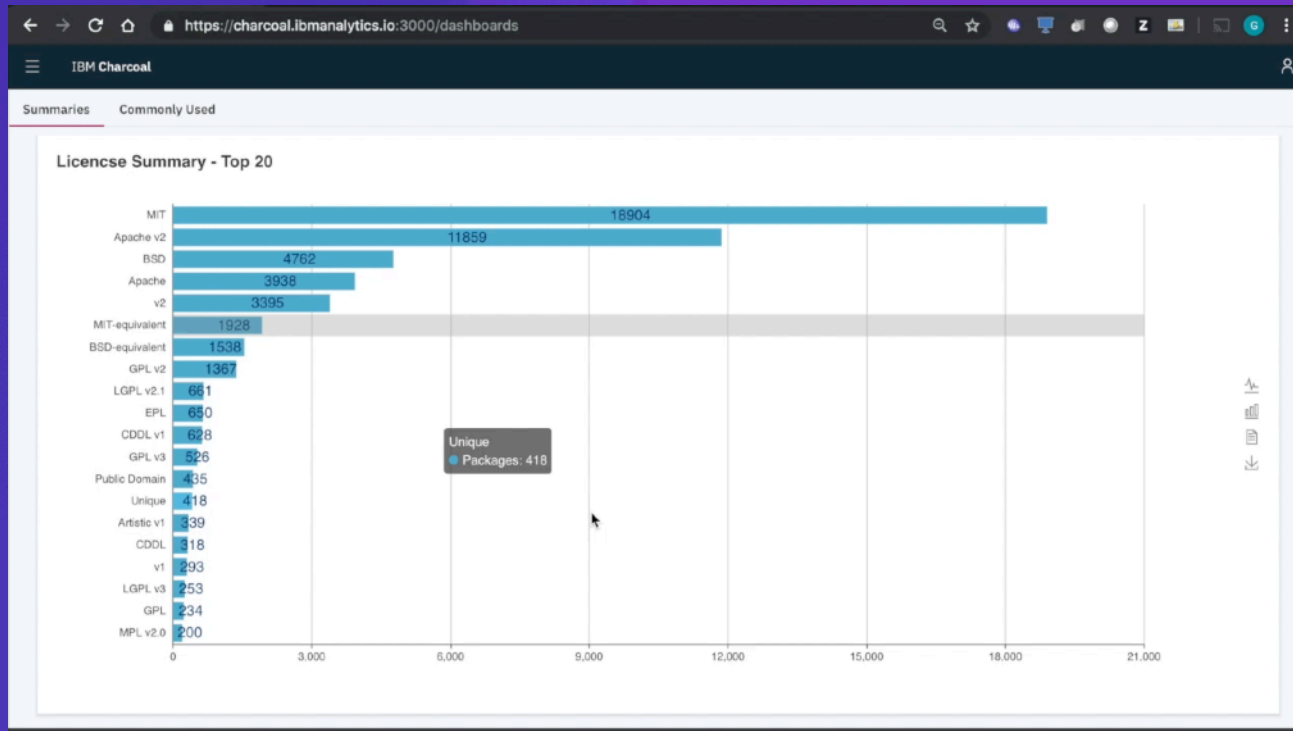
Why

Dev team leads and CIOs are nervous about what open source packages their devs are introducing into their stack

But open source is key to modern software design

How might we **preserve the convenience of Open Source software**, while giving companies **control** over what their devs are using.

The process started with Redesigning the MVP in ~2 weeks



The process started with

Redesigning the MVP in ~2 weeks

Cloud Pak for Data apps



Watson Studio



Watson ML



Watson KC



DB2



Cognos



Connections



NLP



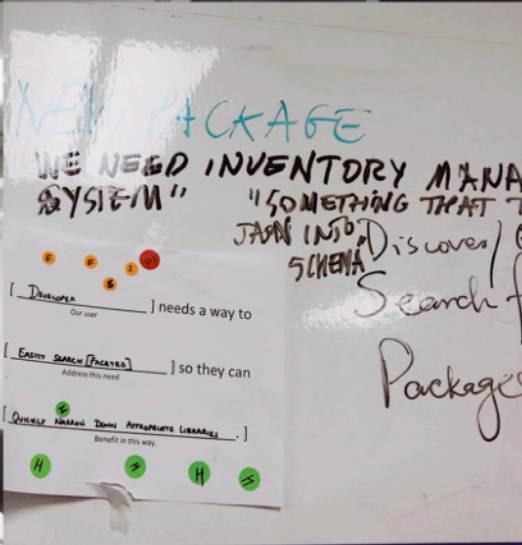
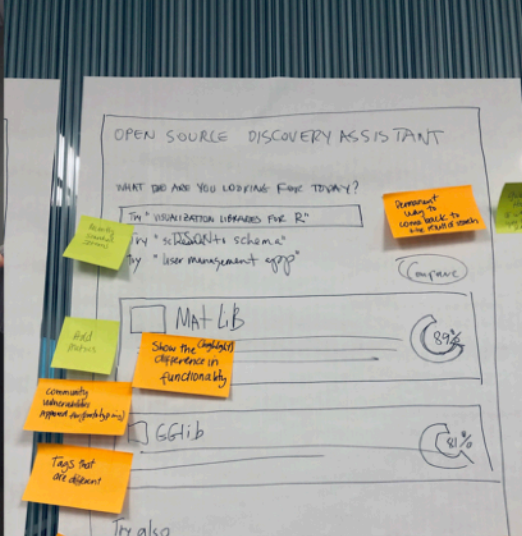
DataStage



Data Virtualization

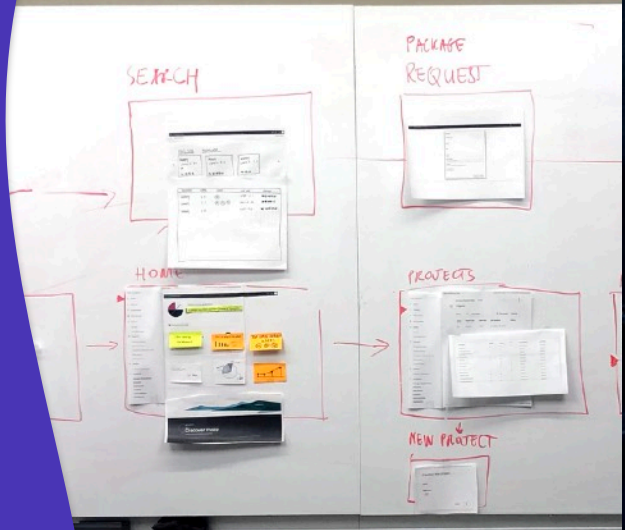


OSM



Step 2




Lofi

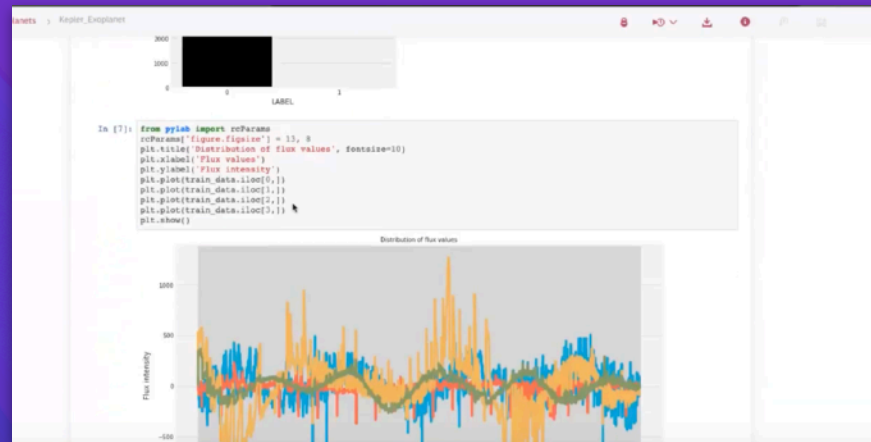


A collection of pink sticky notes with hand-drawn diagrams and charts:

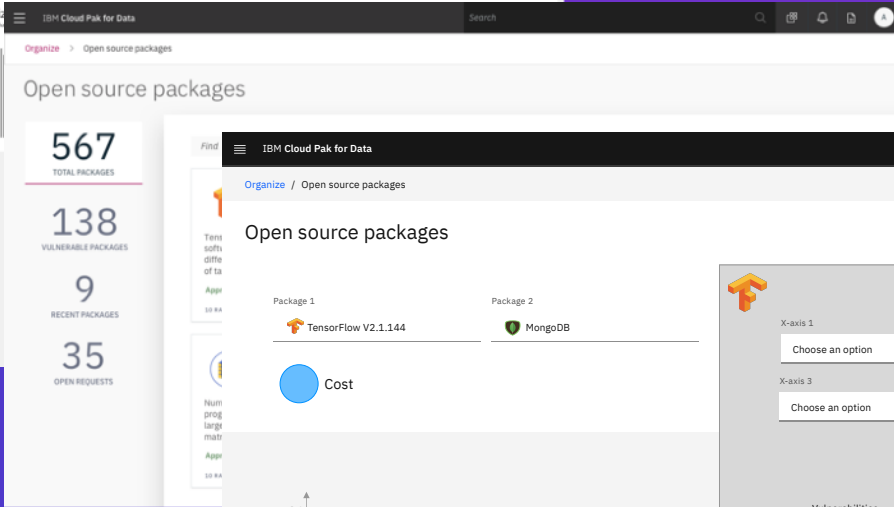
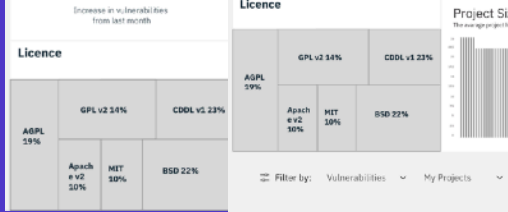
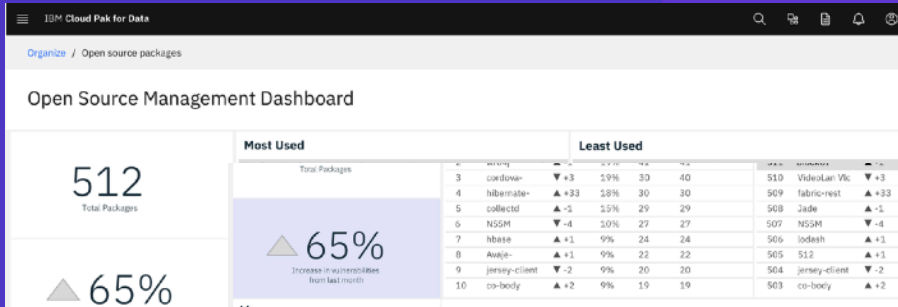
- Top Left:** A funnel diagram labeled "THIS MONTH" with "ID" on the left and "97" on the right.
- Top Right:** A sticky note with "Total" and "815" written on it.
- Middle Left:** A diagram showing a box labeled "click shift" with numbers 5, 6, and 5 in circles around it. To the right is a vertical bar chart labeled "NUMBER OF LETTERS" with values 1, 6, 7, 18, 6, 4, 5, 10.
- Middle Right:** A diagram of a cube with labels "VIEW", "SEARCH", "NEW PROJECT", and "PROJECTS".
- Bottom Left:** A bar chart titled "MONTHLY" showing data for JAN, FEB, MAR, APR, JUN, JUL, AUG, SEP, OCT. A legend indicates "HIGH BAR", "MEDIUM", and "LOW".
- Bottom Right:** A diagram of a curved shape labeled "Security Score" with the number "78" inside.
- Far Right:** A diagram of a box labeled "VIEW" with "2-2" and "3-5" written on it, and "CENTRAL 35%" below.

Research

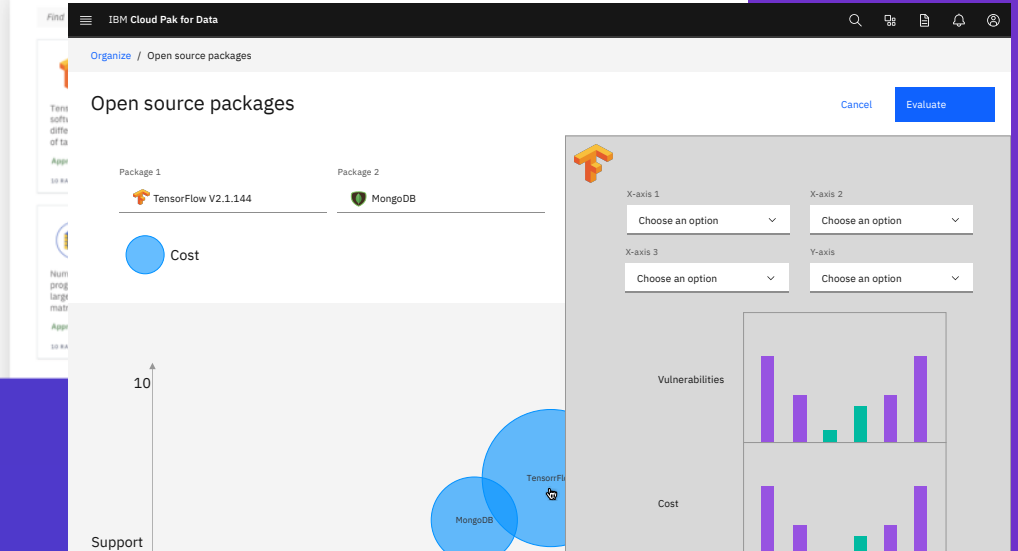
-  Users want integrations with Github and Jfrog
-  Approval is generally ad hoc, one user stated that they just keep track of this on a spread sheet
-  Community is extremely important to decision making

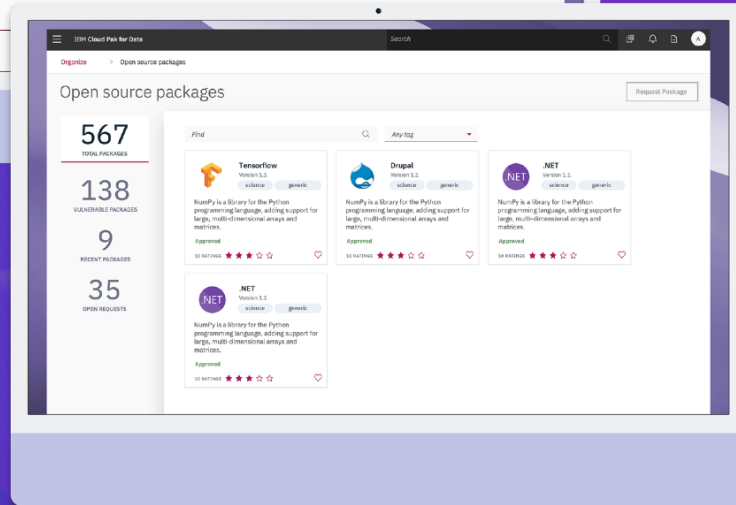
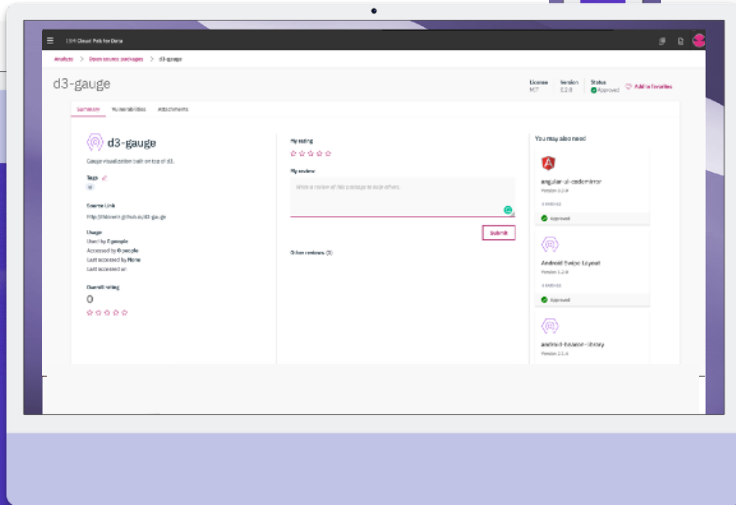
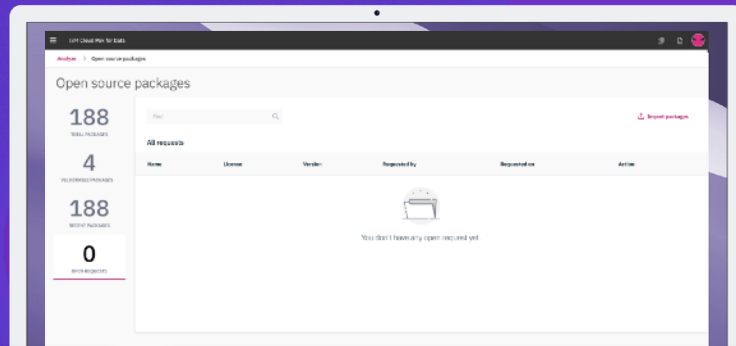
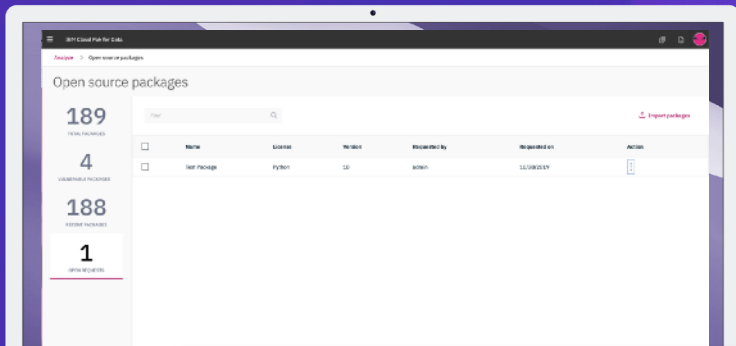


Low fidelity



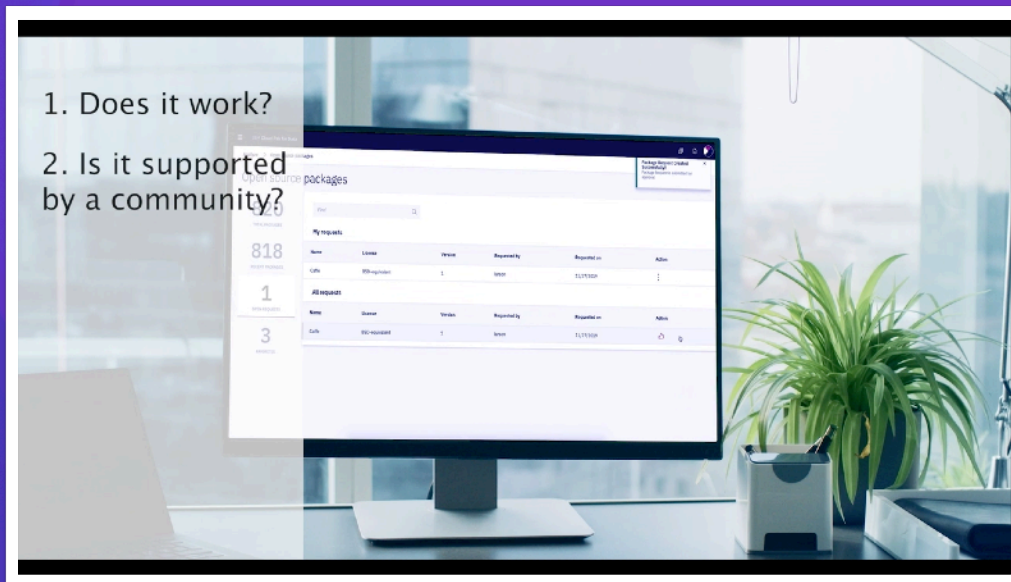
Medium Fidelity



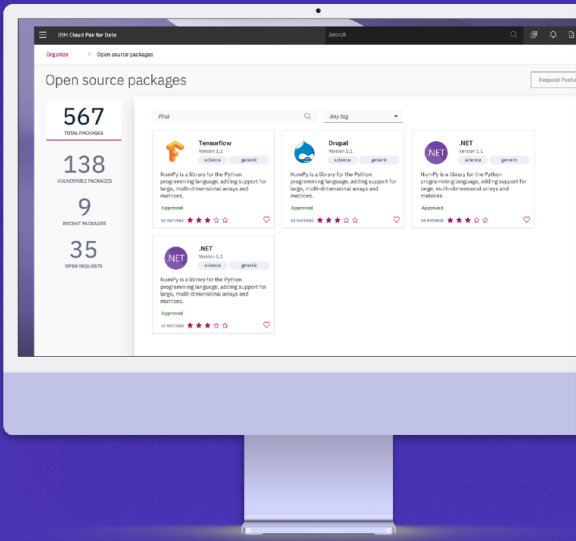


Research

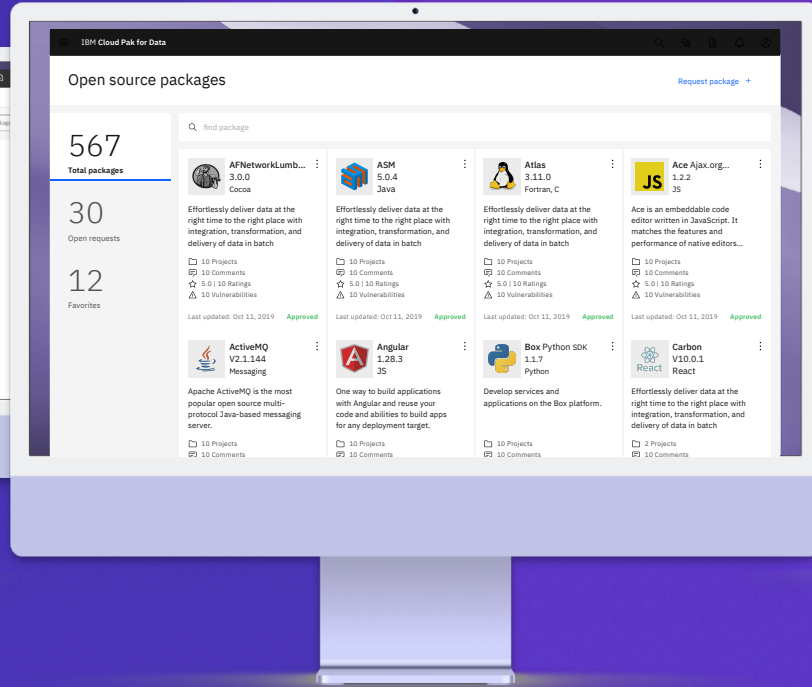
- Participants found OSM to be easy to use
- Admins thought that importing and approving packages should be separated
- Admins need more info before a package can be approved
- There is a need for this in the market
- Vulnerabilities page is useful but terms need clarification and layout needs to be better organized



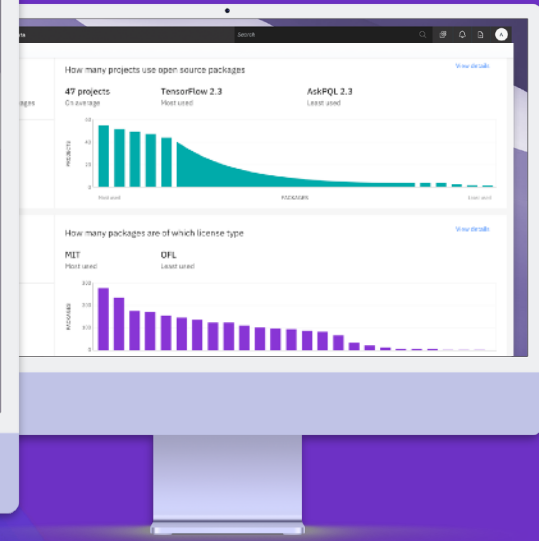
Release 1



Release 2



Release 3



Final

Key Concepts

Governance

Reporting

Community

The screenshot displays the 'Open source management' interface for IBM Cloud Pak for Data. The main heading is 'Open source packages', with options for 'Request package +' and 'Settings'. A sidebar on the left shows summary statistics: 567 Total packages, 0 Open requests, and 0 Favorites. The main content area features a search bar and a grid of package cards. Each card includes the package name, version, star rating, a brief description, tags, and a status indicator (e.g., 'Jul 27, 2020'). A white circle highlights the 'Angular' package card.

Package Name	Version	Rating	Description	Tags	Status
AFNetworkLumb	3.5	★★★★☆ (1.5)	New architecture use serializers for creating requests and parsing responses.	science, generic, arch	Jul 27, 2020
ASM	2.1.144	★★★★☆ (25)	ASM provides some common bytecode transformations and analysis algorithms from which custom complex.	java, bytecode, manipulation	Jul 27, 2020 ▲ 6
Atlas	5.123	★★★★☆ (50)	ATLAS is an open source software tool for researchers to conduct scientific analyses on standardized observational data.	research, data, open, +2	Jul 28, 2020
Ace Ajax	6.0	☆☆☆☆☆ (0)	The ACE components allow developers to customize the ajax behaviour of various supported synthetic events	event, java, data	Pending
ActiveMQ	07.07	★★★★☆ (1.2)	Apache ActiveMQ is an open source message broker written in Java together with a full Java Message Service client.	apache, message, arch	Jul 27, 2020 ▲ 2
Angular	20.1	★★★★☆ (8)	Angular is a TypeScript-based open-source web application framework led by the Angular Team at Google and by a community of...	html, app, google, +2	Jul 29, 2020
Box Python SDK	3.5	★★★★☆ (1.5)	The Box API uses OAuth2 for auth. The SDK makes it relatively painless to work with OAuth2 tokens.	token, generic, arch, +4	Pending
Carbon	10.15	★★★★★ (1.0)	Carbon is one of the components of Graphite, and is responsible for receiving metrics over the network and writing them down to disk...	metrics, network	Jul 29, 2020 ▲ 2

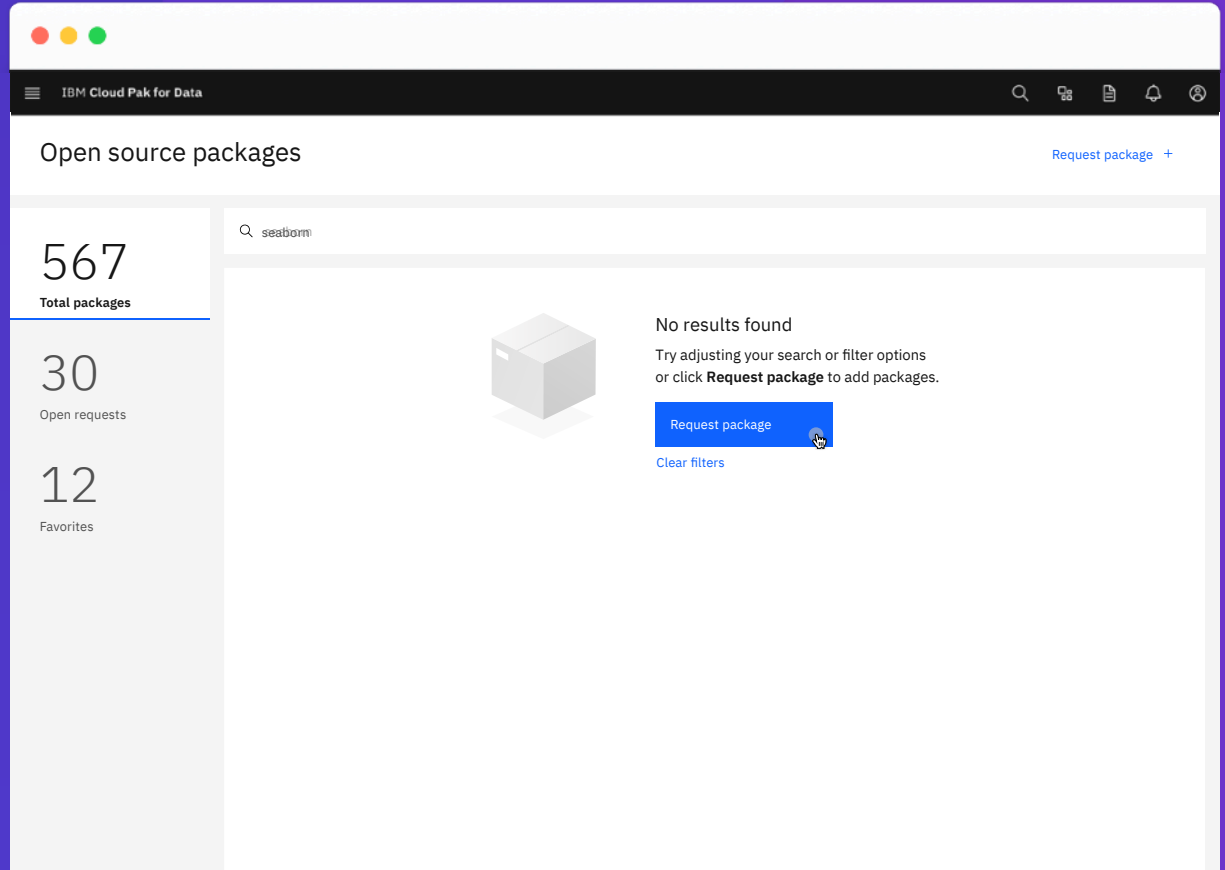
Final

Key Concepts

Governance

Reporting

Community



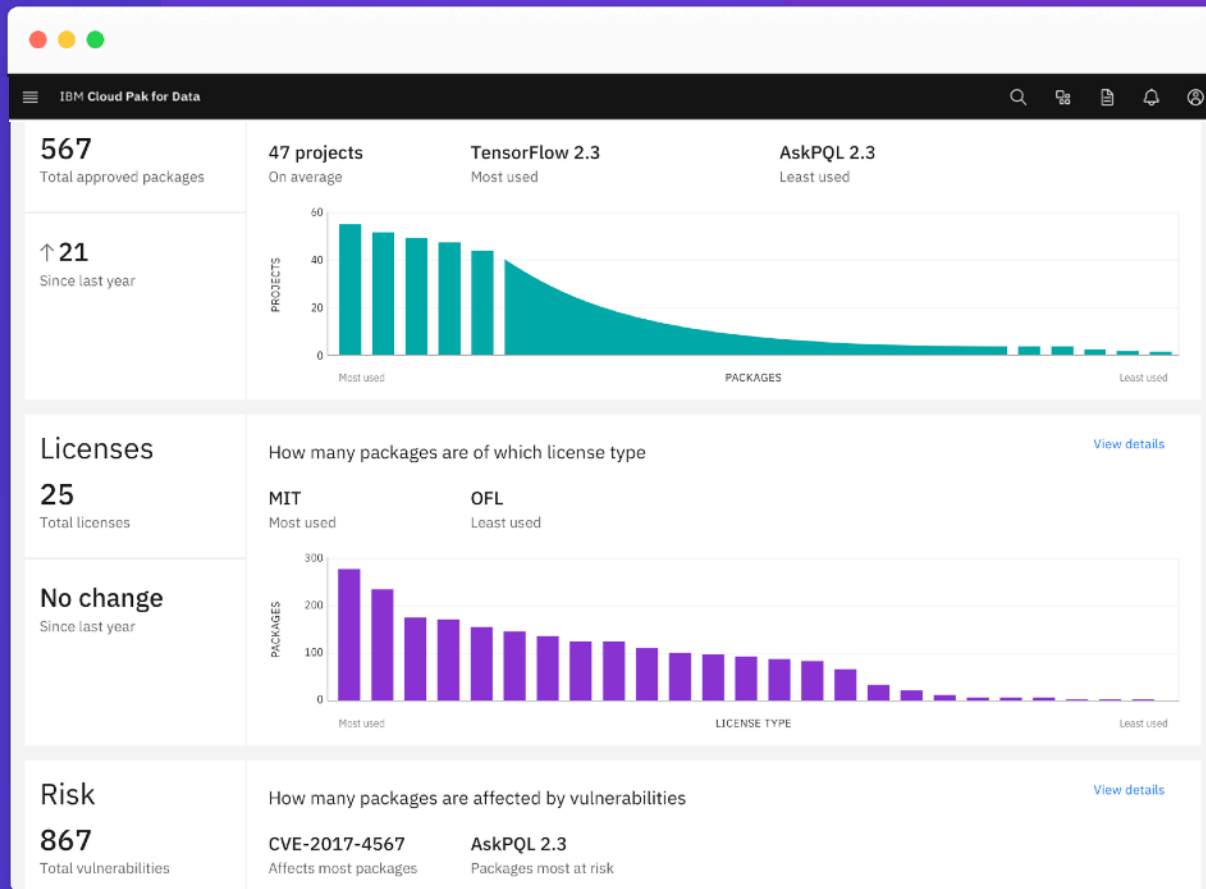
Final

Key Concepts

Governance

Reporting

Community



Final

Key Concepts

Governance
Licensing
Community

IBM Cloud Pak for Data

Organize / Open source packages

Open source packages

Discover packages [🌐](#) Import packages [+](#)

567 Total packages

9 Vulnerable packages

30 Open requests

35 Favorites

Filter by: All packages [v](#) Find a package [🔍](#) [Grid view](#) [🗃️](#)

Package	Projects	Comments	Ratings	Vulnerabilities	Last updated	
Tensorflow V2.1.144	3	30	3.0	6	Oct 11, 2019	⋮
Tensorflow V2.1.144	2	15	3.0	9	Oct 11, 2019	⋮
MongoDB V3.1.233	1	5	3.0	5	Oct 11, 2019	⋮
Unity V3.1.233	3	7	3.0	7	Oct 11, 2019	⋮
NumPy V0.50	3	0	3.0	4	Oct 11, 2019	⋮
MongoDB V5.2.35	10 +	5	3.0	8	Oct 11, 2019	⋮
Tensorflow V2.1.144	3	40	5	5	Oct 11, 2019	⋮
MongoDB V1.34	40 +	10	3.0	2	Oct 11, 2019	⋮
Tensorflow V3.45.32	45 +	50	3.0	6	Oct 11, 2019	⋮
Tensorflow V2.234.1	50 +	10	3.0	1	Oct 11, 2019	⋮

Items per page: 10 [v](#) 1 - 10 of 567 items [1](#) [v](#) of 57 pages [◀](#) [▶](#)

Final

Key Concepts

Governance

Licensing

Community


IBM Cloud Pak for Data

Open source packages / Seaborn

Seaborn

[Add to favorites](#) [Add to or remove from projects](#)

Summary | Vulnerabilities | Attachments | Reference projects

 **seaborn**

Seaborn is a Python visualization library based on matplotlib. It provides a high-level interface for drawing attractive statistical graphics.

License	Version	Language
Apache v2	0.5.0	C++

Status
Approved

Last updated
October 11, 2019

Tags
[science](#) [generic](#)

Source link
<http://github.com>

Repository URL
<https://files.pythonhosted.org/>

Usage
Used in 12 projects
Used by 98 users in your organization

Reviews | Questions

Write a review


My rating
☆☆☆☆☆


My review

Write your review about this package


Submit


Reviews (3)


 **Liz Ra** | May 21, 2020 6:46 AM
☆☆☆☆☆
This package is really awesome. It helped me figure out the things I needed to do. I would recommend this because it's really helpful. The version has helped me solve the problem and the task I'm working on. I just have one important question that I need to get... [Read more](#)

 **Julia Blyumen** | May 21, 2020 6:46 AM
☆☆☆☆☆

You might also need...

 **MongoDB**
V12.13.33
C++
10 Projects
10 Comments
5.0 | 10 Ratings
10 Vulnerabilities
Last updated: 10/11/19 **Approved**

 **MongoDB**
V12.13.33
C++
10 Projects
10 Comments
5.0 | 10 Ratings
10 Vulnerabilities
Last updated: 10/11/19 **Approved**

 **MongoDB**
V12.13.33
C++
10 Projects
10 Comments

Impact

Before OSM

Getting a package approved was ad-hoc, and could take weeks

With OSM

That time was cut to anywhere from a few hours to even a few minutes.

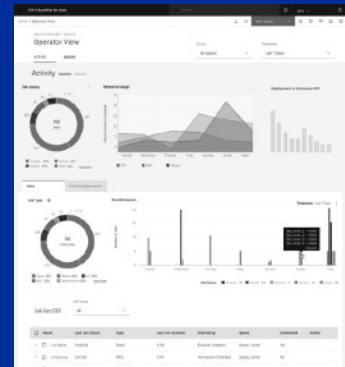
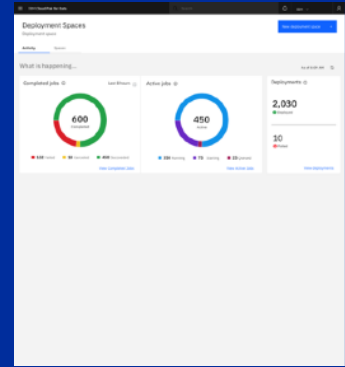
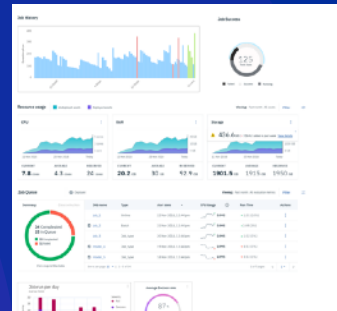
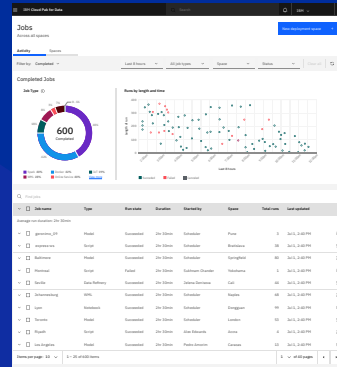
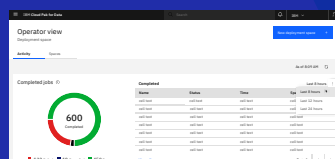
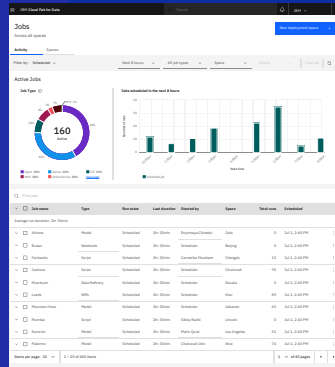
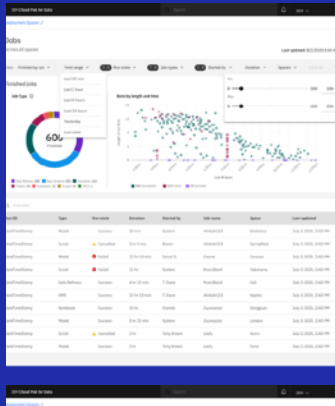
Lead to additional research being done on the developer experience, and a new persona for the ML engineer

Impact

"The ability to actually have this systemized in such a manner... and the interface that you're providing, is super useful" - **User**

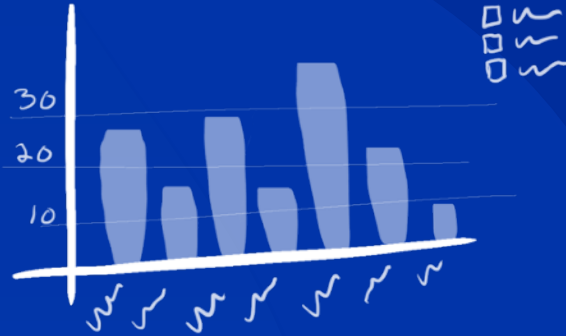
Project 3:

IBM Data and AI Operator view



Goal

Create a simple universal page that tracks workloads running across the suite of our softwares.



Problem

Meet Oscar

Job title: System Admin

Years on job: 7-10

Education: MS IT



“I am using **workloads**
or jobs to reflect **Data**
Pipelines in production”

- User in interview

Problem

The screenshot displays the IBM Watson Studio interface. The top navigation bar includes the IBM logo and an 'Upgrade' button. The main content area is titled 'Jobs' and shows a summary of job status: 0 Active Jobs and 1 Total Jobs. A table below lists the job details.

Jobs Summary:

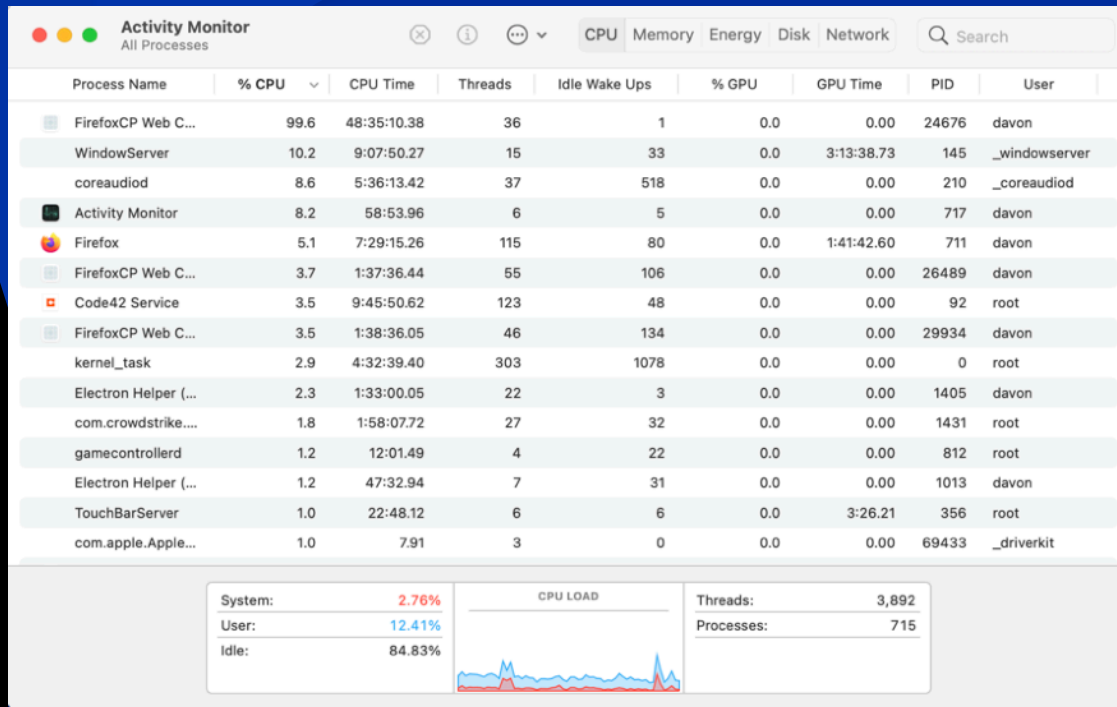
- Active Jobs: 0
- Total Jobs: 1

Jobs Table:

Job name	Associated asset	Last run	Started by	Created by
Job	Data Refinery flow	Finished Dec 06, 2019, 08:14 AM	Scheduler Dec 06, 2019, 08:12 AM	IBMId-06D0G24MP3

The interface also features a search bar for jobs, a 'Log tail' section with a 'Total 1 lines' indicator, and a 'Log file not found' message. The URL in the browser address bar is `https://dataplatform.cloud.ibm.com/projects/39e4a507-d41a-4171-8d98-1bc57121f480/jobs?context=data#`.

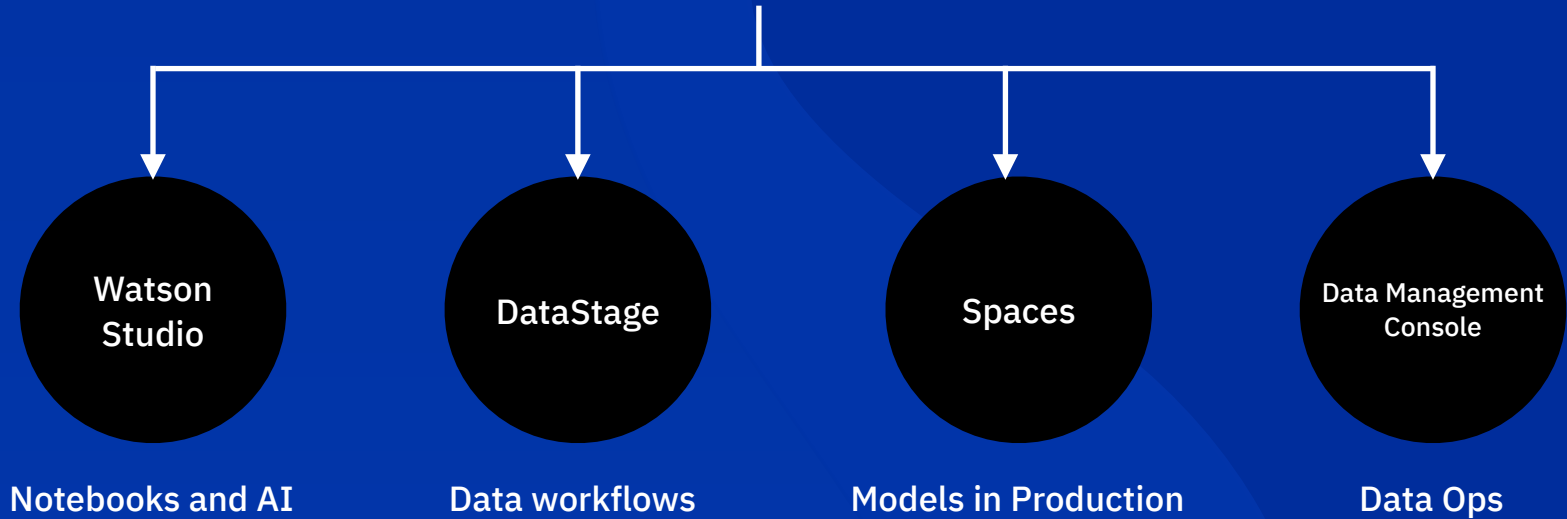
Problem



Team



Operator view



Research



Kevin Cheng

IT Operations Manager
B.S. Management Information Systems
Works @ Telecommunications Company

"I've got to have visibility into thousands of environments, infrastructure activity, and deployment status all at the same time!"



Day-to-Day

- Maintains server performance and manages app deployments
- Sets up servers, data storage, and environments
- Drives infrastructure strategy and collaboration across IT and development teams
- Monitor and manage change requests coming from business users
- Report incident-related metrics
- Monitor the response of support escalations
- Training, awareness, and management of IT and support teams and processes

Frustrations

- Cross-functional and remote teams working in silos
- Lack of traceability/visibility into system failures
- Strict compliance rules slow work down

Metrics Desired

- Server and environment status (up / down)
- Deployments to static and cloud environments
- Activity: changes made to environments
- Tablets / change request status (service status, changes coming in and going out)
- Average time to fix a change
- Resource usage



Raj Victor

Release Manager / Engineer
B.S. Business
Works @ Technology Company

"Our process is mostly still manual. We spend a lot of time in cross-functional meetings to sort things out."



Day-to-Day

- Creates release plans
- Organizes and manages software releases / ensures confidence in deployability and schedule
- Tracks, confirms, and reports release status
- Agrees about the exact content and roll-out plan for the release, through liaison with change management
- Provides technical support to developers for final testing activities and testing environments
- Report on SLA measures

Frustrations

- There are dozens or more simultaneous releases
- Software and release dependencies are difficult to track (often, must use 5 or more tools to do it)
- Development and Ops teams do not stay in sync

Metrics Desired

- Release status (planned releases)
- Deployment status
- Applications and pipeline activity
- Burndown per active release



Nikhil Slan

DevOps Engineer
B.S. Computer Science
Works @ Automotive Company

"We get no love for the work we do haha, it's tough but there are a lot of great tools out there now."



Day-to-Day

- Automates tasks and deployment processes
- Deploys software to servers and cloud environments
- Trouble shoots deployment problems, environment environment failures, and code issues
- Provides a toolchain that developers can use to build, test, deploy and run their systems
- Analyze, design, implement, and validate strategies for CD to both host and cloud-based infrastructure while ensuring high availability on environments

Frustrations

- It is risky to rollback to a previous version if something goes wrong during deployment
- Little recognition and always takes the blame
- Developers always break infrastructure

Metrics Desired

- Jenkins Job Stats
- Deployment status (app runs)
- Environment status, infrastructure activity, such as installs, deployments, and changes

Early iterations

The screenshot displays the IBM Watson Studio interface, divided into several sections:

- All Jobs:** A list view showing job details like 'Last refresh: xx' and 'Filters Status'.
- Activity:** A dashboard for 'DEPLOYMENT SPACE Operator View' with a '90 Total Jobs' donut chart. The chart shows: Pending (40%), Success (45%), Failed (15%), and InProgress (0%).
- Resource Usage:** A line chart showing 'Percent of total available' for CPU, GPU, and Storage over a 7-day period.
- Deployment or Instances KPI:** A bar chart showing the number of instances over time.
- Jobs specific KPIs:** A 'Run Histogram' showing the number of jobs per day.
- Job list (50):** A table listing jobs with columns: Name, Last run status, Type, Last run duration, Started by, Space, Scheduled, and Action.

Name	Last run status	Type	Last run duration	Started by	Space	Scheduled	Action
LeoNgini	Pending	Spark	0:30	Edward Lindgren	Space_name	Yes	
Littlegrovy	Started	IPML	0:47	Homoncom Shakibai	Space_name	No	

Mid - Fi

Operator view
Deployment space

Jobs overview
1362 Total jobs | 762 Active | 450 Running | 112 Scheduled jobs

Number of jobs by start time

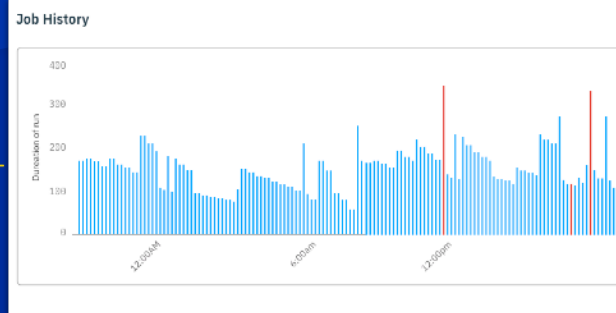
Active Jobs
Across all spaces

Runs by length and time

Name	Type	Run State	Duration	Started by	Next Schedule	Total Runs	Last Updated	Action
germany_01	Model	Succeeded	2 hr 28 min	Miklars Lowe	Tue Jul 3rd 9:00 pm	3	UserID: Jul 1st 2:49 pm 30 days since last edit	
express-ns	Script	Succeeded	2 hr 28 min	Scheduler	Tue Jul 3rd 3:00 pm	28	Repeat	UserID: Jul 1st 2:49 pm 30 days since last edit
Wakia Colunga	Model	Succeeded	2 hr 28 min	Kay Ströben	Tue Jul 3rd 3:00 pm	80	Repeat	UserID: Jul 1st 2:49 pm 30 days since last edit
Shenzhen	Script	Succeeded	2 hr 28 min	Scheduler	Tue Jul 3rd 3:00 pm	1	Repeat	UserID: Jul 1st 2:49 pm 30 days since last edit
Stockholm	Data Refinery	Succeeded	2 hr 28 min	Ray Cooper	Tue Jul 3rd 3:00 pm	44	Repeat	UserID: Jul 1st 2:49 pm 30 days since last edit
Stuttgart	NHL	Succeeded	2 hr 28 min	Svetlan An-eli	Tue Jul 3rd 3:00 pm	48	Repeat	UserID: Jul 1st 2:49 pm 30 days since last edit
Albuquerque	Notebook	Failed	2 hr 28 min	Anura Vargasa	Tue Jul 3rd 3:00 pm	95	Repeat	UserID: Jul 1st 2:49 pm 30 days since last edit
Brisot	Model	Failed	2 hr 28 min	Chongrak Hunkhira	Tue Jul 3rd 3:00 pm	53	Repeat	UserID: Jul 1st 2:49 pm 30 days since last edit
Heuston	Model	Failed	2 hr 28 min	Thomas Kukabanga	Tue Jul 3rd 3:00 pm	97	Repeat	UserID: Jul 1st 2:49 pm 30 days since last edit
Pfilan	Model	Cancelled	2 hr 28 min	Martina Dito	Tue Jul 3rd 3:00 pm	79	Repeat	UserID: Jul 1st 2:49 pm 30 days since last edit

Graph interaction

Annotation This box is not part of the UI
 A simple bar graph showing the duration of a run over the time it ran. This will allow the operator to measure run efficiency.



Job Queue Deployed Viewing: Past month | All evals on metrics Filter

Summary Clear selection

34 Completed
25 in Queue

23 Completed
11 Failed

Click rings to filter table

Job name	Type	start date	CPU Usage	Run Time	Actions
job_1	Online	22 Nov 2018, 12:44 pm	0.995	▲ 1.01 (10%)	⋮
job_2	Batch	21 Nov 2018, 12:44 pm	0.995	▲ 2.09 (3%)	⋮
job_3	Job_type	20 Nov 2018, 12:44 pm	0.995	▲ 1.02 (3%)	⋮
model_4	Job_type	19 Nov 2018, 12:44 pm	0.995	▼ 4.33 (3%)	⋮
model_5	Job_type	18 Nov 2018, 12:44 pm	0.995	▼ 3.33 (3%)	⋮

Items per page: 5 | 1 - 5 of 34 1 of 7 pages < 1 >

Annotation This box is not part of the UI
 How would it look if we plotted runs that are complete verse runs that are in queue. How can also show the resource usage of completed runs

Resource usage Undeployed assets Deployed assets Viewing: Past month | All assets Filter

CPU

5 cores
3 cores
1 core

RAM

20 GB
10 GB
0 GB

RESERVED	CURRENT	AVERAGE	RESERVED
24 cores	20.2 GB	30 GB	92.9 GB

Storage

▲ 436.6GB (+ 31.6%) added in past week [View details](#)

1000 GB
0 GB

CURRENT	AVERAGE	RESERVED
1901.5 GB	1915 GB	1950 GB

Annotation This box is not part of the UI
 An operator cares about resource location. It is important to know where the resources are located.

Research



Kevin Cheng

IT Operations Manager
B.S. Management Information Systems
Works @ Telecommunications Company

"I've got to have visibility into thousands of environments, infrastructure activity, and deployment status all at the same time!"



Day-to-Day

- Maintains server performance and manages app deployments
- Sets up servers, data storage, and environments
- Drives infrastructure strategy and collaboration across IT and development teams
- Monitor and manage change requests coming from business users
- Report incident-related metrics
- Monitor the response of support escalations
- Training, awareness, and management of IT and support teams and processes

Frustrations

- Cross-functional and remote teams working in silos
- Lack of traceability/visibility into system failures
- Strict compliance rules slow work down

Metrics Desired

- Server and environment status (up / down)
- Deployments to static and cloud environments
- Activity: changes made to environments
- Tablets / change request status (service status, changes coming in and going out)
- Average time to fix a change
- Resource usage



Raj Victor

Release Manager / Engineer
B.S. Business
Works @ Technology Company

"Our process is mostly still manual. We spend a lot of time in cross-functional meetings to sort things out."



Day-to-Day

- Creates release plans
- Organizes and manages software releases / ensures confidence in deployability and schedule
- Tracks, confirms, and reports release status
- Agrees about the exact content and roll-out plan for the release, through liaison with change management
- Provides technical support to developers for final testing activities and testing environments
- Report on SLA measures

Frustrations

- There are dozens or more simultaneous releases
- Software and release dependencies are difficult to track (often, must use 5 or more tools to do it)
- Development and Ops teams do not stay in sync

Metrics Desired

- Release status (planned releases)
- Deployment status
- Applications and pipeline activity
- Burndown per active release



Nikhil Sian

DevOps Engineer
B.S. Computer Science
Works @ Automotive Company

"We get no love for the work we do haha, it's tough but there are a lot of great tools out there now."



Day-to-Day

- Automates tasks and deployment processes
- Deploys software to servers and cloud environments
- Trouble shoots deployment problems, environment environment failures, and code issues
- Provides a toolchain that developers can use to build, test, deploy and run their systems
- Analyze, design, implement, and validate strategies for CD to both host and cloud-based infrastructure while ensuring high availability on environments

Frustrations

- It is risky to rollback to a previous version if something goes wrong during deployment
- Little recognition and always takes the blame
- Developers always break infrastructure

Metrics Desired

- Jenkins Job Stats
- Deployment status (app runs)
- Environment status, infrastructure activity, such as installs, deployments, and changes

Iteration 1

- Concept
- Layout
- Information architecture

The screenshot displays the IBM Watson Studio interface, divided into several sections:

- All Jobs:** A sidebar on the left with a search bar and a list of filters including 'Name', 'ci-ingress-r', 'ci-containe', 'ci-test-infra', 'pull-kubern', and 'pull-kubern'.
- DEPLOYMENT SPACE Operator View:** The main header area with tabs for 'Activity' and 'Spaces'. It includes a search bar and a 'New space' button.
- Activity:** A central dashboard with three main components:
 - Job status:** A donut chart showing 90 total jobs with 30% pending and 70% started.
 - Resource Usage:** A line chart showing the percentage of CPU, GPU, and storage usage over time (Tuesday to Today).
 - Deployment or Instances KPI:** A bar chart showing the number of instances over time.
- Jobs specific KPIs:** A section with a 'Jobs' tab and a 'Job Type' donut chart showing 90 total jobs with 40% pending, 40% started, and 20% failed.
- Run Histogram:** A bar chart showing the number of jobs running over time, with a tooltip for 'Job Status' showing counts for Pending (20), Started (13), Running (3), Success (34), and Failed (29).
- Job list (50):** A table at the bottom listing jobs with columns for Name, Last run status, Type, Last run duration, Started by, Space, Scheduled, and Action.

Name	Last run status	Type	Last run duration	Started by	Space	Scheduled	Action
LeoNgini	Pending	Spark	0:30	Edward Lindgren	Space_name	Yes	
Littegrovy	Started	IPML	0:47	Homoncom Shakibai	Space_name	No	

Iteration 2

The screenshot displays the IBM Cloud Pak for Data Operator View interface, showing job overview, active jobs, and a table of job runs.

Operator View Summary:

- Deployment space: Operator View
- Jobs overview: 1362 Total jobs, 762 Active
- Active jobs: 450 Running
- Scheduled jobs: 112 Scheduled jobs

Jobs overview: A bar chart showing the number of jobs by start time (00:00, 01:00, 02:00, 03:00, 04:00). The chart shows a peak in job activity around 03:00.

Active Jobs: A scatter plot showing runs by length and time (Last 8 hours). The plot shows a distribution of job lengths over time, with a peak in activity around 03:00.

Job Runs Table:

Name	Type	Run State	Duration	Started by	Next Schedule	Total Runs	Last Updated	Action
germania_01	Model	Succeeded	2 hr 28 min	Miklars Lowe	Tue Jul 3rd 9:00 pm	3	UserID: Jul 3rd 2:49 pm 30 days since last edit	
express-ws	Script	Succeeded	2 hr 28 min	Scheduler	Tue Jul 3rd 3:00 pm	38	Repeat	UserID: Jul 3rd 2:49 pm 30 days since last edit
Wakia Colunga	Model	Succeeded	2 hr 28 min	Kay Ströben	Tue Jul 3rd 3:00 pm	80	Repeat	UserID: Jul 3rd 2:49 pm 30 days since last edit
Shenzhen	Script	Succeeded	2 hr 28 min	Scheduler	Tue Jul 3rd 3:00 pm	1	Repeat	UserID: Jul 3rd 2:49 pm 30 days since last edit
Stockholm	Data Refinery	Succeeded	2 hr 28 min	Ray Cooper	Tue Jul 3rd 3:00 pm	44	Repeat	UserID: Jul 3rd 2:49 pm 30 days since last edit
Stuttgart	WHL	Succeeded	2 hr 28 min	Svetlan An-eli	Tue Jul 3rd 3:00 pm	48	Repeat	UserID: Jul 3rd 2:49 pm 30 days since last edit
Albuquerque	Notebook	Failed	2 hr 28 min	Anura Vargava	Tue Jul 3rd 3:00 pm	95	Repeat	UserID: Jul 3rd 2:49 pm 30 days since last edit
Brno	Model	Failed	2 hr 28 min	Chongrak Hunkhira	Tue Jul 3rd 3:00 pm	53	Repeat	UserID: Jul 3rd 2:49 pm 30 days since last edit
Heuston	Model	Failed	2 hr 28 min	Thomas Kukabanga	Tue Jul 3rd 3:00 pm	97	Repeat	UserID: Jul 3rd 2:49 pm 30 days since last edit
Pfizer	Model	Cancelled	2 hr 28 min	Martina Dito	Tue Jul 3rd 3:00 pm	79	Repeat	UserID: Jul 3rd 2:49 pm 30 days since last edit

Research

The graphs displayed are responsive to the selections made in the filters.

Annotations:

- Returns to Dashboard
- Should we repeat the graphic that we had on the activity dashboard?
- 9 running 15 queued 18 starting = SpaceName
- On click of Job name navigates to Job Details.
- Filters selected affect the graphical display as well as updates the job active list with those jobs matching the filter values.
- Refresh updates the information (Need as of date - to add)
- The Graphs may differ then the ones displayed And they will be provided by the common core graph box.
- Keep in mind, that the graphs and table will be responsive to the filters.

Dashboard Content:

Jobs
Across all spaces

View: Active by jobs | as of 8:00 AM

Job activity across spaces

Job activity across spaces

State: Running, Starting, Queued

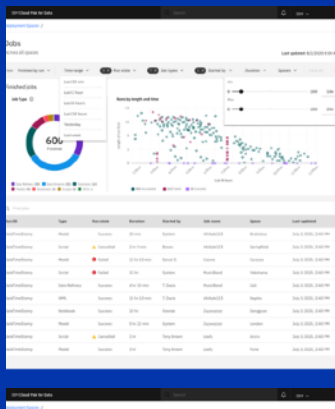
by job name

Table:

Job name	Type	Running	Starting	Queued	Space	Last updated
Melbourne	Model	35	0	2	Braeburn	July 1, 2020 2:40 PM
Zaragoza	Script	5	3	0	Springfield	July 1, 2020 2:40 PM
AAAd923	Model	2	0	5	Caracas	July 1, 2020 2:40 PM
Montreal	Script	100	10	0	Yokohama	July 1, 2020 2:40 PM
The Hague	Data Refinery	12	4	1	Call	July 1, 2020 2:40 PM
Antwerp	WML	0	1	3	Nantes	July 1, 2020 2:40 PM
Spock Core	Notebook	0	20	2	Donggus	July 1, 2020 2:40 PM
Lincoln	Model	7	0	1	London	July 1, 2020 2:40 PM
Gotthenburg	Script	1	0	3	Accra	July 1, 2020 2:40 PM
Kazan	Model	32	3	3	Paseo	July 1, 2020 2:40 PM

Final

<https://ibm.invisionapp.com/share/UJ00AEX4EFB>



Jobs dashboard showing a donut chart with 160 and a table of jobs.

Type	Resource	Resource ID	Start time	Start	End time	End	Last updated
Job	Operator	20-01-2019	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00
Job	Operator	20-01-2019	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00
Job	Operator	20-01-2019	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00
Job	Operator	20-01-2019	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00
Job	Operator	20-01-2019	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00
Job	Operator	20-01-2019	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00
Job	Operator	20-01-2019	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00
Job	Operator	20-01-2019	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00
Job	Operator	20-01-2019	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00
Job	Operator	20-01-2019	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00	2019-01-20 10:00:00

