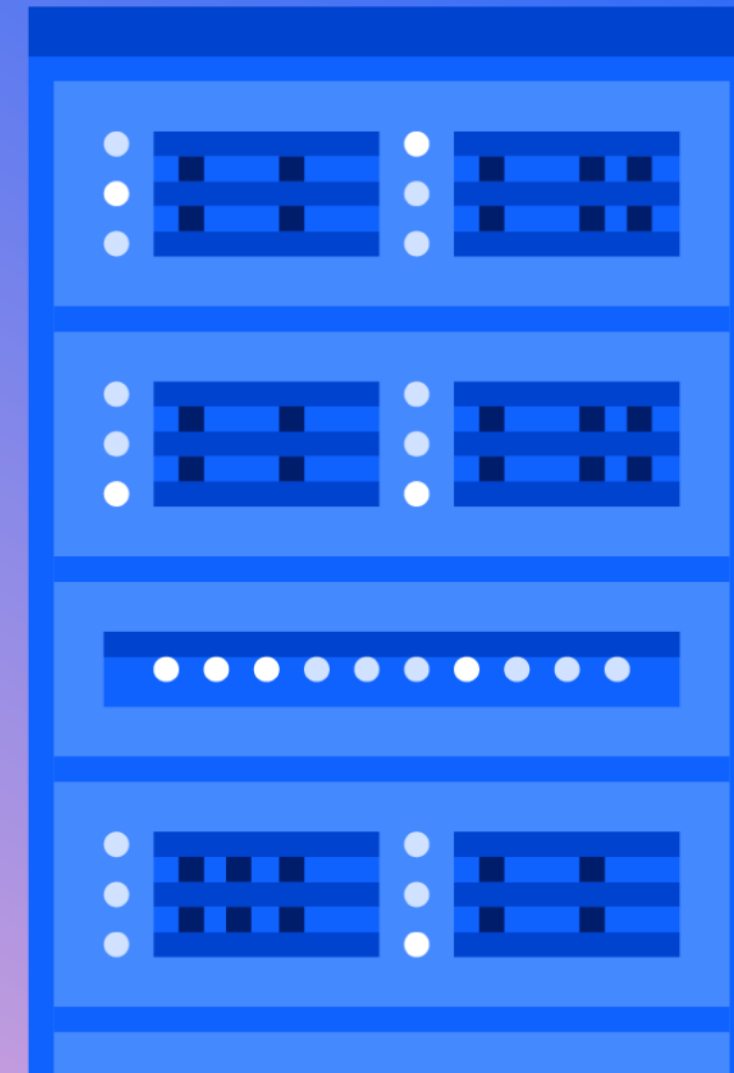
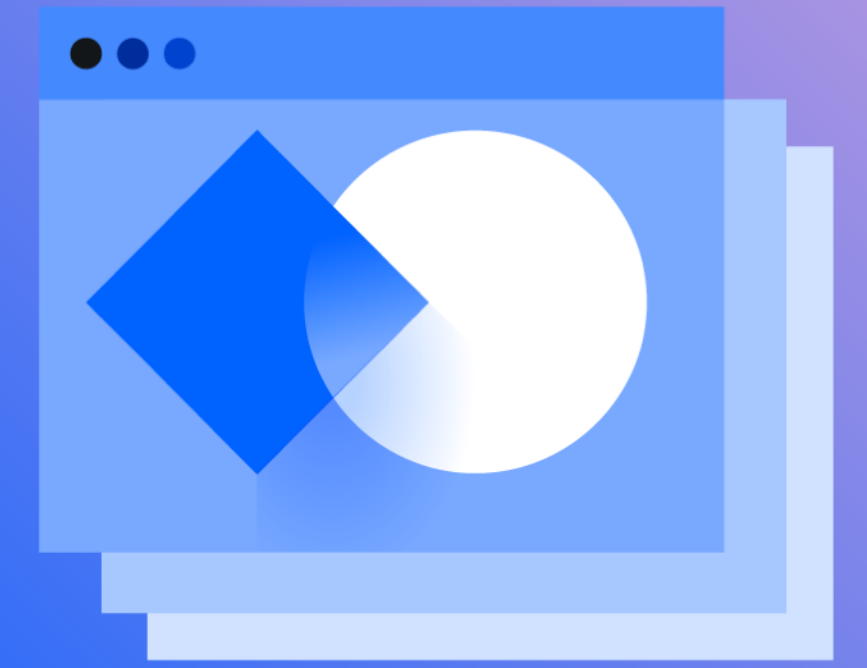


Modernizing Mainframe Management



Mainframes make the world go round

Every day, mainframe computers run business process transactions and power things we do as consumers.

From credit card and ATM transactions to flight booking to insurance claims and stock trades, mainframes carry out high value, real-time transactions that include a lot of sensitive information. It is vitally important that the transactions are carried out effectively and securely. IBM Z Mainframes are designed and built for that purpose—to process billions of transactions, store and restore massive amounts of data in and from anywhere quickly, reliably, and securely.

Today, IBM isn't just making improvements in reliability, availability, and serviceability. We are also improving ways mainframe users like system programmers manage and maintain the operating system so it's easier to train the new generation of IT professionals of mainframe skills.

71%

Of Fortune 500 companies' critical core IT is hosted on mainframe: 92 of the world's top 100 banks; 23 of the 25 top airlines; 10 of the world's top 10 insurers

30 billion

Transactions per day

70%

Of the world's production IT workloads run on mainframes yet account for only 6% of IT costs

1.3 million/second

Daily transactions on CICS vs 68,542/second on Google

99.99999%

Availability which translates into only three second of downtime in a year



z/OS programmers need **modern ways** of working



Research identified two of our customers' biggest needs ↪

A modern user interface for tasks performed by z/OS system programmers

Help from IBM to teach z/OS skills and **pass their institutional knowledge** to the next generation of z/OS system programmers

94% of surveyed customers identified this as a pain point that will impact their business

In a 2017 mainframe study by BMC 44% of customers reported staffing and skills in their **top 3 challenges**

“ I would love user-friendly tools to help me do bureaucratic tasks quicker. ”

z/OS Systems Programmer with five years experience

“ Documentation is not an easy way to learn how to manage such a system. ”

z/OS Systems Programmer with 17 months experience

“ It has taken me six months to start feeling like I can contribute, and a year to contribute independently. ”

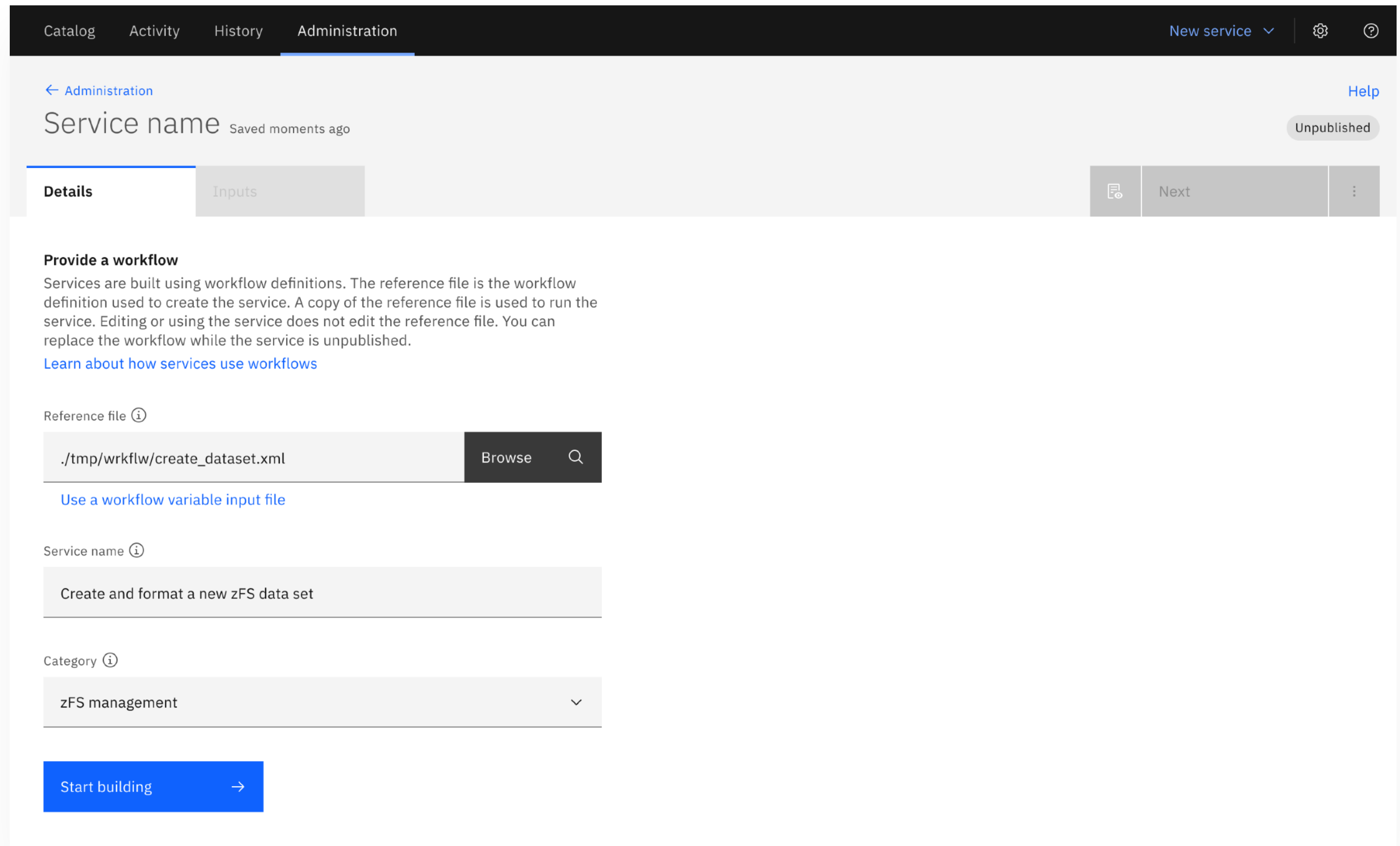
z/OS Systems Programmer with two years experience



Simplify processes & knowledge sharing

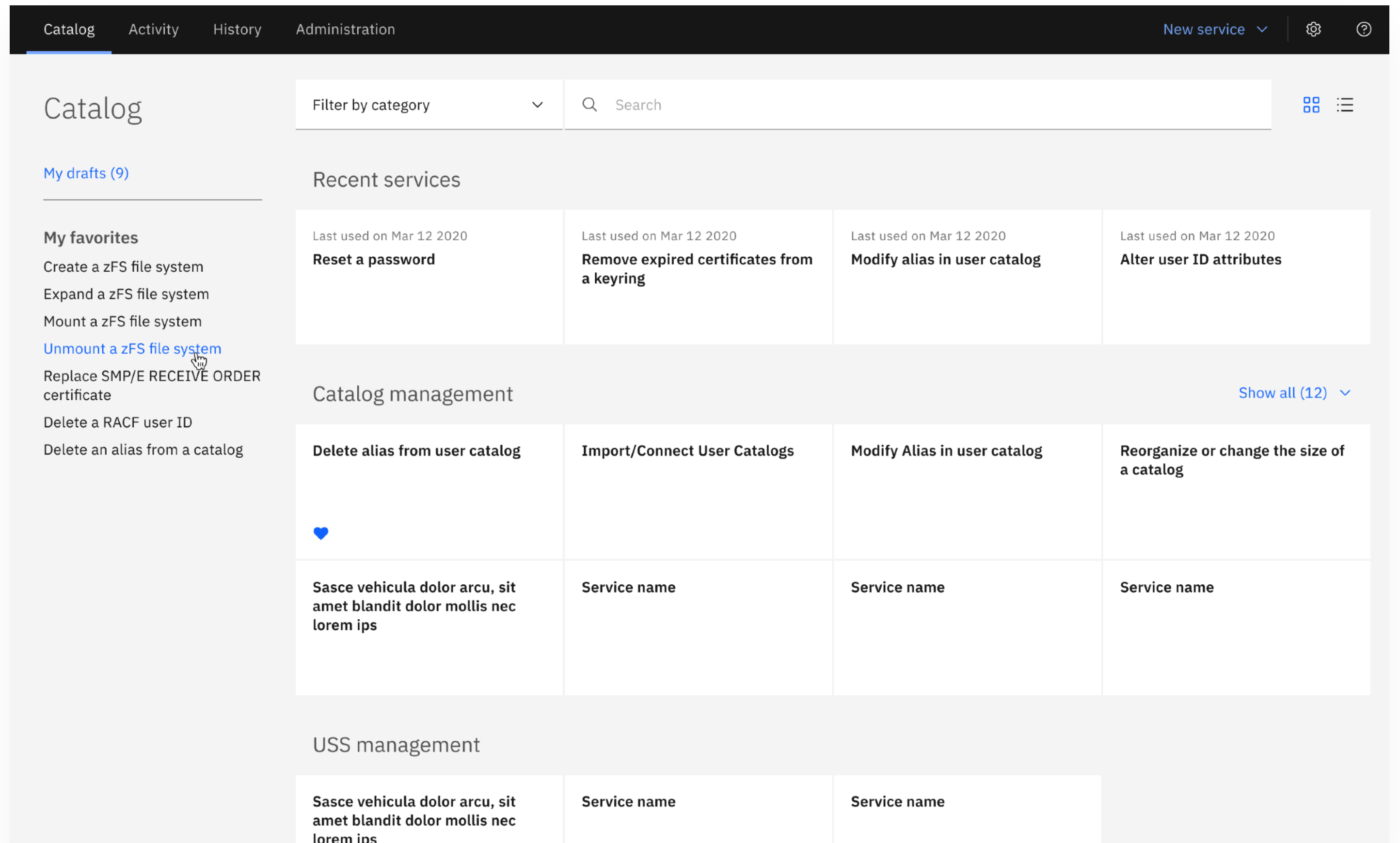
By logging into zOSMF, users can visit Management Services Catalog.

Tenured systems programmers can create, manage, and publish services for their early tenure systems programmers to run. Much of this is done from the Administration table. Users can view their services in a filterable/sortable list, take bulk or individual actions on services, and click into individual services to edit them in the builder.



Increase productivity & minimize errors

Users can visit the Catalog and select any service to run it on their chosen target system. They can also “favorite” services. The service list can be viewed in card or list format. Once a service is selected, the user fills out the submission details form and clicks submit. The service runs the workflow in the background. Partially completed service submissions are saved to drafts to revisit later.



Collaboratively manage, run, & plan services

Users can visit Activity to review actively running services, or History to see services that have completed running. Services are presented as a filterable/sortable list with core details such as submitter and run time. Service submission details can be viewed by clicking into each service. Users can also view the workflow underlying the service.

Service name	Status	Submitter	Target system (nickname)	Start of run window	End of run window
Create and format a zFS data set	Running for 2 hrs 3 mins...	gsmith	DALPLEX.SYS21 (z01)	—	—
Expand a PAX file	Ready to run	christina	LONPLEX.PRODSYS	30 Dec 2019, 12:00 AM	3 Jan 2020, 10:30 AM
[Test] Create certificate	Running for 23 mins, 2 of 3...	gsmith	DALPLEX.SYS21 (z02)	30 Dec 2019, 12:00 AM	2 Jan 2020, 12:00 AM
Delete user ID	Expired	christina	DALPLEX.SYS21 (z01)	20 Dec 2019, 12:00 AM	1 Jan 2020, 12:00 AM
Mount a file system	Failed on step 2 of 3	egendreau	LONPLEX.PRODSYS	1 Feb 2020, 12:00 AM	10 Feb 2020, 5:00 PM
Delete a user ID	Being modified by zach	christina	DALPLEX.SYS21 (z01)	1 Feb 2020, 12:00 AM	5 Feb 2020, 12:00 AM
Create personal digi... New	Invalidated	palv	DALPLEX.SYS21 (z01)	2 Feb 2020, 12:00 AM	5 Feb 2020, 12:00 AM
Alter user ID attributes	Queued	palv	LONPLEX.PRODSYS	2 Feb 2020, 12:00 AM	27 Feb 2020, 4:00 AM

Efficiently compare multiple resources & review results in a single view

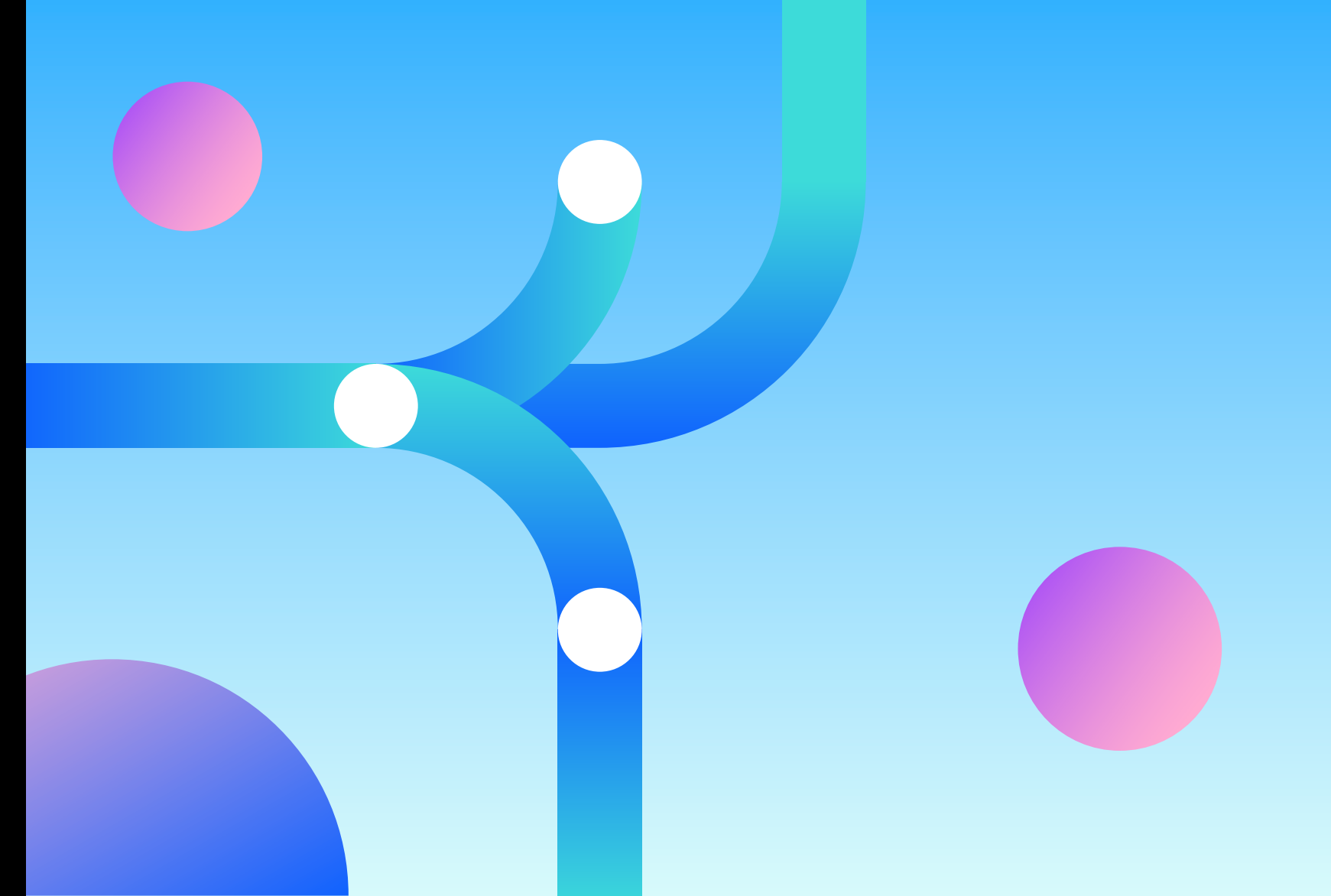
When a user runs a comparison between resources in their environment, they see the results in a straightforward summary that shows both high-level statistics and more detailed data that gives them deeper access to the exact items that were changed, added, or removed between the comparison objects.

User also have the option to save and export the comparison results, extending the utility of this flow to fulfill reporting needs, auditing requirements, disaster recovery protocols, and more.

The screenshot displays the 'Compare resources' interface in IBM z/OS Change Tracker. The top navigation bar includes 'Monitored resources', 'Compare resources', 'Enterprise dashboard', and 'History'. The main header shows 'Compare resources' with a 'Create new comparison' button. Below this, a summary for 'Volume comparison - VOL001 | VOL002' is shown, including a 'Dataset name mapping' link and a 'Last run at 11:32:46 PM AWST on 04/03/2023' timestamp. A summary bar provides statistics: 14k Exact matches, 10 Changes, 5 Additions, 4 Deletions, and 1 Unmatched. A horizontal bar chart visualizes these categories, with a total of 14,251 members. Below the summary is a table with columns for Source data set, Volume, Comparison data set, Volume, Member, and Change type. The table lists 10 items, including additions, changes, and deletions. The bottom of the interface shows pagination controls: 'Items per page: 10', '1 - 10 of 19 items', and '1 of 2 pages'.

<input type="checkbox"/>	Source data set	Volume	Comparison data set	Volume	Member	Change type	
<input type="checkbox"/>	DYLANFAW.REXXXXXX.DATASET1.EXAMPLE1	VOL001	DYLANFAW.REXXXXXX.DATASET1.EXAMPLE1	VOL002	MEMBER1	▲ Addition	⬆️ 👁️
<input type="checkbox"/>	DYLANFAW.REXXXXXX.DATASET1.EXAMPLE1	VOL001	DYLANFAW.REXXXXXX.DATASET1.EXAMPLE1	VOL002	MEMBER33	▲ Addition	⬆️ 👁️
<input type="checkbox"/>	DYLANFAW.REXXXXXX.DATASET1.EXAMPLE1	VOL001	DYLANFAW.REXXXXXX.DATASET1.EXAMPLE1	VOL002	MEMBER49	▲ Addition	⬆️ 👁️
<input type="checkbox"/>	DYLANFAW.REXXXXXX.DATASET1.EXAMPLE1	VOL001	DYLANFAW.REXXXXXX.DATASET1.EXAMPLE1	VOL002	MEMBER60	▲ Addition	⬆️ 👁️
<input type="checkbox"/>	DYLANFAW.REXXXXXX.DATASET1.EXAMPLE1	VOL001	DYLANFAW.REXXXXXX.DATASET1.EXAMPLE1	VOL002	MEMBER61	◆ Change	⬆️ 👁️
<input type="checkbox"/>	DYLANFAW.REXXXXXX.DATASET1.EXAMPLE1	VOL002	DYLANFAW.REXXXXXX.DATASET1.EXAMPLE1	VOL003	MEMBER6	◆ Change	⬆️ 👁️
<input type="checkbox"/>	DYLANFAW.REXXXXXX.DATASET1.EXAMPLE1	VOL002	DYLANFAW.REXXXXXX.DATASET1.EXAMPLE1	VOL003	MEMBER22	◆ Change	⬆️ 👁️
<input type="checkbox"/>	DYLANFAW.REXXXXXX.DATASET1.EXAMPLE1	VOL002	DYLANFAW.REXXXXXX.DATASET1.EXAMPLE1	VOL003	MEMBER30	▼ Deletion	⬆️ 👁️
<input type="checkbox"/>	DYLANFAW.REXXXXXX.DATASET1.EXAMPLE1	VOL003	DYLANFAW.REXXXXXX.DATASET1.EXAMPLE1	VOL004	MEMBER1	▼ Deletion	⬆️ 👁️
<input type="checkbox"/>	DYLANFAW.REXXXXXX.DATASET1.EXAMPLE1	VOL003	DYLANFAW.REXXXXXX.DATASET1.EXAMPLE1	VOL004	MEMBER2	▼ Deletion	⬆️ 👁️

Impact: Reimagining mainframe management with our users' purpose in mind helped create these values



Modernize

- Intuitive, accessible, and easy to learn interfaces
- Robust and fast data comparisons, ability to compare data sets, entire volumes of data

Automate

- Automatic, real-time monitoring of change activities
- Detection and recording of key elements of changes
- Automated member-level backup for protected resources

Streamline

- Infusing institutional knowledge of specific shops
- Allowing early tenure zOS system programmers to be productive, faster
- Reducing time for experienced system programmers to mentor newer programmers