

Success with state in Openshift with Portworx and Securelinx



Introductions

Agenda:

Lab Kick-Off - SaaS Spin Up

Portworx

Availibility Risks

Portworx whistlstop

Portworx Backup Lab

Cormac Barry

Enterprise Sales

SecureLinx

cormac.barry@securelinx.com

[linkedin.com/in/cormac-barry](https://www.linkedin.com/in/cormac-barry)



Dr Sean Brisbane

Linux Systems Specialist,

SecureLinx

sean.brisbane@securelinx.com

[linkedin.com/in/sean-brisbane-ba40a514](https://www.linkedin.com/in/sean-brisbane-ba40a514)



Anthony Hodson

Cloud Native Architect

Portworx by Pure Storage

ahodson@purestorage.com

[linkedin.com/in/anthonyhodson](https://www.linkedin.com/in/anthonyhodson)





SECURELINX

Lab Key:

Orange Box - Information

Note:
S3
Permissions
(future
reference)

Example JSON:
<http://bit.ly/3Lkeokj>



```

10  "permissions": [{"sid": "s3",
11  "statement": [
12    {
13      "effect": "allow",
14      "actions": [
15        "s3:ListBucket",
16        "s3:GetBucketObjectConfiguration"
17      ],
18      "resources": [
19        "arn:aws:s3:::ant-px-backup",
20        "arn:aws:s3:::ant-px-backup-worm"
21      ]
22    },
23    {
24      "effect": "allow",
25      "actions": [
26        "s3:ListBucketVersions",
27        "s3:ListBucket",
28        "s3:ListBucketVersions"
29      ],
30      "resources": [
31        "arn:aws:s3:::ant-px-backup",
32        "arn:aws:s3:::ant-px-backup-worm"
33      ]
34    },
35    {
36      "effect": "allow",
37      "actions": [
38        "s3:PutObject",
39        "s3:PutObjectAcl",
40        "s3:ListBucket"
41      ],
42      "resources": [
43        "arn:aws:s3:::ant-px-backup",
44        "arn:aws:s3:::ant-px-backup-worm"
45      ]
46    },
47    {
48      "effect": "allow",
49      "actions": [
50        "s3:PutObjectAcl",
51        "s3:PutObject",
52        "s3:ListBucket"
53      ],
54      "resources": [
55        "arn:aws:s3:::ant-px-backup",
56        "arn:aws:s3:::ant-px-backup-worm"
57      ]
58    },
59    {
60      "effect": "allow",
61      "actions": [
62        "s3:PutObject",
63        "s3:PutObjectAcl",
64        "s3:ListBucket"
65      ],
66      "resources": [
67        "arn:aws:s3:::ant-px-backup",
68        "arn:aws:s3:::ant-px-backup-worm"
69      ]
70    },
71    {
72      "effect": "allow",
73      "actions": [
74        "s3:PutObject",
75        "s3:PutObjectAcl",
76        "s3:ListBucket"
77      ],
78      "resources": [
79        "arn:aws:s3:::ant-px-backup",
80        "arn:aws:s3:::ant-px-backup-worm"
81      ]
82    },
83    {
84      "effect": "allow",
85      "actions": [
86        "s3:PutObject",
87        "s3:PutObjectAcl",
88        "s3:ListBucket"
89      ],
90      "resources": [
91        "arn:aws:s3:::ant-px-backup",
92        "arn:aws:s3:::ant-px-backup-worm"
93      ]
94    },
95    {
96      "effect": "allow",
97      "actions": [
98        "s3:PutObject",
99        "s3:PutObjectAcl",
100     "s3:ListBucket"
101     ],
102     "resources": [
103       "arn:aws:s3:::ant-px-backup",
104       "arn:aws:s3:::ant-px-backup-worm"
105     ]
106   }
107 ]
108 ]

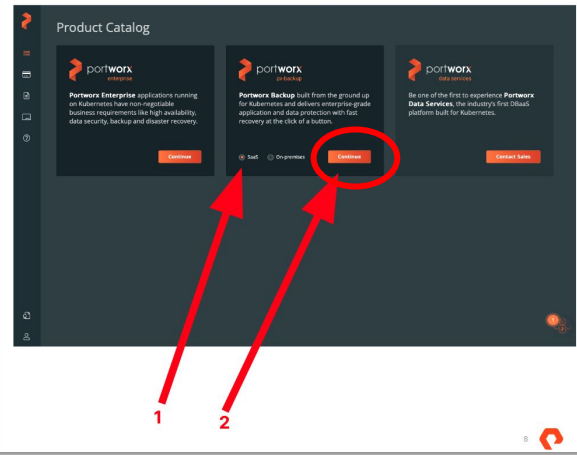
```

Note: Replace
ant-px-backup /
ant-px-backup-worm
With your bucket
names(s)

Green - Lab Activity

Create a
Software as a
Service

Portworx
Backup
Deployment



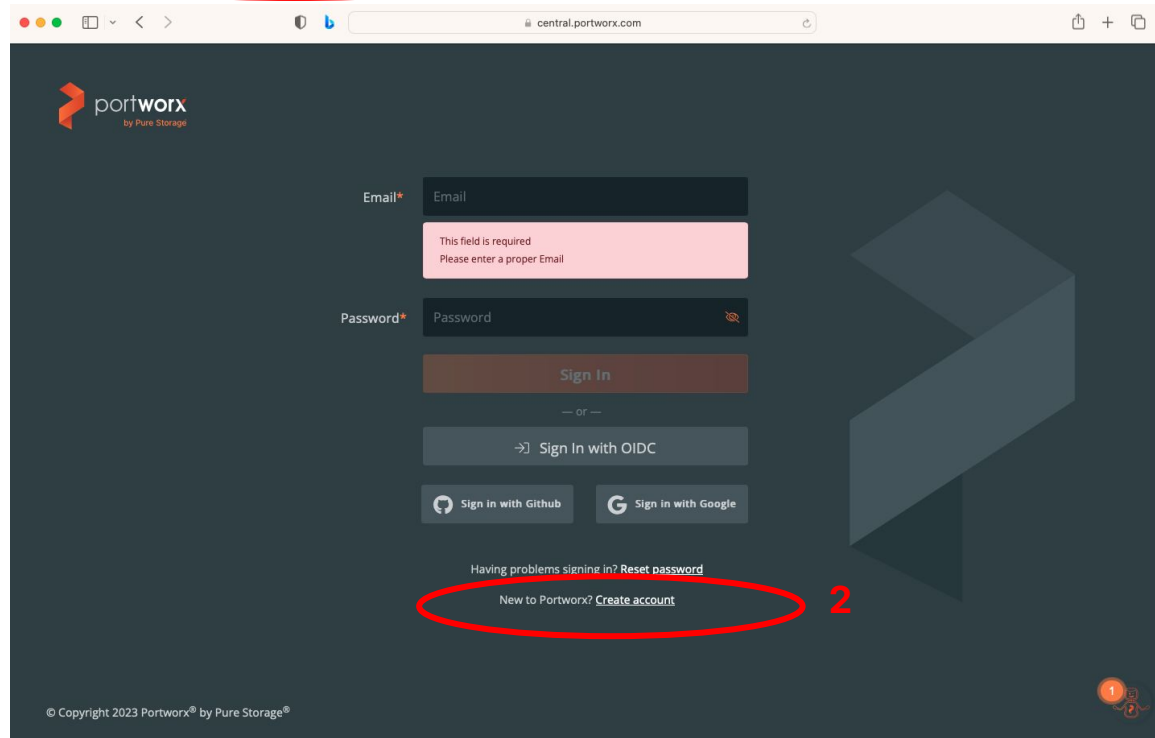
Action Order: **1** **2** ... and
Click Target

Lab Prep

Account Sign-up

Step 01
Slides: bit.ly/px-bu-lab

<https://central.portworx.com> 1



The screenshot shows the Portworx login page in a browser. The URL bar shows central.portworx.com. The page features the Portworx logo (an orange arrow pointing right) and the text "portworx by Pure Storage". There are two input fields: "Email*" and "Password*", both containing placeholder text. Below the "Email*" field is a pink error message: "This field is required. Please enter a proper Email". Below the "Password*" field is a "Sign In" button. Underneath the "Sign In" button is a separator "— or —" and a "Sign in with OIDC" button. Below that are two buttons: "Sign in with Github" and "Sign in with Google". At the bottom of the form area, there are two links: "Having problems signing in? [Reset password](#)" and "New to Portworx? [Create account](#)". The "Create account" link is circled in red. A large, faint, 3D-style arrow graphic points to the right on the right side of the page. In the bottom right corner, there is a small orange icon with a "1" inside a circle and a question mark.

Use a work email...



https://central.portworx.com

Lab Prep

Account Sign-up

The screenshot shows the Portworx account sign-up page. The Portworx logo is in the top left. The page title is "Work Email Only". The form fields are: "Email*" with the value "myemail@mywork.com", "Organization" with the value "Mywork.com", and a checkbox for "I agree to the Terms and Conditions and have read the Privacy Policy" which is checked. Below the form is a large orange "Get Started" button. There are also links for "Sign In with OIDC", "Sign in with Github", and "Sign in with Google". At the bottom, there is a link for "Have an account? Sign In". Red arrows point to the "Email*" field, the "Organization" field, and the "Get Started" button. A large grey arrow graphic points from the right side of the form towards the "Get Started" button.

portworx
by Pure Storage

Work Email Only

Email* myemail@mywork.com

Organization Mywork.com

I agree to the [Terms and Conditions](#) and have read the [Privacy Policy](#)

Get Started

— or —

→ Sign In with OIDC

Sign in with Github Sign in with Google

Have an account? [Sign In](#)

© Copyright 2023 Portworx® by Pure Storage®

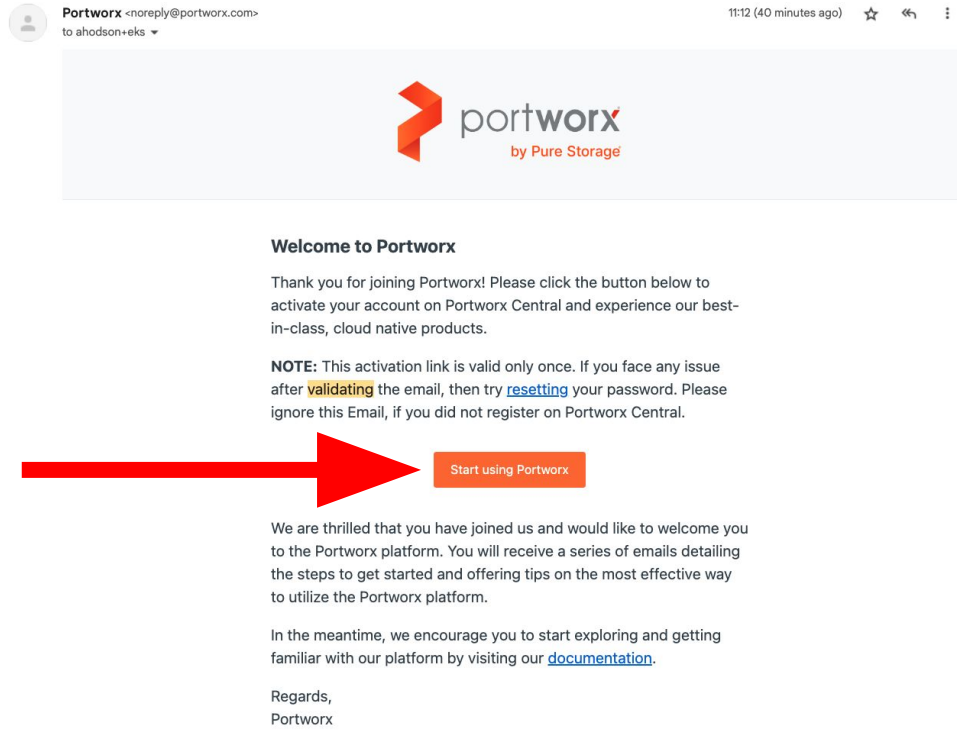
Step 02
Slides: bit.ly/px-bu-lab



Validate your Email Address

Then create your password (not shown)

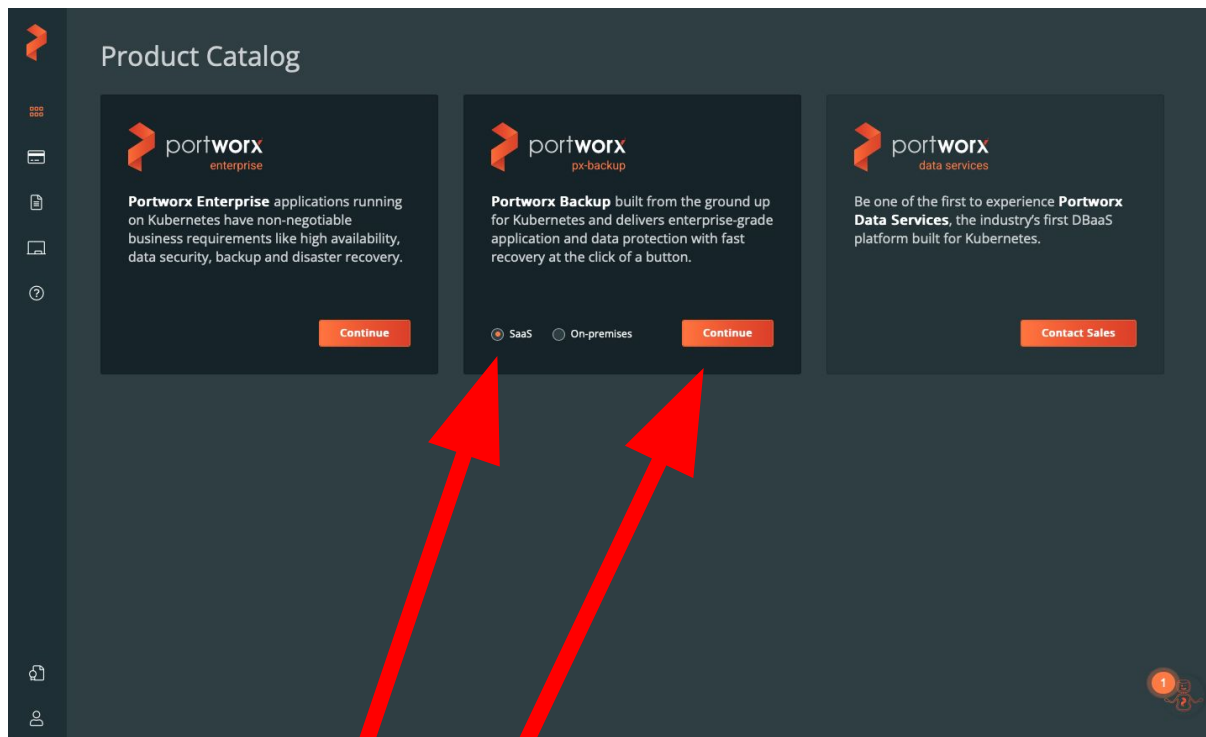
Step 03
Slides: bit.ly/px-bu-lab



Create a Software as a Service

Portworx Backup Deployment

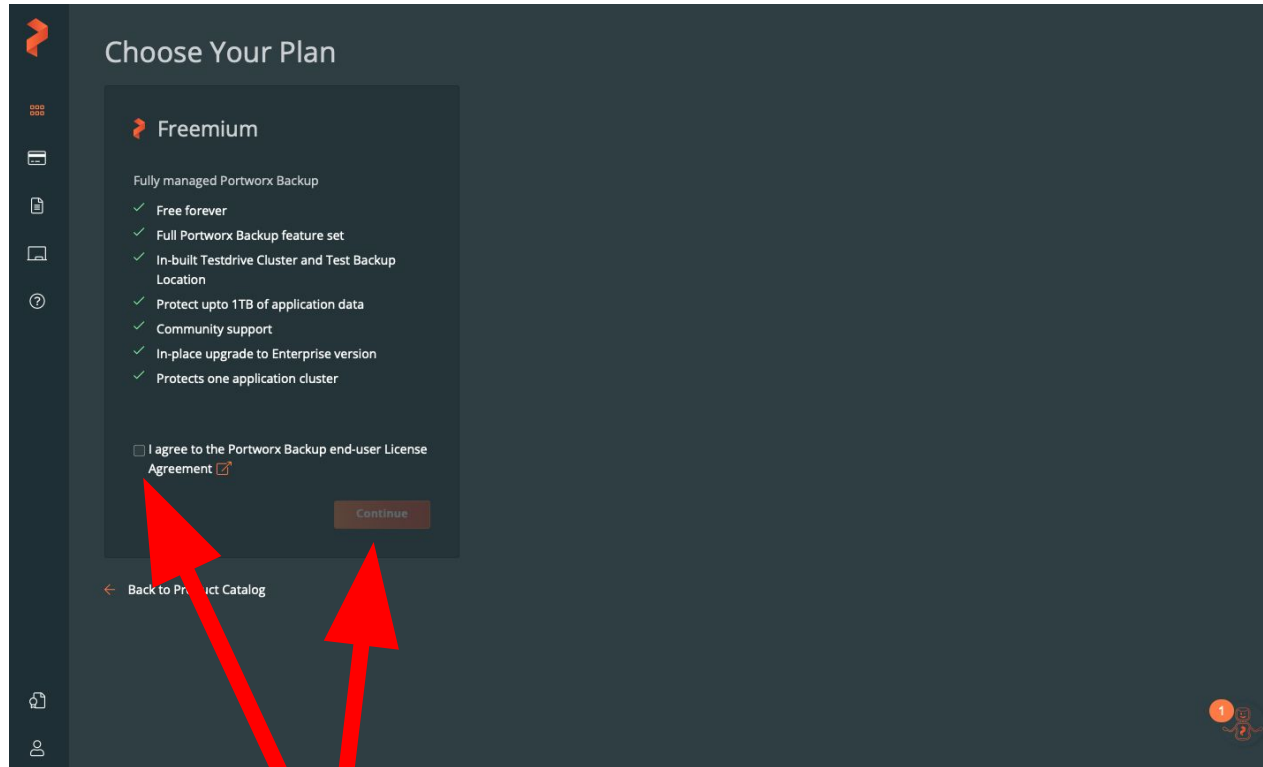
Step 04
Slides: bit.ly/px-bu-lab



Select the 'Freemium Version'

... and relax

Step 05
Slides: bit.ly/px-bu-lab



Stateful Workloads in Kubernetes What Risks to Consider



Water is a 'mitigation', it reduces the risk of a disaster like Dehydration

A Helicopter is a 'Remedy'
it solves the problem of a stranded runner

Remedy vs Mitigation



Image created by Bing chat mode, a generative image service powered by Microsoft



Risks: Destruction of an Environment



The Environment is trashed, everything as code has some downsides...

<u>Risk</u>	<u>Effective Mitigation / Remedy</u>
Bad Actor (“kubectl delete -f postgres.yml”) Incompetence (“Terraform Delete”) Malice - Delete cluster, kubectl delete ...	Backup (R) - Object Lock Automated Systems (M) RBAC (M) Zero Trust (M)

Image created by Bing chat mode, generative AI service by Microsoft



Risks: Destruction of a Data



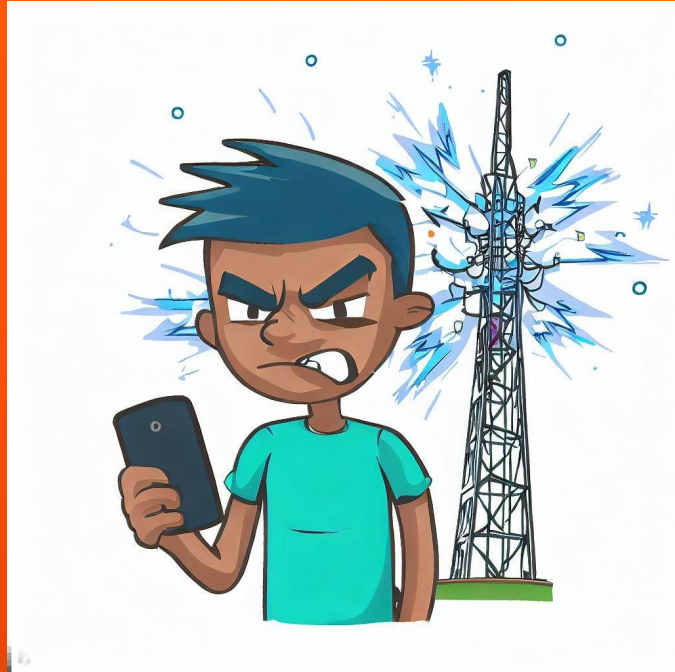
Image created by Bing chat mode, generative AI service by Microsoft

The infrastructure's working, but your data is gone!

<u>Risk</u>	<u>Effective Mitigation / Remedy</u>
Mishandle State - "Drop table"... Corruption of Data "update field where.."	Backup (R)
Ransomware	Backup (R) [Object Lock]
Loss of encryption key	Vulnerability , mitigate using industry measures



Risks: Dependant System Failure



*Hardware under your control or
Systems under someone else's are down.*

<u>Risk</u>	<u>Effective Mitigation / Remedy</u>
Global Provider Outage (your DC or Cloud Provider or your network to it has an outage)	Backup (R) - off-provider Async DR some data-loss (M) to another provider
Local Provider Outage	Backup (R) - off-site Synchronous DR (M) to another DC (<10ms) ASync DR (M) to another DC (>10ms away) - some data-loss.



Risks: Complexity Issues

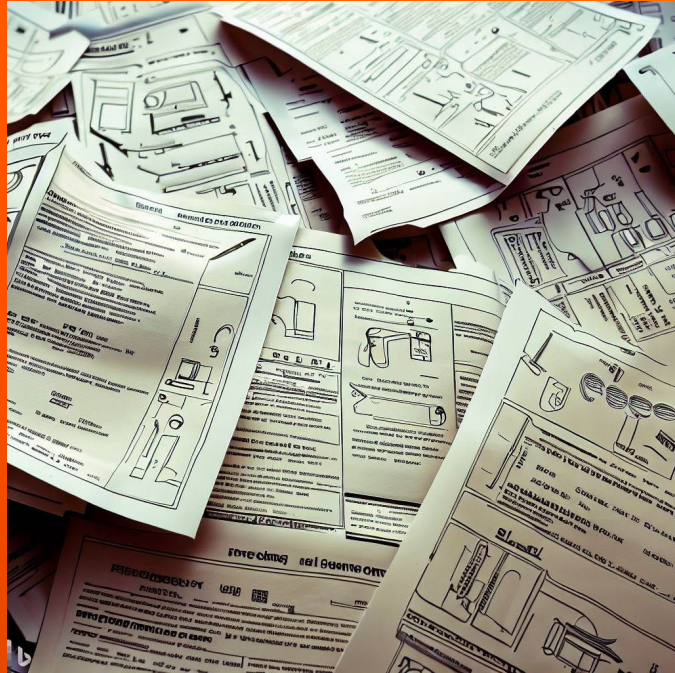


Image created by Bing chat mode, generative AI service by Microsoft

<u>Risk</u>	<u>Effective Mitigation / Remedy</u>
System interplay causes outage Process issue causes outages	Backup (R) Hermetic Environments (R) Automated Testing (M) Application Performance Monitoring (M) BlueGreen (M) Snapshot Rollback (M) Async DR (M) Sync DR (M) [*shared K8s]
System interplay causes outage Process issue causes outages	Backup (R) Hermetic Environments (R) Automated Testing (M) Application Performance Monitoring (M) BlueGreen (M) Snapshot Rollback (M) Async DR (M) Sync DR (M) [*shared K8s]

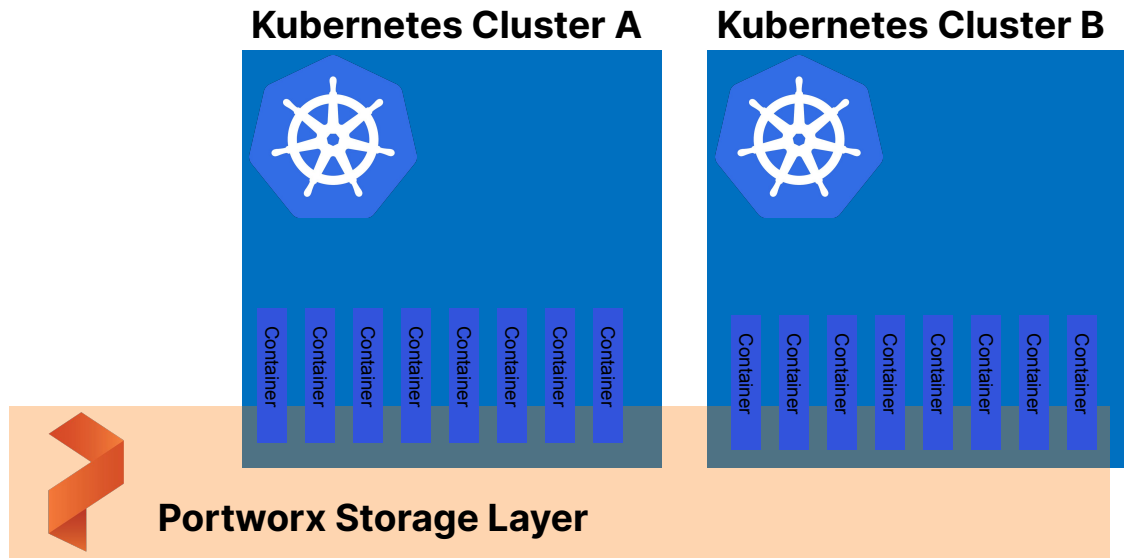


<u>Risk Type</u>	<u>Risk</u>	<u>Effective Mitigation / Remedy</u>
Destruction of Environment	Bad Actor Incompetence (“i thought it was development”) Malice - Delete cluster, kubectl delete ...	Backup (R) - Object Lock Automated Systems (M) RBAC (M) Zero Trust (M)
Destruction of Data	Mishandle State - “Drop table”... Corruption of Data “update field where..”	Backup (R)
	Ransomware	Backup (R) [Object Lock]
	Loss of encryption key	Vulnerability , mitigate using industry measures
Dependent System Failure <i>Hardware under your control or Systems under someone else’s...</i>	Global Provider Outage (your DCs or Cloud Provider has an outage)	Backup (R) - off-provider Async DR some data-loss (M) to another provider
	Local Provider Outage (one of your DC’s or DC service has an outage)	Backup (R) - off-site Synchronous DR (M) to another DC (<10ms) Async DR (M) to another DC (>10ms away)
Complexity Issues	System interplay causes outage Process issue causes outages	Backup (R) Hermetic Environments (R) Automated Testing (M) Application Performance Monitoring (M) BlueGreen (M) Snapshot Rollback (M) Async DR (M) Sync DR (M) [*shared K8s]



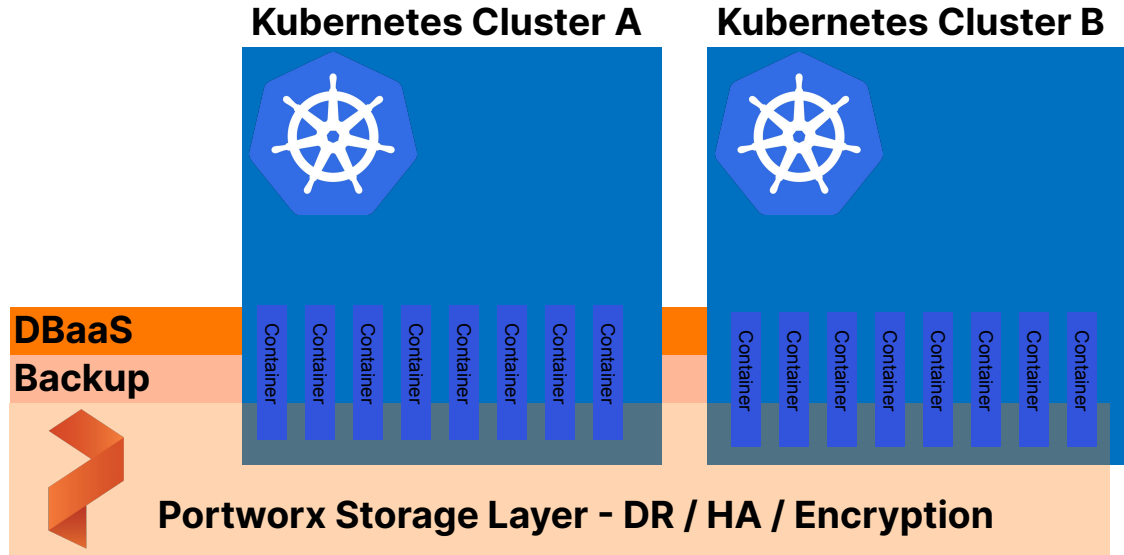
Portworx is...

A software defined storage
solution for Kubernetes

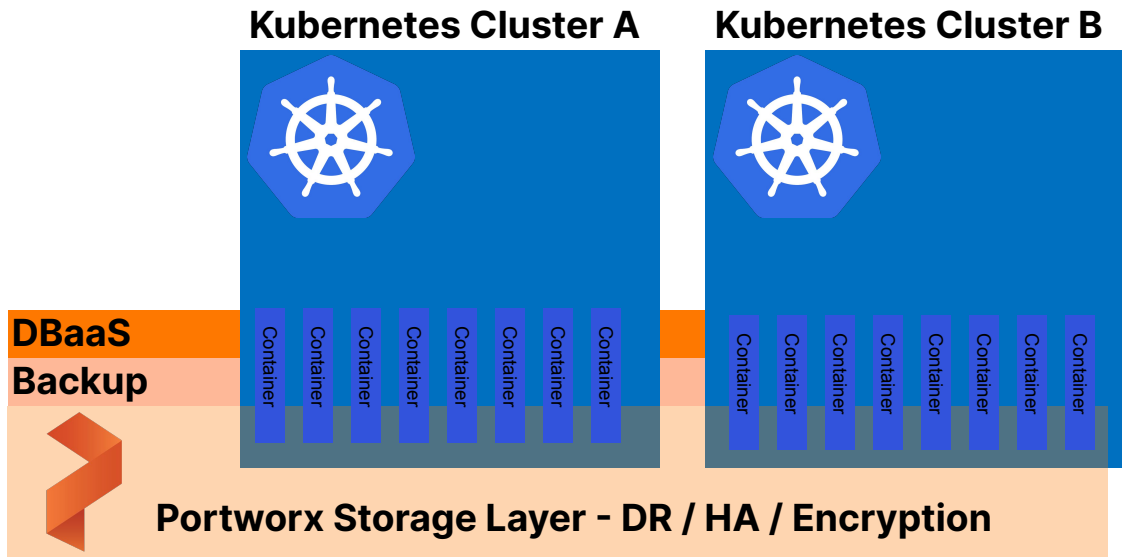


Portworx is...

A software defined storage
solution for Kubernetes



Portworx is...



Trusted by:

T Mobile

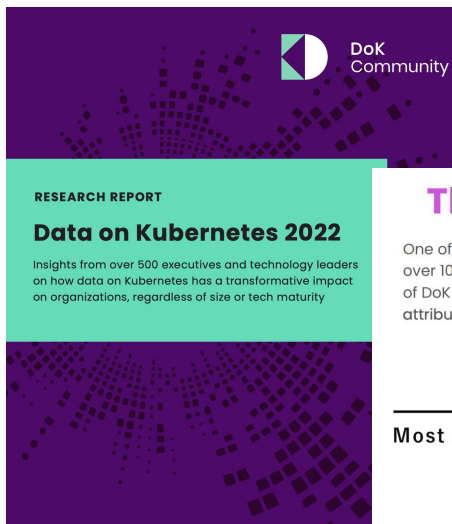


ROBLOX
POWERING IMAGINATION™

CHG Healthcare



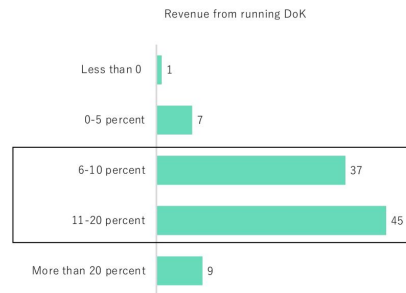
State in Kubernetes



The Transformative Impact of DoK

One of the highlights of our findings is that the majority of respondents (83%) attribute over 10% of their revenue to running data on Kubernetes. These data show that the benefits of DoK go beyond engineering to benefit the whole business, with a small cohort (9%) attributing more than 20% of revenue to DoK.

Most attribute over 10% of their revenue from running DoK



Q. Approximately what percent of revenue does your company attribute to your ability to run data workloads on Kubernetes? Your best guess is fine.

https://dok.community/wp-content/uploads/2022/10/DoK_Report_2022.pdf
bit.ly/px-dok



#1 in Kubernetes Storage for 4 years in a row!

GIGAOM

GigaOm Radar for Cloud-Native Kubernetes Data Storage, 2023

Excerpt of summary table

Table 1. Vendor Positioning

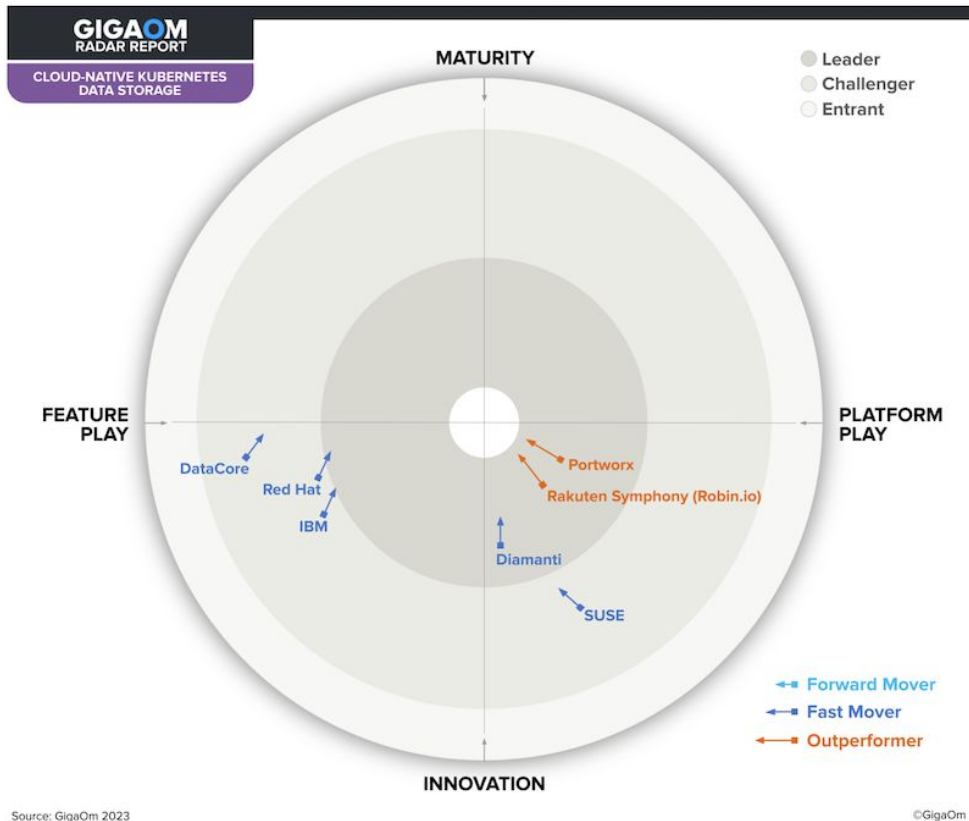
	MARKET SEGMENT		
	SMB	Large Enterprise	ISP/MSP
Portworx	+++	+++	+++

- +++ Exceptional: Outstanding focus and execution
- ++ Capable: Good but with room for improvement
- + Limited: Lacking in execution and use cases
- Not applicable or absent

Source: GigaOm 2022



portworx
by Pure Storage
bit.ly/px-number1

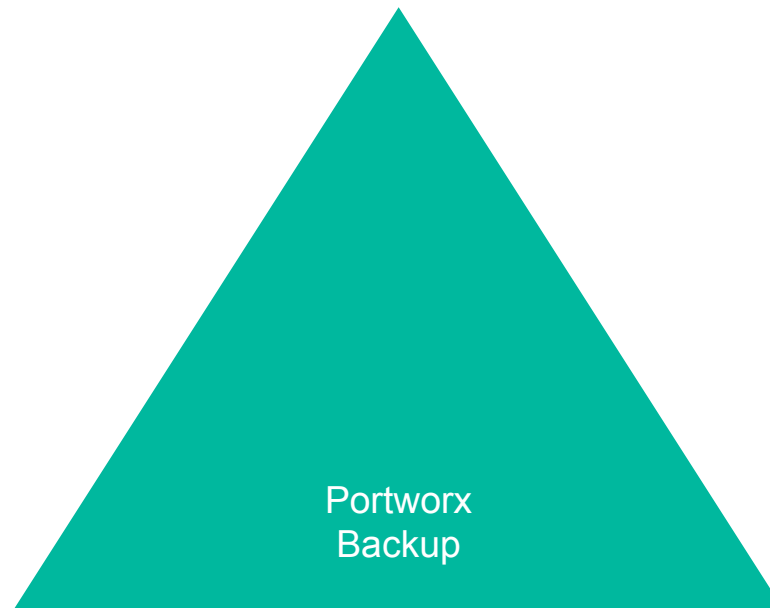


Source: GigaOm 2023

©GigaOm



Portworx Risks to IT Environments



Portworx Backup: Protect Kubernetes Data Anywhere

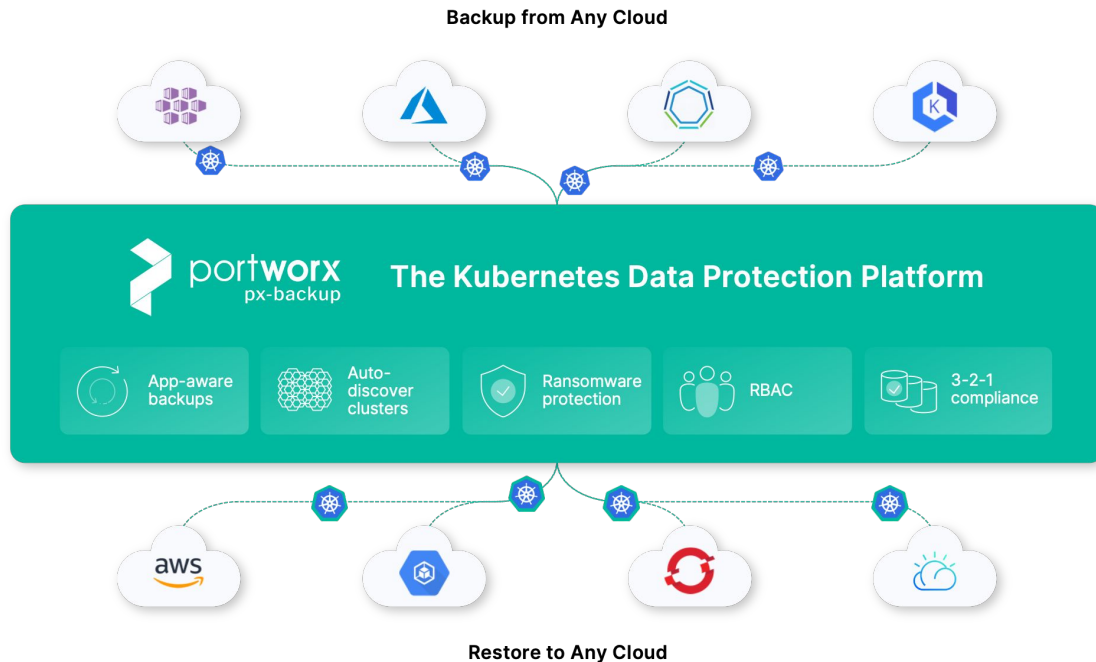
Backup and Restore Kubernetes Apps Anywhere with a Fast, Easy, and Secure platform

Why Portworx Backup?

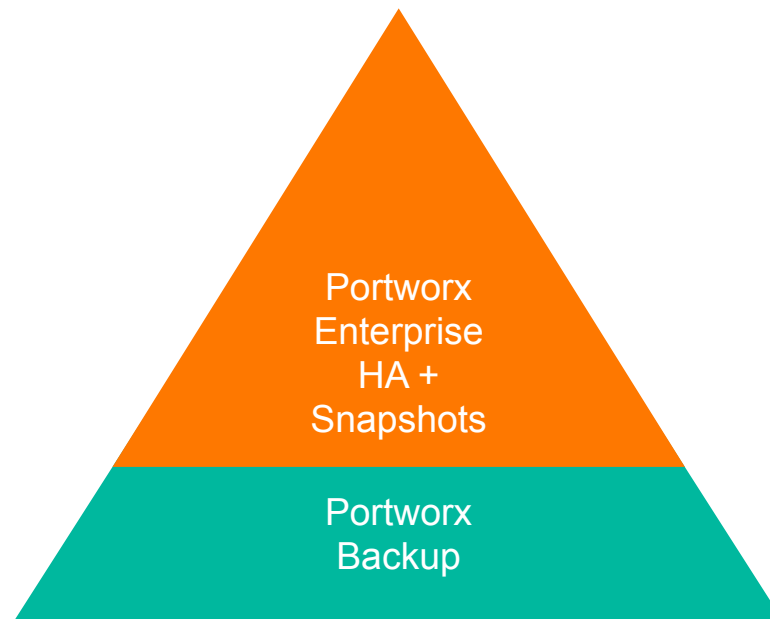
Protect Kubernetes Apps with the EASY button for Data Protection using container granularity

- Self-service backup for app users in a few clicks
- Recover and migrate apps anywhere in minutes
- Sleep sound with safe and secure data
- Ensure business continuity

PX-BU Demo
7 min



Portworx Risks to IT Environments



Portworx Enterprise: Run Kubernetes in Production

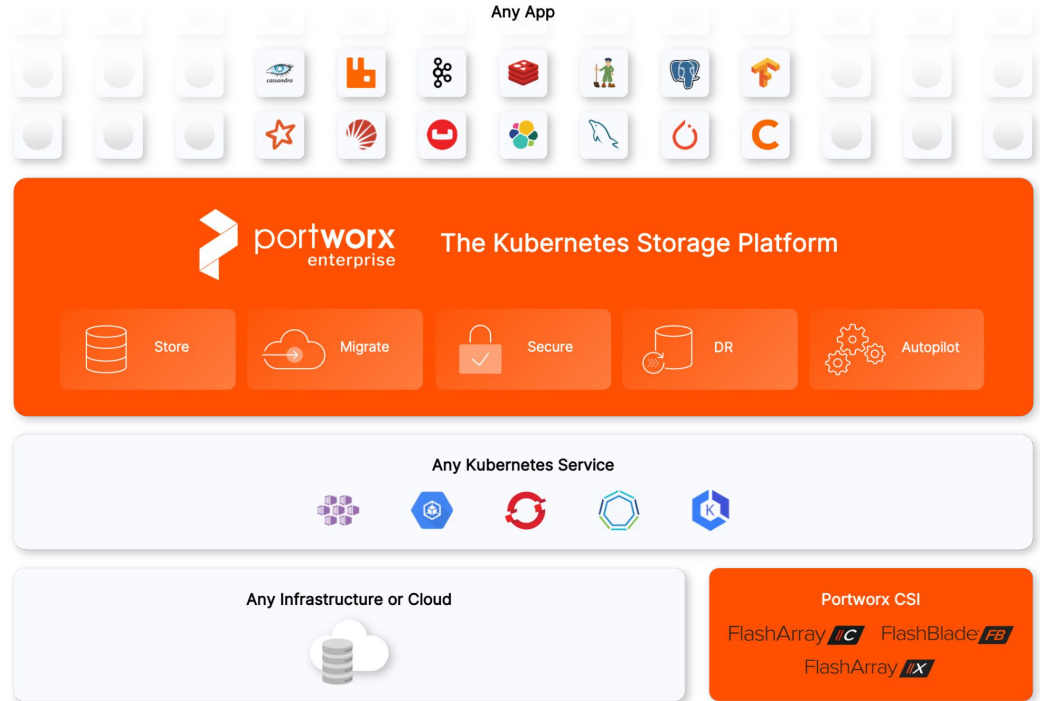
Run Kubernetes in Production with Elastic Scalability, Unmatched Availability and Self-service Access to Any Storage

Run Kubernetes in Production on any storage infrastructure, any cloud or K8s service

- Make Your Storage Developer-Ready
- Maximize Apps Performance
- Optimize infrastructure costs
- Ensure Business Continuity



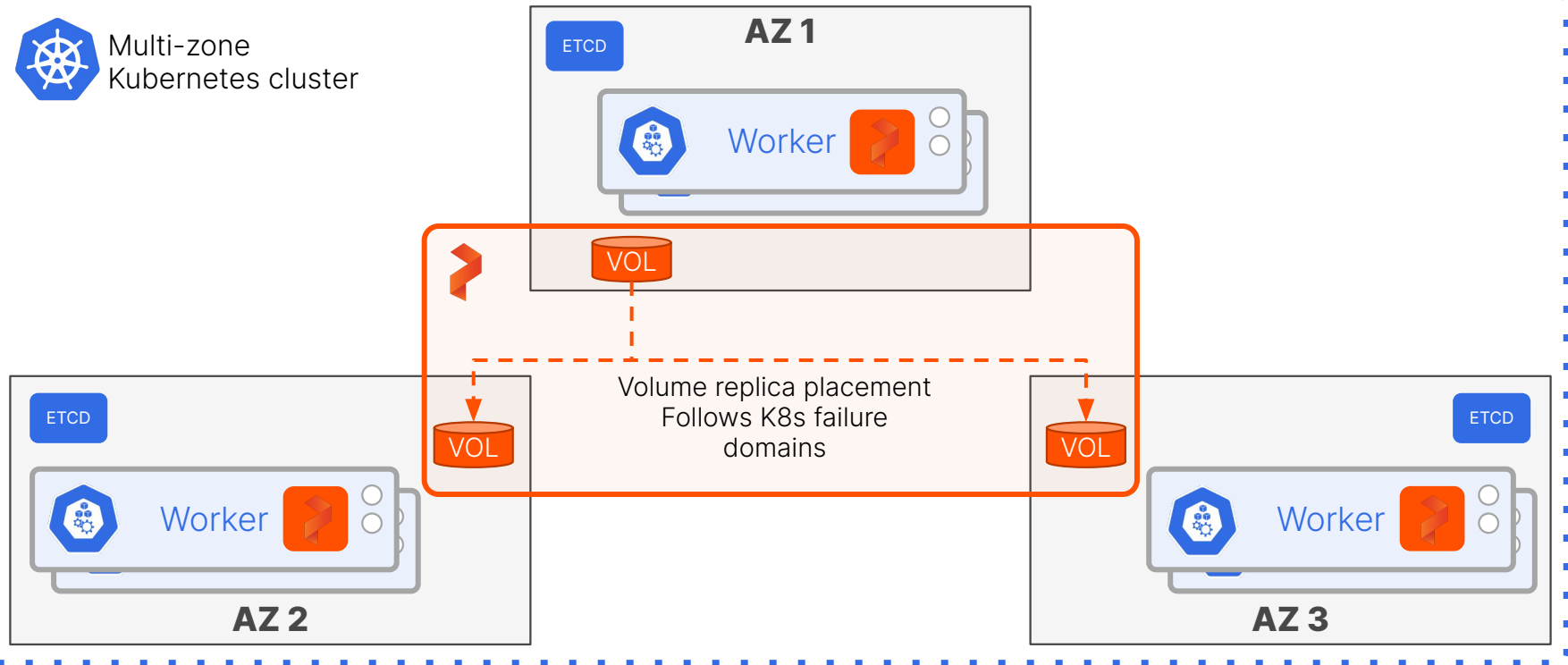
PX-Ent Demo (7 min)



Multi-zone high availability (HA) with Portworx



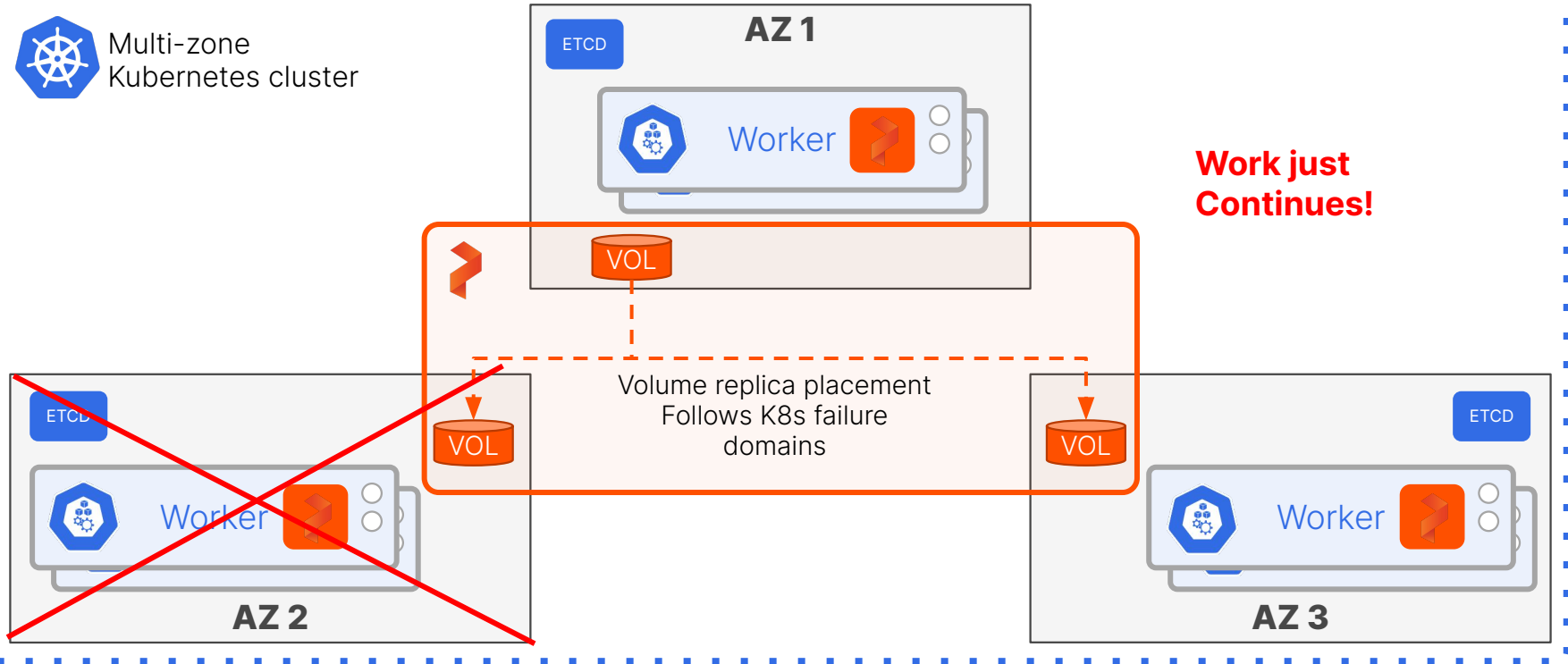
Multi-zone
Kubernetes cluster



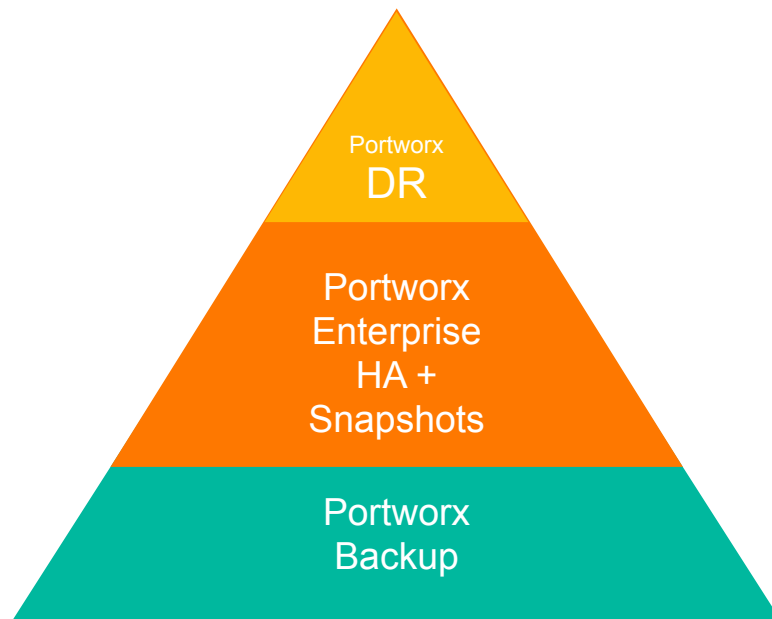
Multi-zone high availability (HA) with Portworx



Multi-zone
Kubernetes cluster



Portworx Risks to IT Environments



Case Study

Banking app platform

Royal Bank of Canada

Challenge

Zero data loss for Kubernetes apps even in face of entire data center loss

Solution

Two Kubernetes clusters- Production and DR site.

PX-DR provides cross data center replication of data and app config

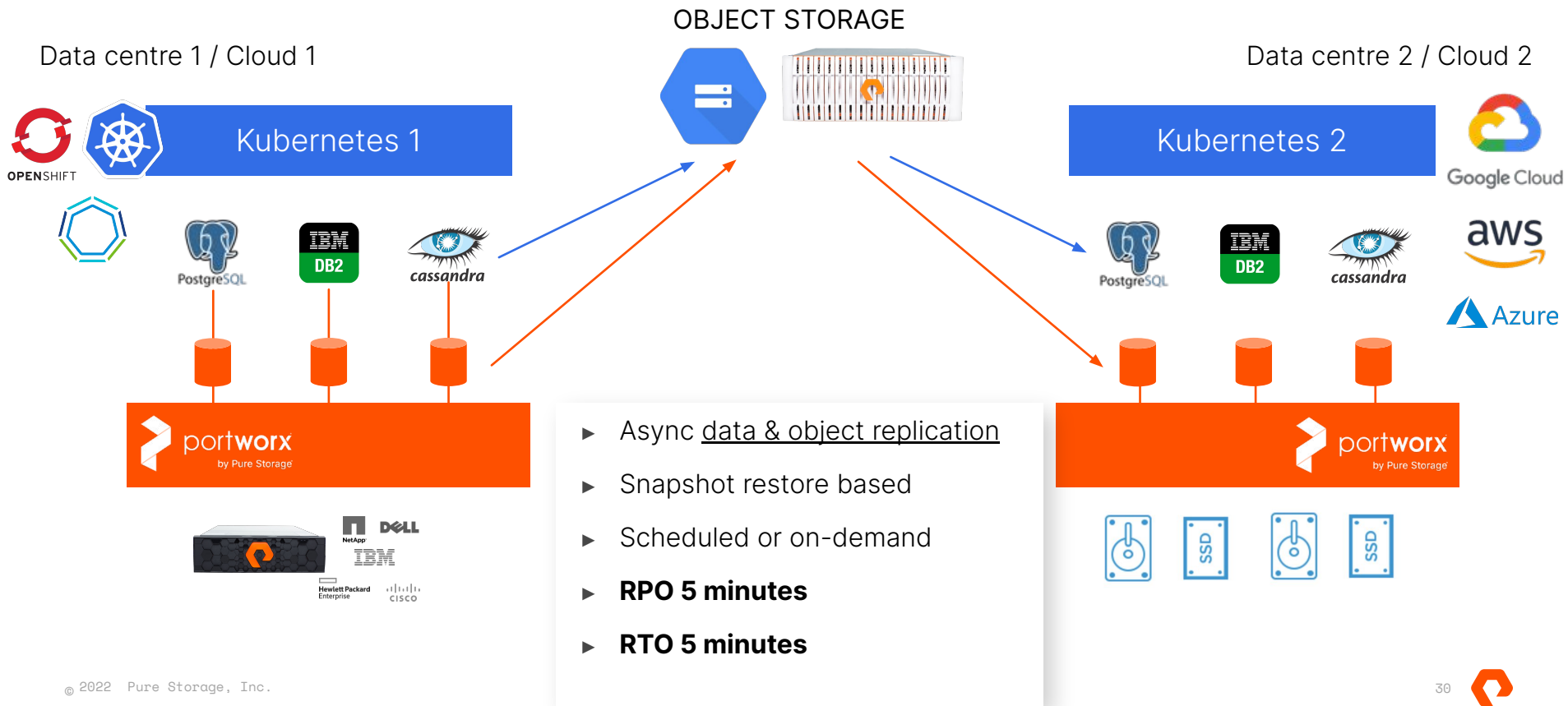
Results

Zero RPO DR with < 2 minute failover in event of primary data center loss



Use Case – Kubernetes DR (asynchronous)

Asynchronous DR (over 10ms latency) app consistency between multiple Kubernetes clusters



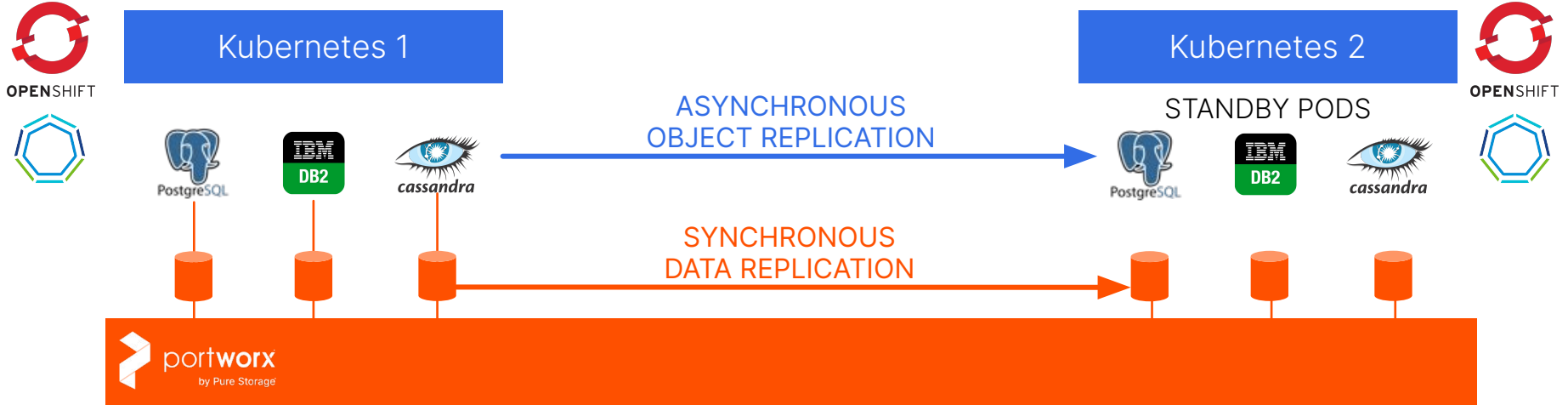
Use Case – Kubernetes DR (synchronous)

Local DR (sub 10ms latency) app consistency between multiple Kubernetes clusters

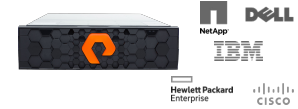


Data centre 1

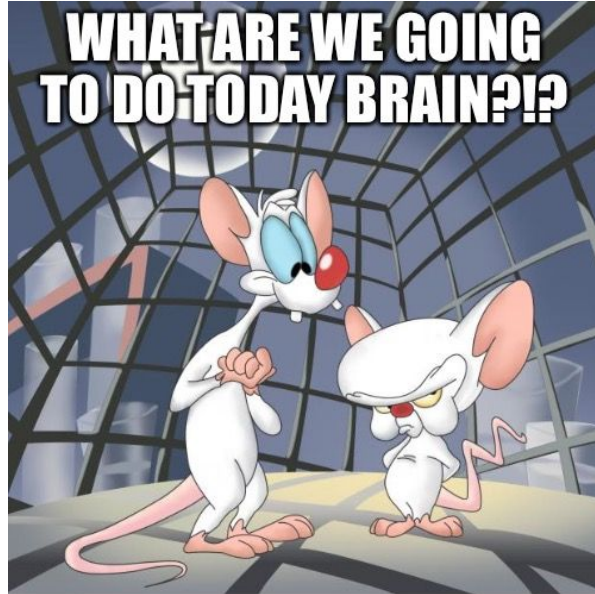
Data centre 2



- ▶ Synchronous data replication
- ▶ Async object replication
- ▶ **RPO 0**
- ▶ **RTO 5 minutes**



Lab Time!



“Backup Stateful Kubernetes Namespaces, using Portoworx Backup

Connect to a Cloud (AWS)

Create a Ransomware Proof Backup Location

Create a Daily Backup Policy

Schedule backup for anything with 'backup=true' Kubernetes Label

Do a Manual Backup

Replace the original with the Backup



Logging into PX-Backup

Step 06
Slides: bit.ly/px-bu-lab

Portworx Services

NAME	STATUS	LICENSE	DATE ADDED
purestorage-ahodsoneks-68411-zuqrjce	✓ Active	Freemium	September 12, 2023, 12:01:44

Almost Done...

Introducing Portworx Backup...
PORTWORX
BACKUP - A SERVICE

We are provisioning your instance. This may take several minutes. While you wait, see what Portworx Backup can do for you.

For support issues, contact: pxbaas@purestorage.com

Central.Portworx.com if you need to go back to your deployment

Adding A Cloud Account

Step 07
Slides: bit.ly/px-bu-lab

The screenshot displays the Pure Backup Cloud dashboard. At the top, there are three summary cards: 'Protected Apps' (1), 'Protected Data' (0 B), and 'Scheduled Backups' (0). Below these is a search bar and a table of clusters. The table has columns for Cluster Name, Status, Protected Apps, Protected Data, and KMS Version. One cluster is listed: 'testdrive-cluster' with a status of 'Active', 1 protected app, 0 B of data, and KMS version 'v1.22.17-eks-2d98532'. A settings menu is open in the bottom left corner, showing options for 'Schedule Policies', 'Cloud Settings', and 'Rules'. A red arrow points to the 'Cog' icon in the bottom left, and another red arrow points to the 'Cloud Settings' option in the menu.

CLUSTER NAME	STATUS	PROTECTED APPS	PROTECTED DATA	KMS VERSION
testdrive-cluster	Active	1	0 B	v1.22.17-eks-2d98532

2 'Cloud Settings'

1, Click the 'cog'

Adding Credentials

The screenshot displays the 'Cloud Settings' interface. It features a sidebar on the left with navigation icons. The main content area is divided into two sections: 'Cloud Accounts' and 'Backup Locations'. Both sections contain a table of existing entries and a '+ Add' button. A red arrow points to the '+ Add' button in the 'Cloud Accounts' section.

Cloud Accounts

NAME	OWNER
testdrive-cred	Owner
backup-testdrive-cred	Owner

Page 1 of 1

Backup Locations

NAME	OWNER
testdrive-location	Owner

Page 1 of 1

For support issues, contact : pxbaas@purestorage.com PX-BACKUP.PURESTORAGE-AHODSONEKS-68411-ZUQRFXCE

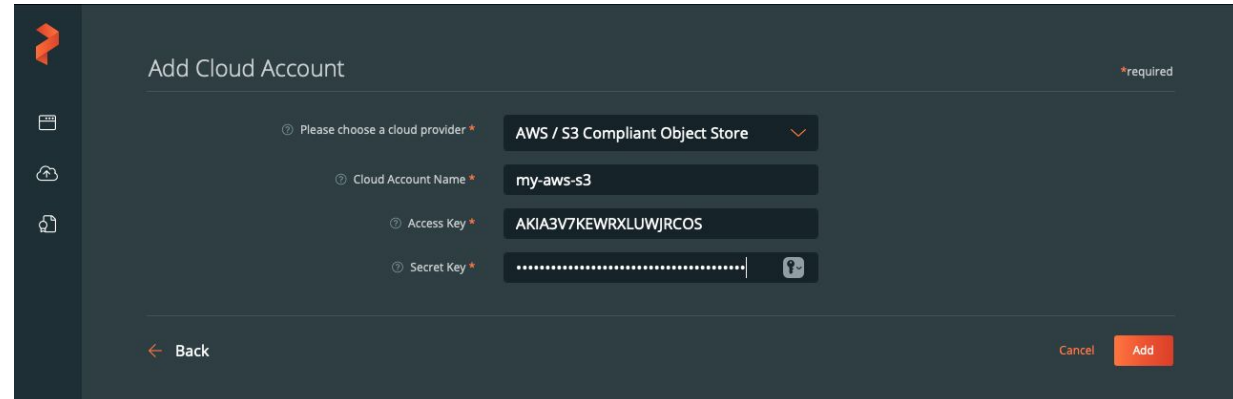
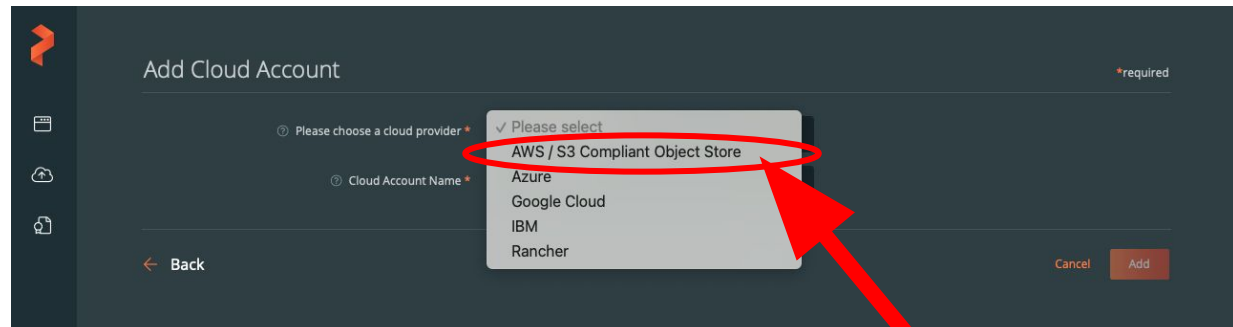
Step 08
Slides: bit.ly/px-bu-lab

Add (test) AWS S3 Credentials



Creds: bit.ly/46cjMhr

Step 09
Slides: bit.ly/px-bu-lab



The link (left) has the credentials in a text file

Add a Backup Bucket

The screenshot displays the 'Cloud Settings' interface. It is divided into two main sections: 'Cloud Accounts' and 'Backup Locations'. Both sections feature a table with columns for 'NAME' and 'OWNER', and a '+ Add' button in the top right corner. A red arrow points to the '+ Add' button in the 'Backup Locations' section.

Cloud Accounts

NAME	OWNER
testdrive-cred	Owner
backup-testdrive-cred	Owner
my-aws-s3	Owner

Page 1 of 1

Backup Locations

NAME	OWNER
testdrive-location	Owner

Page 1 of 1

For support issues, contact: pxbaas@purestorage.com PX-BACKUP,PURESTORAGE-AHODSONEKS-68411-ZUQRFCE

Step 10
Slides: bit.ly/px-bu-lab

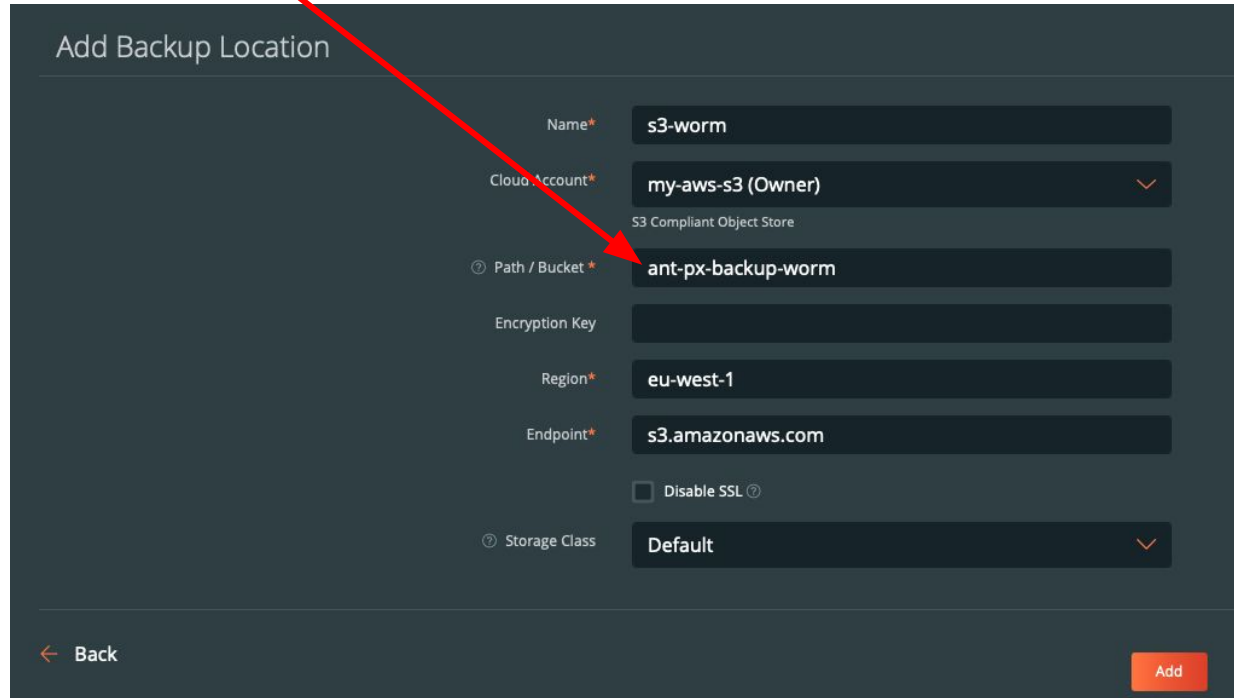


Add a Backup Bucket (details)

Step 11
Slides: bit.ly/px-bu-lab

Note: You Must use this Exact Bucket Name

You can add a Second, bucket named 'ant-px-backup' if you like.



The screenshot shows a dark-themed form titled "Add Backup Location". A red arrow points from the "Note" text above to the "Path / Bucket" field. The form contains the following fields and options:

- Name*: s3-worm
- Cloud Account*: my-aws-s3 (Owner) (dropdown menu)
- Path / Bucket*: ant-px-backup-worm
- Encryption Key: (empty field)
- Region*: eu-west-1
- Endpoint*: s3.amazonaws.com
- Disable SSL?: (with a help icon)
- Storage Class: Default (dropdown menu)

At the bottom left is a "Back" button with a left arrow, and at the bottom right is an "Add" button.



Note: S3 Permissions (future reference)

Example JSON:
<http://bit.ly/3Lkeokj>



```
1 {
2   "Version": "2012-10-17",
3   "Statement": [
4     {
5       "Sid": "ListObjectsInBucket",
6       "Effect": "Allow",
7       "Action": [
8         "s3:ListBucket",
9         "s3:GetBucketObjectLockConfiguration"
10      ],
11      "Resource": [
12        "arn:aws:s3::ant-px-backup",
13        "arn:aws:s3::ant-px-backup-worm"
14      ]
15    },
16    {
17      "Sid": "ListBucketVersions",
18      "Effect": "Allow",
19      "Action": [
20        "s3:ListBucketVersions"
21      ],
22      "Resource": [
23        "arn:aws:s3::ant-px-backup",
24        "arn:aws:s3::ant-px-backup-worm"
25      ]
26    },
27    {
28      "Sid": "GetBucketAcl",
29      "Effect": "Allow",
30      "Action": [
31        "s3:GetBucketAcl"
32      ],
33      "Resource": [
34        "arn:aws:s3::ant-px-backup",
35        "arn:aws:s3::ant-px-backup-worm"
36      ]
37    },
38    {
39      "Sid": "ListMultipartUploadParts",
40      "Effect": "Allow",
41      "Action": [
42        "s3:ListMultipartUploadParts"
43      ],
44      "Resource": [
45        "arn:aws:s3::ant-px-backup",
46        "arn:aws:s3::ant-px-backup-worm"
47      ]
48    },
49    {
50      "Sid": "PutObject",
51      "Effect": "Allow",
52      "Action": [
53        "s3:PutObject"
54      ],
55      "Resource": [
56        "arn:aws:s3::ant-px-backup",
57        "arn:aws:s3::ant-px-backup-worm"
58      ]
59    },
60    {
61      "Sid": "GetObjectAcl",
62      "Effect": "Allow",
63      "Action": [
64        "s3:GetObjectAcl"
65      ],
66      "Resource": [
67        "arn:aws:s3::ant-px-backup",
68        "arn:aws:s3::ant-px-backup-worm"
69      ]
70    },
71    {
72      "Sid": "GetObject",
73      "Effect": "Allow",
74      "Action": [
75        "s3:GetObject"
76      ],
77      "Resource": [
78        "arn:aws:s3::ant-px-backup",
79        "arn:aws:s3::ant-px-backup-worm"
80      ]
81    },
82    {
83      "Sid": "ListBucket",
84      "Effect": "Allow",
85      "Action": [
86        "s3:ListBucket"
87      ],
88      "Resource": [
89        "arn:aws:s3::ant-px-backup",
90        "arn:aws:s3::ant-px-backup-worm"
91      ]
92    },
93    {
94      "Sid": "ListAllMyBuckets",
95      "Effect": "Allow",
96      "Action": [
97        "s3:ListAllMyBuckets"
98      ],
99      "Resource": [
100       "arn:aws:s3::ant-px-backup",
101       "arn:aws:s3::ant-px-backup-worm"
102     ]
103   },
104   {
105     "Sid": "DeleteObject",
106     "Effect": "Allow",
107     "Action": [
108       "s3:DeleteObject"
109     ],
110     "Resource": [
111       "arn:aws:s3::ant-px-backup",
112       "arn:aws:s3::ant-px-backup-worm"
113     ]
114   },
115   {
116     "Sid": "PutObjectAcl",
117     "Effect": "Allow",
118     "Action": [
119       "s3:PutObjectAcl"
120     ],
121     "Resource": [
122       "arn:aws:s3::ant-px-backup",
123       "arn:aws:s3::ant-px-backup-worm"
124     ]
125   },
126   {
127     "Sid": "AllObjectActions",
128     "Effect": "Allow",
129     "Action": "s3:*",
130     "Resource": [
131       "arn:aws:s3::ant-px-backup/*",
132       "arn:aws:s3::ant-px-backup-worm/*"
133     ]
134   }
135 }
136 }
```

Note: Replace
**ant-px-backup /
ant-px-backup-worm**
With your bucket
names(s)



Note: Other Storage Destination Options

portworx.com/blog/portworx-backup-with-nfs-targets



Products Pricing Solutions Resources

NFS Server Address: Fully Qualified Domain Name or IP Address of your NFS Server

NFS Exported Path: absolute path exported by the DNS Server

Sub Path: Optional subfolder location within the exported path

Mount Options: Optional configuration options for NFS mounts. Each option should be separated by comma

Encryption Key: Optional setting for encrypting backups on disk

Object Store: NFS

Name*	nfs-server
NFS Server Address*	10.0.60.171
NFS Exported Path*	/nfs/backups
Sub Path	pitbq
Mount Options	soft,timeo=5
Encryption Key	*****

Back Add

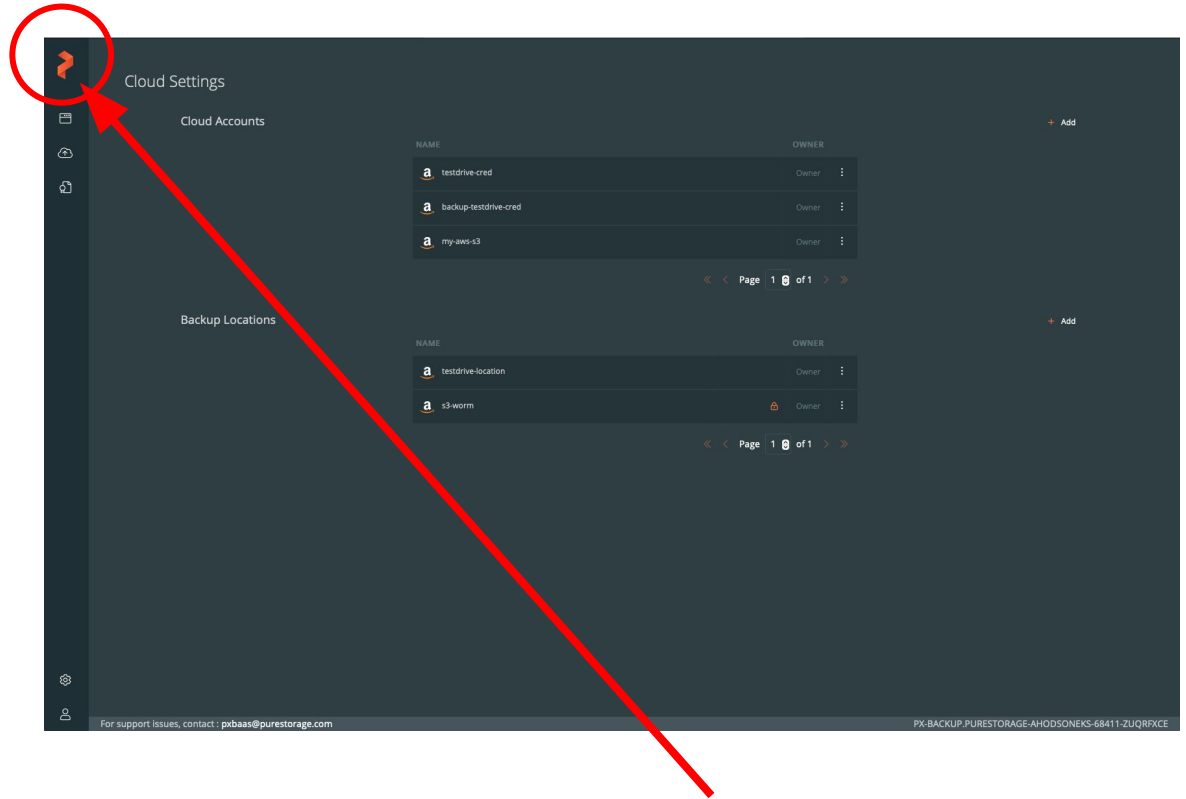
Once you've finished configuring your NFS backup location, Portworx Backup will validate your NFS server to make sure that it is ready to be used.

NAME	TYPE	OWNER
nfs-server	NFS	Owner VALIDATING...

After a moment, your NFS backup location should be validated successfully and a green check mark will appear next to the instance.



Back to Dashboard



Step 12
Slides: bit.ly/px-bu-lab

Creating a Backup Schedule

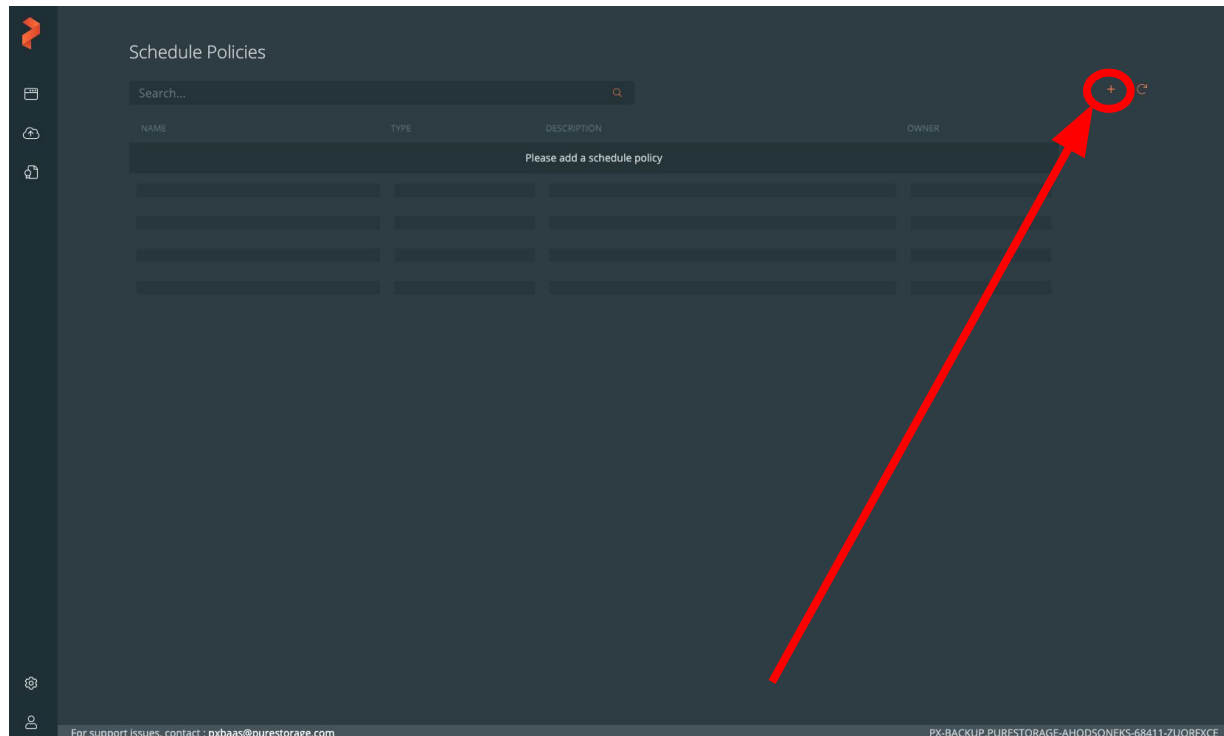
Step 13
Slides: bit.ly/px-bu-lab

The screenshot displays the Pure Storage console interface. At the top, there are three summary cards: 'Protected Apps' with a value of 1, 'Protected Data' with a value of 0 B, and 'Scheduled Backups' with a value of 0. Below these is a search bar labeled 'Filter by name...' and a table of clusters. The table has columns for 'CLUSTER NAME', 'STATUS', 'PROTECTED APPS', 'PROTECTED DATA', and 'KBS VERSION'. One cluster is listed: 'testdrive-cluster' with a status of 'Active', 1 protected app, 0 B protected data, and KBS version 'v1.22.17-eks-2d98532'. Below the table, it says 'Rows on page: 10' and 'Showing 1—1 of 1'. On the left sidebar, there is a settings icon (gear) and a menu with 'Schedule Policies', 'Cloud Settings', and 'Rules'. Red arrows point from the 'Schedule Policies' menu item to the gear icon (labeled '1') and from the 'Schedule Policies' menu item to the 'Protected Apps' card (labeled '2').

CLUSTER NAME	STATUS	PROTECTED APPS	PROTECTED DATA	KBS VERSION
testdrive-cluster	Active	1	0 B	v1.22.17-eks-2d98532

Create a Backup Schedule (from inside the Schedule Policy Screen)

Step 14
Slides: bit.ly/px-bu-lab



Defining a Backup Schedule

Step 15
Slides: bit.ly/px-bu-lab

Add Policy ✕

Policy Name*
test-policy

Object lock policy [Learn more](#) ↗ Auto delete after retention period

Type
Daily ▾

Hours* 1 ▴ ▾ Minutes* 0 AM/PM* AM ▾

🕒 Daily at 01:00AM

Cancel Create



Opting in Workloads With Tags (in K8s) and Schedules

- Search for pages
- Understand Portworx Backup >
- Install Portworx Backup >
- Portworx Backup Security >
- Use Portworx Backup >
 - Configure cloud credentials >
 - Add clusters >
 - Configure a backup location >
 - Create a backup rule >
 - Create schedule policies >
 - Create and restore backups >
 - Backup stateful applications >
 - S3 object lock in Portworx Backup >
 - Share backups with users and groups >
 - Apply Labels in Portworx Backup >
 - Backup labeled namespaces**
 - Label backups
 - Label resources
 - Portworx Backup Licenses >
 - Configure REST API
 - Configure with S3 object store
 - Configure access to the Portworx Backup U
 - Configure Prometheus and Grafana

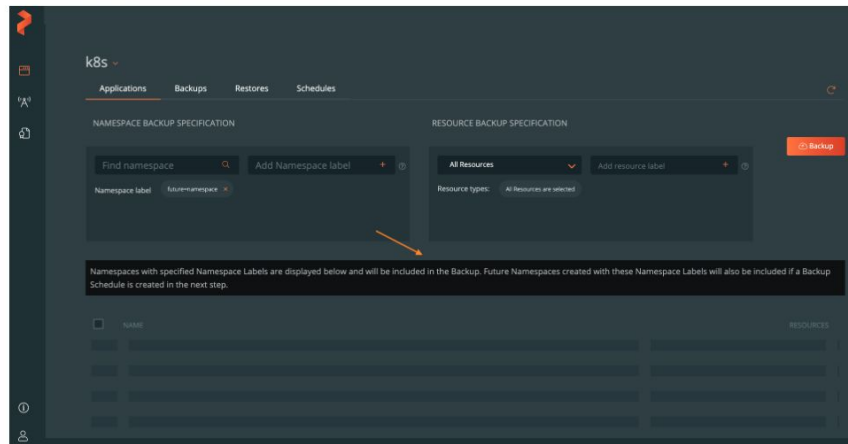
Automate scheduled backups

If a namespace is yet to be created, you can still create a backup schedule for the future namespace with a label. Portworx Backup picks up the future namespace(s) with this label and automatically includes the namespace(s) as part of the schedule. In such a scenario, manual backup option gets disabled as no immediate backup is created.

If you have created a scheduled backup with one or few namespaces that have preset labels and add namespaces at a later point of time with the same label, scheduler auto-includes these namespaces to the scheduled backup.

To create a backup schedule when namespace is yet to be created:

1. Type the required label in the **Add Namespace label** field.

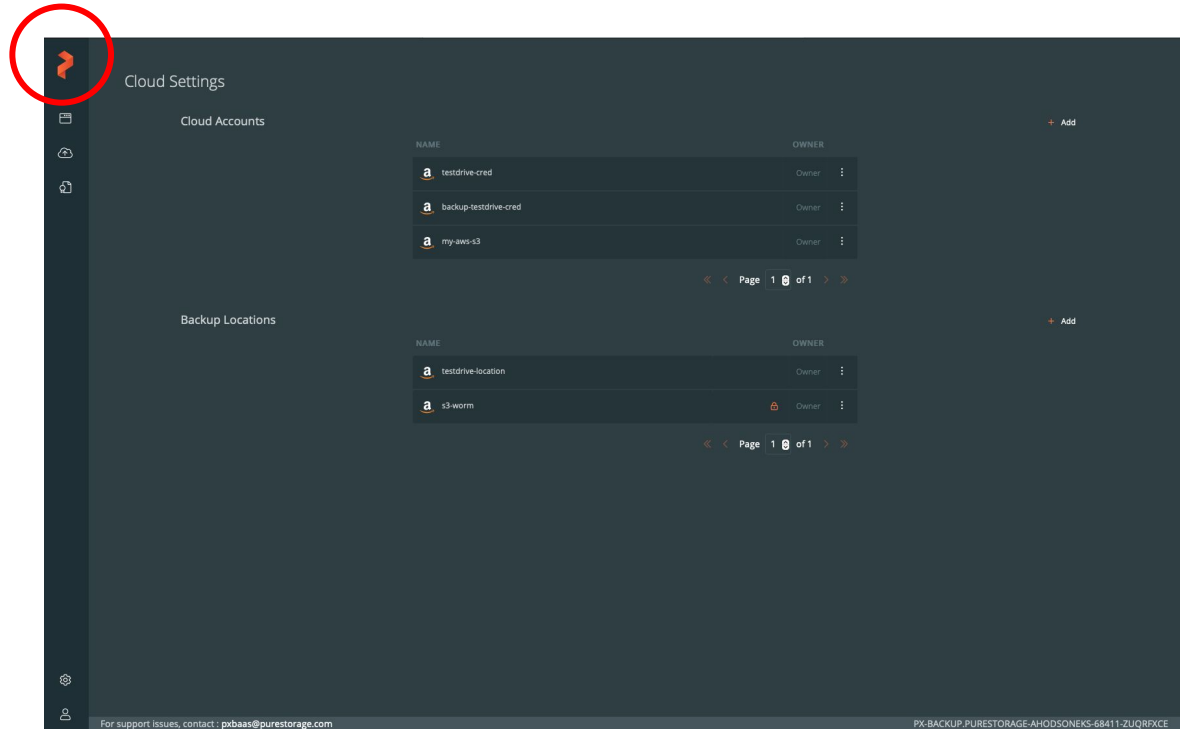


<https://backup.docs.portworx.com/use-px-backup/labels/namespace-labels/>



Back to Dashboard Home

Step 16
Slides: bit.ly/px-bu-lab



The screenshot shows the 'Cloud Settings' interface. A red circle highlights the home icon (a stylized orange arrow) in the left sidebar. The main content area is divided into two sections: 'Cloud Accounts' and 'Backup Locations'. Each section contains a table with columns for 'NAME' and 'OWNER'. The 'Cloud Accounts' table lists three accounts: 'testdrive-cred', 'backup-testdrive-cred', and 'my-aws-s3'. The 'Backup Locations' table lists two locations: 'testdrive-location' and 's3-worm'. Both tables have a 'Page 1 of 1' indicator and a '+ Add' button. At the bottom of the page, there is a footer with support contact information: 'For support issues, contact: pxbaas@purestorage.com' and a reference code: 'PX-BACKUP.PURESTORAGE-AHODSONEKS-68411-ZUQRFXCE'.

Selecting your Cluster

The screenshot shows the Pure Storage PX Backup console interface. At the top, there are three summary cards: 'Protected Apps' with a value of 0, 'Protected Data' with a value of 0 B, and 'Scheduled Backups' with a value of 1. Below these is a search bar labeled 'Filter by name...' and a button for 'All Backups'. A table lists the clusters with columns for 'CLUSTER NAME', 'STATUS', 'PROTECTED APPS', 'PROTECTED DATA', and 'K8S VERSION'. The first row, 'testdrive-cluster', is circled in red. Below the table, it shows 'Rows on page: 10' and 'Showing 1—1 of 1'. At the bottom, there is a footer with contact information and a support ID.

CLUSTER NAME	STATUS	PROTECTED APPS	PROTECTED DATA	K8S VERSION
testdrive-cluster	Active	0	0 B	v1.22.17-eks-2d98532

Rows on page: 10 Showing 1—1 of 1

Page 1 of 1

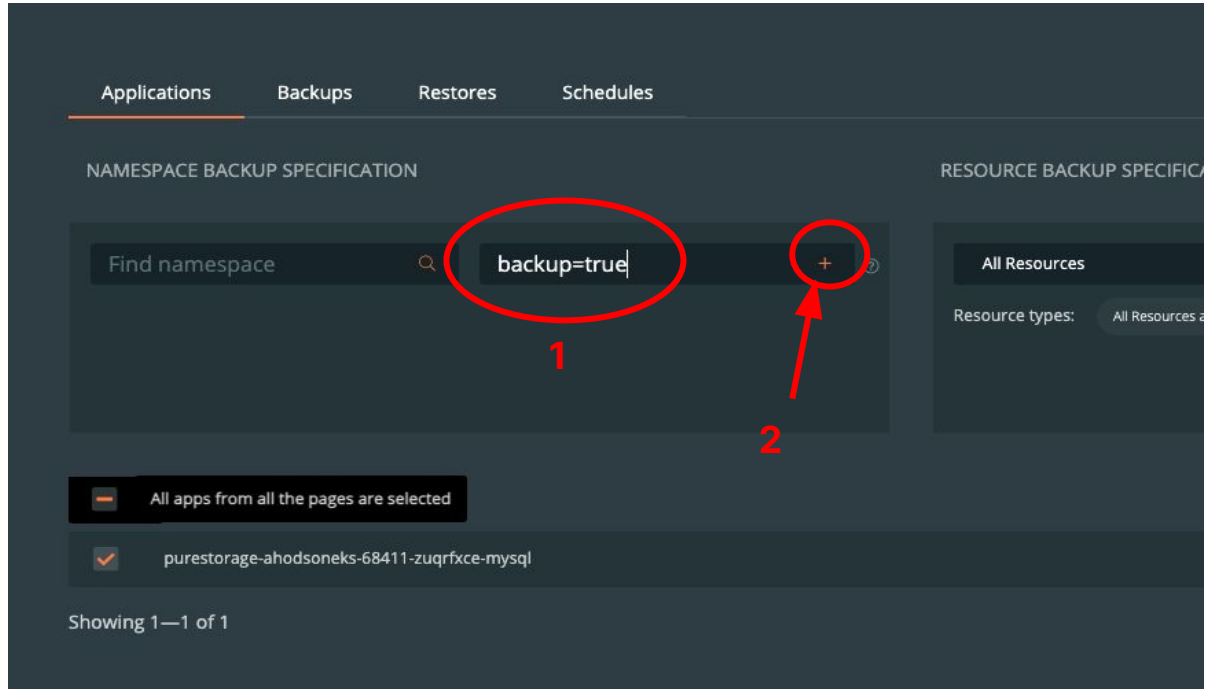
For support issues, contact : pxbaas@purestorage.com PX-BACKUP.PURESTORAGE-AHODSONEKS-68411-ZUQRFXCE

Step 17
Slides: bit.ly/px-bu-lab

creating a backup daily policy for tagged Apps

Defining the Tag

Step 18
Slides: bit.ly/px-bu-lab



Creating a backup daily policy for tagged apps

Calling Backup Screen

Step 19
Slides: bit.ly/px-bu-lab

The screenshot displays a configuration interface for backups, divided into two main sections: "NAMESPACE BACKUP SPECIFICATION" and "RESOURCE BACKUP SPECIFICATION".

- Namespace Backup Specification:** Includes a search field for "Find namespace", an "Add Namespace label" button, and a "Namespace label" field containing "backup=true".
- Resource Backup Specification:** Includes a dropdown menu for "All Resources", an "Add resource label" button, and a "Resource types" field indicating "All Resources are selected".

Below these sections, a message states: "Namespaces with specified Namespace Labels are displayed below and will be included in the Backup. Future Namespaces created with these Namespace Labels will also be included if a Backup Schedule is created in the next step."

A table of resources is shown below, with a header "All apps from all the pages are selected" and a row for "purestorage-ahodsonks-68411-zuqrfxc-mysql".

At the bottom, it says "Showing 1—1 of 1" and "Page 1 of 1".

A red arrow points to an orange "Backup" button in the top right corner of the interface.



Creating a backup daily policy for tagged apps

Schedule the Backup

Step 20

Slides: bit.ly/px-bu-lab

Create Backup ✕

CLUSTER NAME: testdrive-cluster

Enter name for Backup*

daily-backup

Backup location ⓘ* ⓘ s3-worm ▼ CSI Snapshot Class ⓘ Default ▼

NOW ⓘ On a schedule ⓘ

Choose a Schedule Policy ⓘ* ⓘ test-policy (Owner) ▼

Pre-exec rule ⓘ Please select ▼ Post-exec rule ⓘ Please select ▼

Backup Labels purpose=ransomware-safety +

NAMESPACES LIST

- purestorage-ahodsoneks-68411-zuqrfxce-mysql

Cancel Create

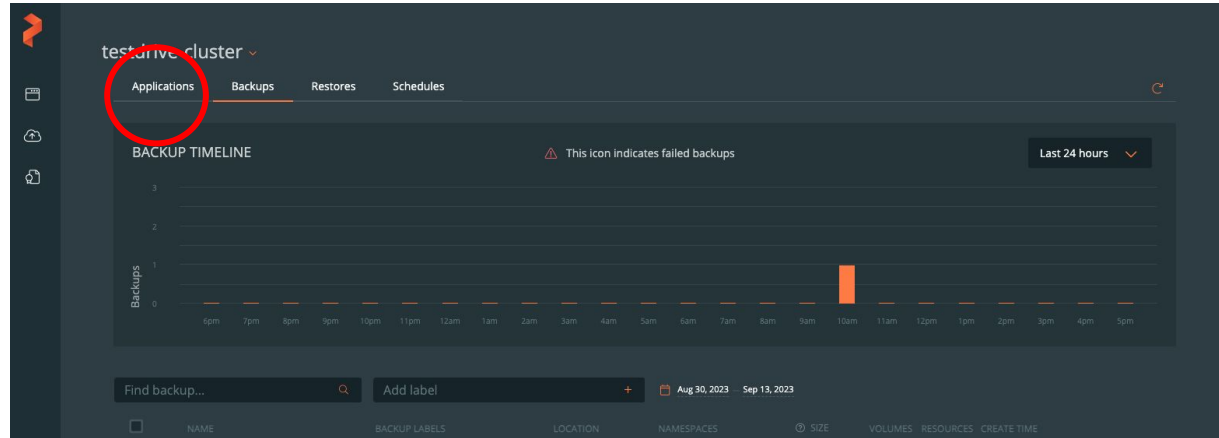


Back to Dashboard

Creating an AdHoc Backup

Return to Overview.

Step 21
Slides: bit.ly/px-bu-lab



Look at the Resources

testdrive-cluster

Applications Backups Restores Schedules

NAMESPACE BACKUP SPECIFICATION

RESOURCE BACKUP SPECIFICATION

Backup

Find namespace Add Namespace label

All Resources Add resource label

Resource types: All Resources are selected

All apps from all the pages are selected

purestorage-ahodsonex-68411-zuqrfce-mysql

Select Resources

Showing 1—1 of 1

Page 1 of 1

For support issues, contact : pxbaas@purestorage.com

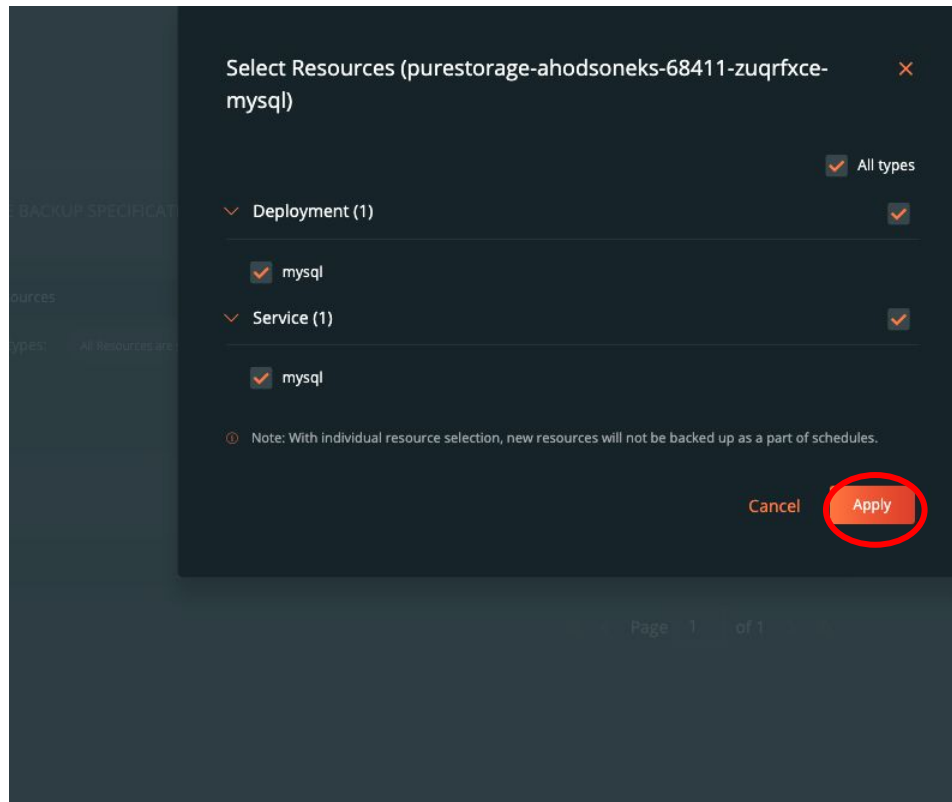
PX-BACKUP.PURESTORAGE-AHODSONEX-68411-ZUQRFCE

Step 22
Slides: bit.ly/px-bu-lab



Select your Resources to backup

Step 23
Slides: bit.ly/px-bu-lab



Example Resources

Select Resources (webapp) ✕

All types

▼ ConfigMap (1) ✓

- example-config

▼ Deployment (2) ✓

- k8s-counter-deployment
- postgres

▼ PersistentVolumeClaim (1) ✓

- postgres-data

▼ Service (2) ✓

- k8s-counter-service
- pg-service

① Note: With individual resource selection, new resources will not be backed up as a part of schedules.

Cancel Apply



Back to Dashboard

Creating an Ad Hoc Backup

Step 24
Slides: bit.ly/px-bu-lab

The screenshot shows the Kubernetes dashboard interface for a cluster named 'testdrive-cluster'. The 'Backups' tab is active. The interface is divided into two main sections: 'NAMESPACE BACKUP SPECIFICATION' and 'RESOURCE BACKUP SPECIFICATION'. In the 'NAMESPACE BACKUP SPECIFICATION' section, the 'Namespace label' is set to 'backup=true'. In the 'RESOURCE BACKUP SPECIFICATION' section, 'All Resources' are selected. A red circle highlights the 'Backup' button in the top right corner. Below the specifications, a message states: 'Namespaces with specified Namespace Labels are displayed below and will be included in the Backup. Future Namespaces created with these Namespace Labels will also be included if a Backup Schedule is created in the next step.' A table of resources is shown with one entry: 'purestorage-ahodsoneks-68411-zurfxce-mysql'. The footer contains support contact information: 'For support issues, contact: pxbaas@purestorage.com' and the backup ID: 'PX-BACKUP.PURESTORAGE-AHODSONEKS-68411-ZUQRFXC'

Back to Dashboard


Creating an Ad Hoc Backup

Step 25
Slides: bit.ly/px-bu-lab

Create Backup ✕


CLUSTER NAME: `testdrive-cluster`


Enter name for Backup*

Backup location [?]*  s3-worm ▼

CSI Snapshot Class [?] Default ▼

Now [?] On a schedule [?]

Pre-exec rule  Please select ▼

Post-exec rule  Please select ▼

Backup Labels

 +

NAMESPACES LIST

- purestorage-ahodsoneks-68411-zuqrfxce-mysql

Cancel **Create**



Looking at your backups

Step 26
Slides: bit.ly/px-bu-lab

See your backup complete

Inspect the details if you like

testdrive-cluster

Application Backups Restores Schedules

BACKUP TIMELINE

This icon indicates failed backups

Last 24 hours

Backups

6pm 7pm 8pm 9pm 10pm 11pm 12am 1am 2am 3am 4am 5am 6am 7am 8am 9am 10am 11am 12pm 1pm 2pm 3pm 4pm 5pm

Find backup... Add label + Aug 31, 2023 Sep 14, 2023

<input type="checkbox"/>	NAME	BACKUP LABELS	LOCATION	NAMESPACES	SIZE	VOLUMES	RESOURCES	CREATE TIME	
<input type="checkbox"/>	myadhoc-test	owner:ant	testdrive-location		-	0	0	14 Sep 2023, 05:47 PM	⋮
<input type="checkbox"/>	daily-backup-1ac7069...	purpose:ransomware-s...	s3-worm		-	0	0	14 Sep 2023, 02:00 AM	🕒 🔒 ⋮
<input type="checkbox"/>	adhoc-test		s3-worm		-	0	0	13 Sep 2023, 05:37 PM	🔒 ⋮

Rows on page: 10 Showing 1—3 of 3

Page 1 of 1

For support issues, contact : pxbaas@purestorage.com

PX-BACKUP.PURESTORAGE-AHODSONEKS-68411-ZUQRFXCX

Making Buckets 'Compliance Object Locked' In AWS

Creating a Bucket

Note Object lock is defined when you create the bucket.

The screenshot shows the AWS Management Console for Amazon S3. The left sidebar contains navigation options like Buckets, Access Points, and Storage Lens. The main content area displays an 'Account snapshot' with metrics: Total storage (6.0 TB), Object count (32.5 M), and Average object size (196.8 KB). Below this is a 'Buckets (138)' section with a search bar and a table of buckets. The 'Create bucket' button is circled in red.

Name	AWS Region	Access	Creation date
pureprotect-draas-root-			September 11, 2023.

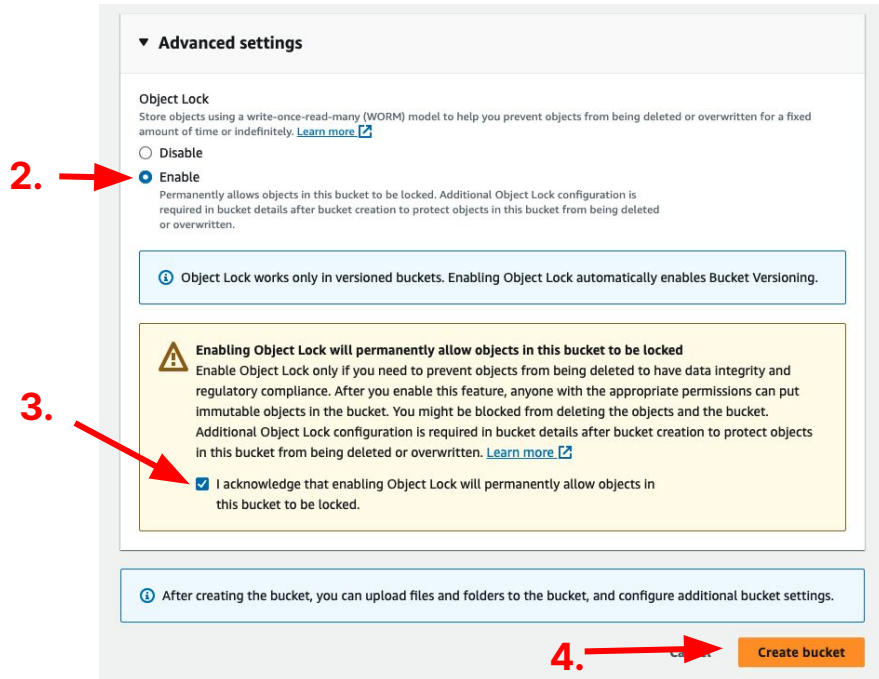
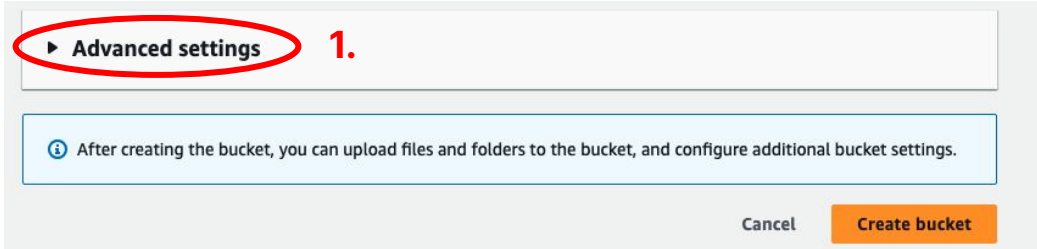
Give your bucket a globally unique name:

The screenshot shows the 'Create bucket' page in the AWS Management Console. The 'General configuration' section is visible, with the 'Bucket name' field containing the text 'myobjectlockbucket01'. A note below the field states: 'Bucket name must be unique within the global namespace and follow the bucket naming rules. See rules for bucket naming.'

Making Buckets 'Compliance Object Locked' In AWS

Enabling Object Lock

At the bottom of the wizard screen...



Making Buckets 'Compliance Object Locked' In AWS

Opening the new bucket

Click the yellow prompt to finish configuring the bucket's Object Lock

Successfully created bucket "myobjectlockbucket01"
To upload files and folders, or to configure additional bucket settings choose [View details](#).

Additional configuration is required to protect objects in bucket "myobjectlockbucket01" from being deleted or overwritten using Object Lock. To view Object Lock bucket settings, [go to bucket details](#). 1.

Amazon S3 > Buckets

Account snapshot [View Storage Lens dashboard](#)
Last updated: Sep 12, 2023 by Storage Lens. Metrics are generated every 24 hours. [Learn more](#)

Total storage	Object count	Average object size
6.0 TB	32.5 M	196.8 KB

You can enable advanced metrics in the ["default-account-dashboard"](#) configuration.

Or, search for your bucket and click it:

Buckets (139) [Info](#)
Buckets are containers for data stored in S3. [Learn more](#)

[Refresh](#) [Copy ARN](#) [Empty](#) [Delete](#) [Create bucket](#)

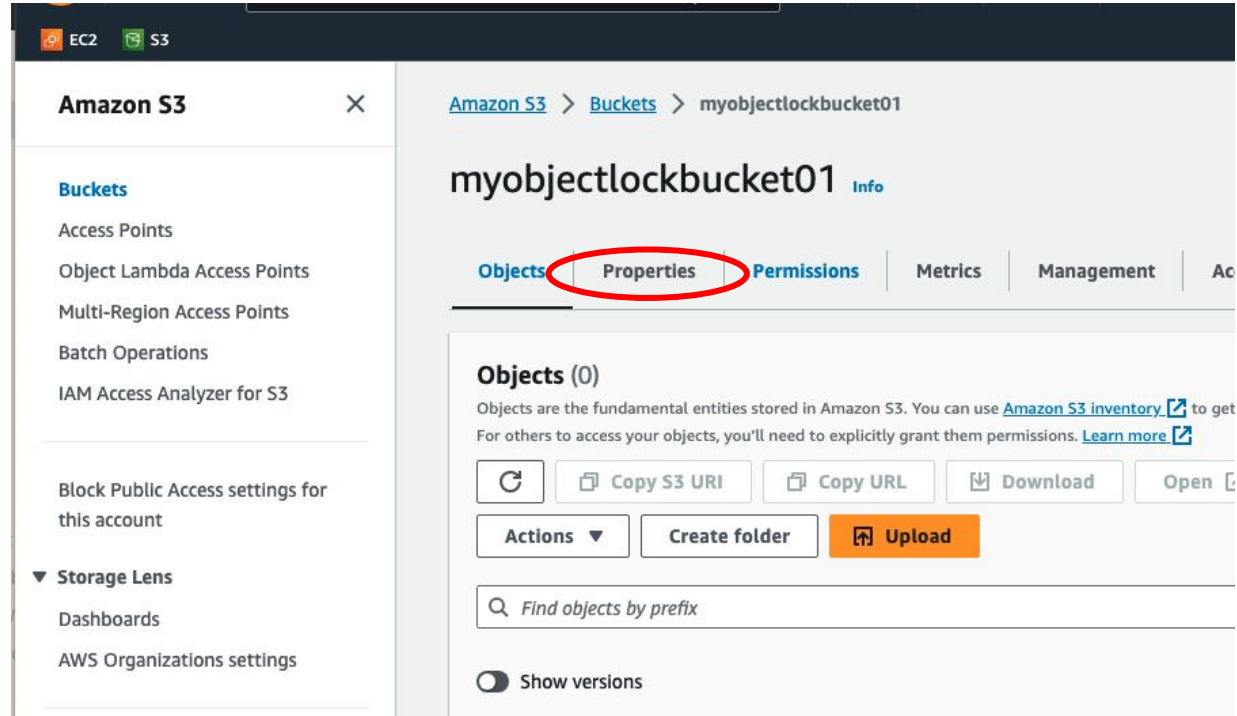
A.

Name	AWS Region	Access
<input type="radio"/> myobjectlockbucket01 B.	Europe (Ireland) eu-west-1	Bucket and public



Making Buckets 'Compliance Object Locked' In AWS

Changing Object Lock Config



Scroll Down to 'Object Lock'



Making Buckets 'Compliance Object Locked' In AWS

Enabling Default Retention

Object Lock

Store objects using a write-once-read-many (WORM) model to help you prevent objects from being deleted or overwritten for a fixed amount of time or indefinitely. [Learn more](#)

Edit

Object Lock

Enabled

Default retention

Automatically protect new objects put into this bucket from being deleted or overwritten.

Disabled



Edit Object Lock Info

Object Lock

Store objects using a write-once-read-many (WORM) model to help you prevent objects from being deleted or overwritten for a fixed amount of time or indefinitely. [Learn more](#)

? Once Amazon S3 Object Lock is enabled, you can't disable Object Lock or suspend Bucket Versioning for the bucket.

Object Lock

Enabled

Default retention

Automatically protect new objects put into this bucket from being deleted or overwritten.

Disable

Enable

Making Buckets 'Compliance Object Locked' In AWS

Setting it to 'Compliance mode' and Defining the term

Edit Object Lock [Info](#)

Object Lock

Store objects using a write-once-read-many (WORM) model to help you prevent objects from being deleted or overwritten for a fixed amount of time or indefinitely. [Learn more](#)

Once Amazon S3 Object Lock is enabled, you can't disable Object Lock or suspend Bucket Versioning for the bucket.

Object Lock

Enabled

Default retention

Automatically protect new objects put into this bucket from being deleted or overwritten.

Disable

Enable

Default retention mode

Governance

Users with specific IAM permissions can overwrite or delete protected object versions during the retention period.

Compliance

Users can't overwrite or delete protected object versions during the retention period.



In compliance mode, an object is immutable until its retention date has passed

To delete objects that have this configuration, you must close the AWS account that they are associated with. [Learn more](#)

Default retention period

7

Must be a positive whole number.

Days

Cancel

Save changes



Making Buckets 'Compliance Object Locked' In AWS

Object Lock Docs (AWS)

<https://docs.aws.amazon.com/AmazonS3/latest/userguide/object-lock.html>

The screenshot shows the AWS documentation interface. At the top, there is a search bar with the text "Search in this guide" and navigation links for "Contact Us", "English", and "Return to the Console". Below the search bar, the breadcrumb navigation reads "AWS > Documentation > Amazon Simple Storage Service (S3) > User Guide". On the right side of the breadcrumb, there are links for "Feedback" and "Preferences".

The main content area is titled "Using S3 Object Lock" and includes links for "PDF" and "RSS". The text explains that S3 Object Lock allows storing objects using a *write-once-read-many* (WORM) model to prevent deletion or overwriting. A highlighted section states: "S3 Object Lock has been assessed by Cohasset Associates for use in environments that are subject to SEC 17a-4, CFTC, and FINRA regulations. For more information about how Object Lock relates to these regulations, see the [Cohasset Associates Compliance Assessment](#)." Below this, it notes that Object Lock provides two ways to manage retention: *retention periods* and *legal holds*.

A list of two items is provided:

- **Retention period** — Specifies a fixed period of time during which an object remains locked. During this period, your object is WORM-protected and can't be overwritten or deleted. For more information, see [Retention periods](#)
- **Legal hold** — Provides the same protection as a retention period, but it has no expiration date. Instead, a legal hold remains in place until you explicitly remove it. Legal holds are independent from retention periods. For more information, see [Legal holds](#).

On the left side of the screenshot, a sidebar menu for "Amazon Simple Storage Service User Guide" is visible, listing various topics such as "Getting started", "Tutorials", "Working with buckets", "Working with objects", "Working with access points", "Working with Multi-Region Access Points", "Security", and "Managing storage". Under "Managing storage", the following items are listed:

- ▶ Using S3 Versioning
- ▶ Using AWS Backup for Amazon S3
- ▶ Working with archived objects



Restoring a Backup - Selecting your backup options

Step 27
Slides: bit.ly/px-bu-lab

The screenshot shows the 'testdrive-cluster' backup management interface. It features a 'BACKUP TIMELINE' chart showing backup frequency over the last 24 hours. Below the chart is a table of backup entries with columns for Name, Backup Labels, Location, Namespaces, Size, Volumes, Resources, and Create Time. A red circle highlights the three-dot menu icon for the first backup entry, 'adhoc-test-name'. The interface also includes a search bar, an 'Add label' button, and pagination controls.

testdrive-cluster

Applications Backups Restores Schedules

BACKUP TIMELINE ⚠ This icon indicates failed backups Last 24 hours

Find backup... Add label Aug 31, 2023 Sep 14, 2023

	NAME	BACKUP LABELS	LOCATION	NAMESPACES	SIZE	VOLUMES	RESOURCES	CREATE TIME	
<input type="checkbox"/>	adhoc-test-name		testdrive-location	purestorage-ahodstone...	-	0	0	14 Sep 2023, 09:22 AM	⋮
<input type="checkbox"/>	daily-backup-1ac7069...	purpose ransomware-s...	s3-worm		-	0	0	14 Sep 2023, 02:00 AM	🕒 🔒 ⋮
<input type="checkbox"/>	adhoc-test		s3-worm		-	0	0	13 Sep 2023, 05:37 PM	🔒 ⋮
<input type="checkbox"/>	ant-backup1	ownerant	testdrive-location	purestorage-ahodstone...	-	0	2	12 Sep 2023, 01:11 PM	⋮

Rows on page: 10 Showing 1—4 of 4 Page 1 of 1

For support issues, contact: pxbaas@purestorage.com PX-BACKUP.PURESTORAGE-AHODSTONEKS-68411-ZUQRFXCE



Restoring a Backup Restore Request

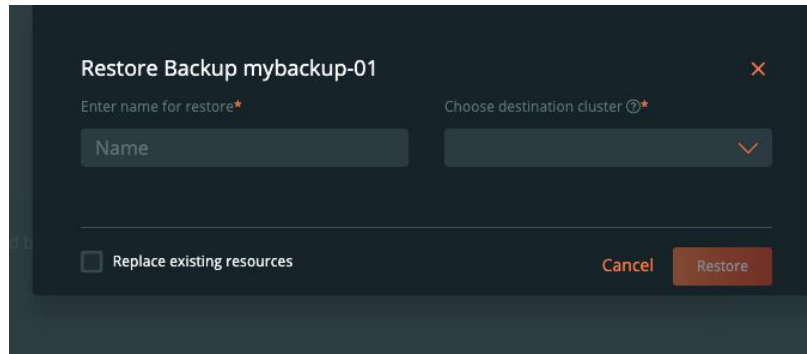
Step 28
Slides: bit.ly/px-bu-lab

The screenshot displays the 'testdrive-cluster' interface with the 'Backups' tab selected. A 'BACKUP TIMELINE' chart shows backup activity over the last 24 hours, with a warning icon indicating failed backups. Below the chart is a table of backup jobs with columns for Name, Backup Labels, Location, Namespaces, Size, Volumes, Resources, and Create Time. A context menu is open for the first job, 'adhoc-test-name', with the 'Restore' option circled in red.

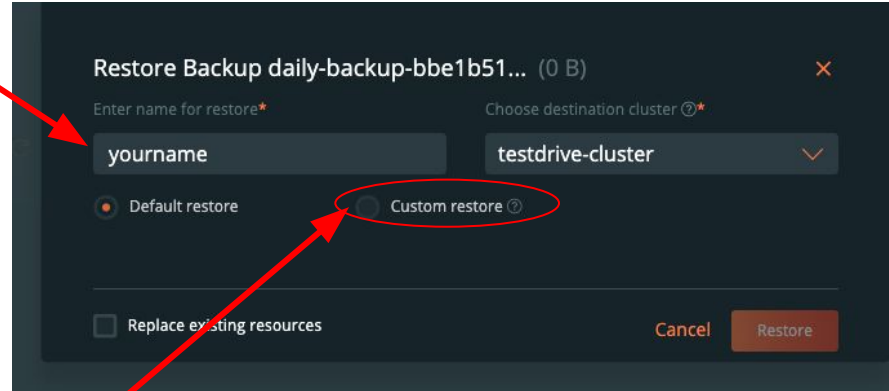
NAME	BACKUP LABELS	LOCATION	NAMESPACES	SIZE	VOLUMES	RESOURCES	CREATE
adhoc-test-name		testdrive-location	purestorage-ahodson...	-	0	2	14 Sep 09:22
daily-backup-1ac7069...	purpose ransomware s...	s3-worm		-	0	0	14 Sep 02:00
adhoc-test		s3-worm		-	0	0	13 Sep 05:37
ant-backup1	owner:ant	testdrive-location	purestorage-ahodson...	-	0	2	12 Sep 2023, 01:11 PM

Restoring a Backup Naming your Restore

Step 29
Slides: bit.ly/px-bu-lab



Fill the boxes,
and the menu
expands



Tick
This

Restoring your Backup

Selecting Resources and Overwriting options

Step 30
Slides: bit.ly/px-bu-lab

1

Restore Backup backup-test (0 B)

Enter name for restore*

anthony

Choose destination cluster ?*

testdrive-cluster

Default restore

Custom restore

2

Namespace Mapping (1)

Source Namespace(s)*

Destination Namespace(s)

purestorage-ahodsoneks-829195-7yp7s...

oneks-829195-7yp7sbx-mysql

Resource Selector

Search resource name

All resources in all groups

> Deployment (1)

All

> Service (1)

All

Replace existing resources

3 - Not Selected

Cancel

Restore

4

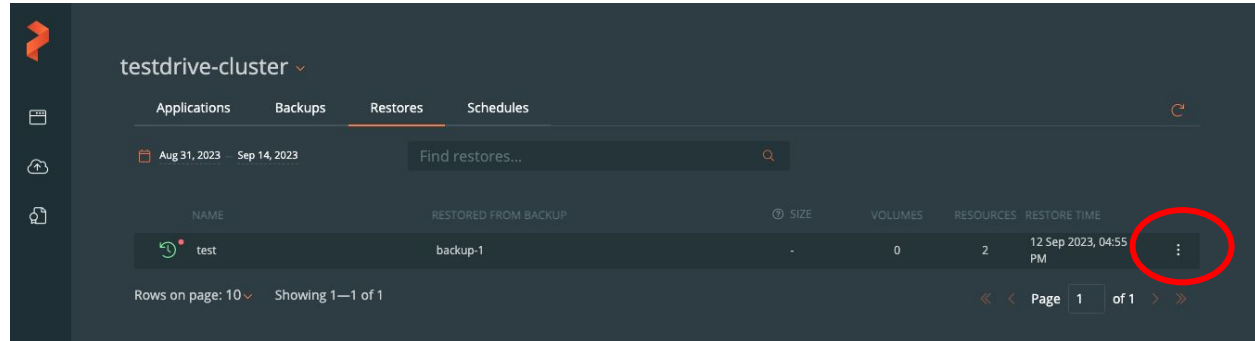
Viewing your Restores In the Web Interface

Step 31
Slides: bit.ly/px-bu-lab

The screenshot displays the Kubernetes web interface for a cluster named 'testdrive-cluster'. The 'Restores' tab is selected and highlighted with a red circle. The interface is divided into two main sections: 'NAMESPACE BACKUP SPECIFICATION' and 'RESOURCE BACKUP SPECIFICATION'. The 'NAMESPACE BACKUP SPECIFICATION' section includes a search bar for 'Find namespace', an 'Add Namespace label' button, and a table with one entry: 'purestorage-ahodsonexs-68411-zuqrfxce-mysql'. The 'RESOURCE BACKUP SPECIFICATION' section includes a dropdown for 'All Resources', an 'Add resource label' button, and a 'Resource types' dropdown set to 'All Resources are selected'. A 'Backup' button is located at the bottom right of the interface. The footer contains support contact information: 'For support issues, contact : pxbaas@purestorage.com' and the identifier 'PX-BACKUP.PURESTORAGE-AHODSONEXS-68411-ZUQRFXCE'.

Viewing the Restore's Options

Step 32
Slides: bit.ly/px-bu-lab



testdrive-cluster

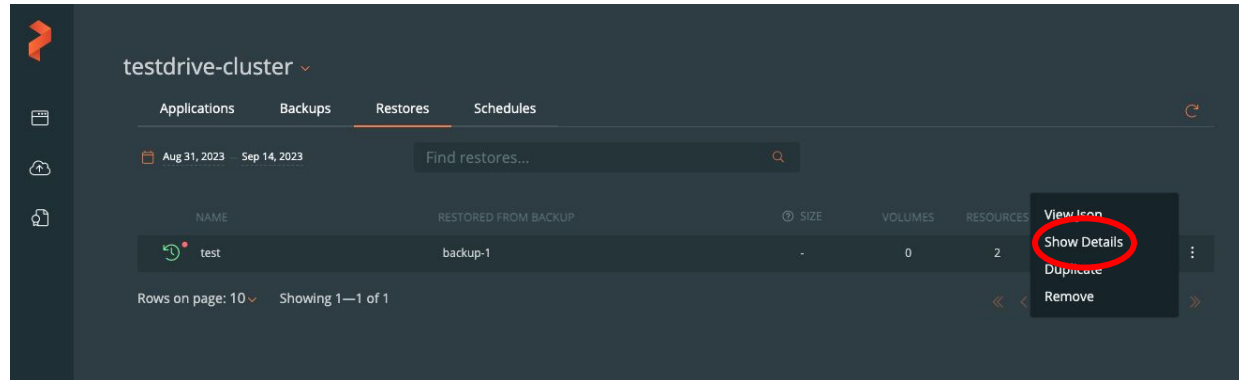
Applications Backups Restores Schedules

Aug 31, 2023 Sep 14, 2023 Find restores...

NAME	RESTORED FROM BACKUP	SIZE	VOLUMES	RESOURCES	RESTORE TIME
test	backup-1	-	0	2	12 Sep 2023, 04:58 PM

Rows on page: 10 Showing 1—1 of 1

Page 1 of 1



testdrive-cluster

Applications Backups Restores Schedules

Aug 31, 2023 Sep 14, 2023 Find restores...

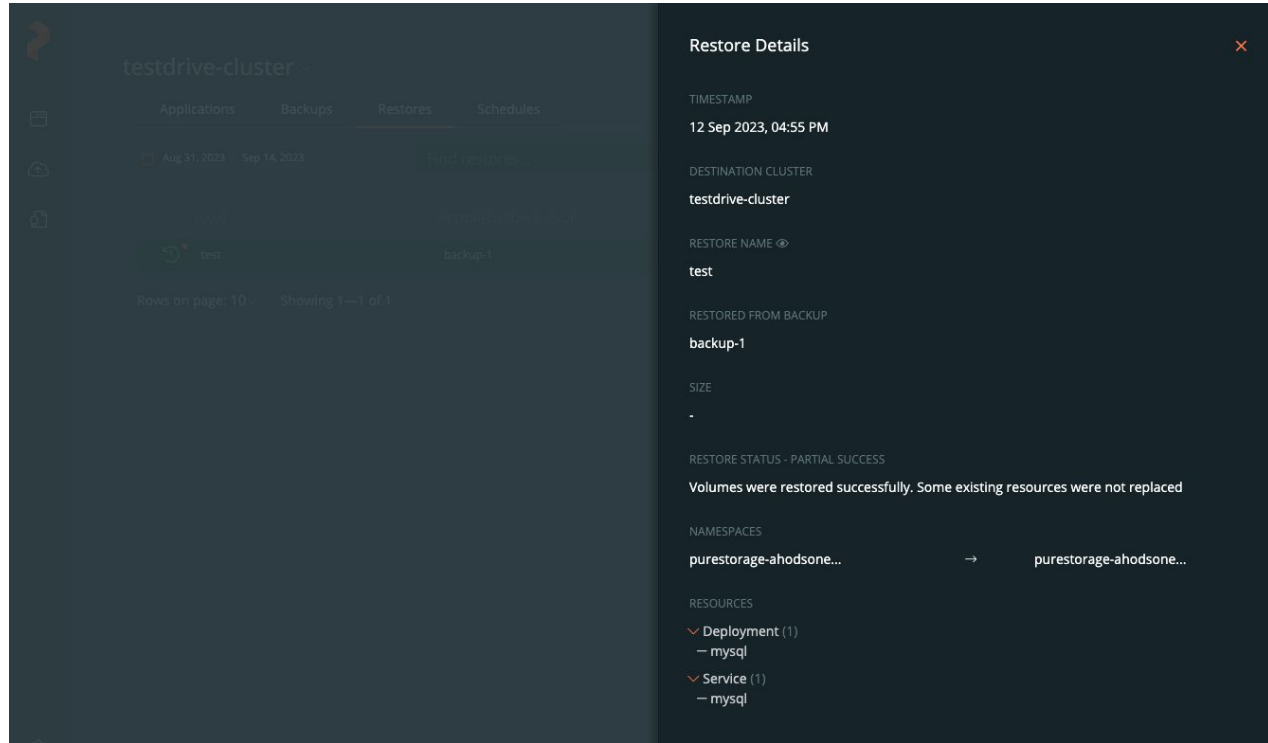
NAME	RESTORED FROM BACKUP	SIZE	VOLUMES	RESOURCES	RESTORE TIME
test	backup-1	-	0	2	12 Sep 2023, 04:58 PM

Rows on page: 10 Showing 1—1 of 1

- View Icon
- Show Details
- Duplicate
- Remove

Viewing your Restore's Details

Step 33 (You're Done)
Slides: bit.ly/px-bu-lab



The screenshot shows a Kubernetes dashboard interface for a cluster named 'testdrive-cluster'. The 'Restores' tab is active, displaying a table with one restore entry:

Timestamp	Restore Name	Restored From Backup
12 Sep 2023, 04:55 PM	test	backup-1

Below the table, it indicates 'Rows on page: 10' and 'Showing 1—1 of 1'.

The 'Restore Details' panel on the right provides the following information:

- TIMESTAMP:** 12 Sep 2023, 04:55 PM
- DESTINATION CLUSTER:** testdrive-cluster
- RESTORE NAME:** test
- RESTORED FROM BACKUP:** backup-1
- SIZE:** -
- RESTORE STATUS - PARTIAL SUCCESS:** Volumes were restored successfully. Some existing resources were not replaced.
- NAMESPACES:** purestorage-ahodsone... → purestorage-ahodsone...
- RESOURCES:**
 - Deployment (1)
 - mysql
 - Service (1)
 - mysql

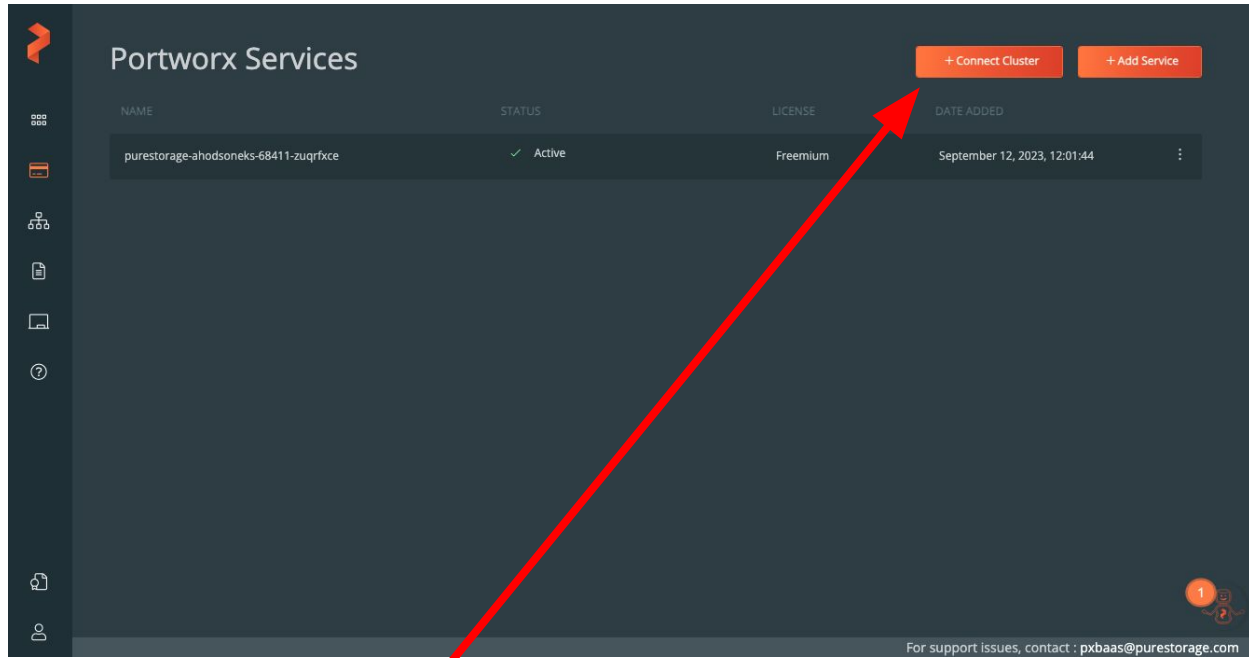


Adding a Cluster (Walk Through)

The screenshot displays the Pure Storage backup management dashboard. At the top right, there is a 'Settings' dropdown menu and a red '+ Add Cluster' button. A large red arrow points from the bottom center towards this button. Below the navigation bar, there are three summary cards: 'Protected Apps' with a value of 1, 'Protected Data' with a value of 0 B, and 'Scheduled Backups' with a value of 0. A search bar labeled 'Filter by name...' is positioned above a table. The table has columns for 'CLUSTER NAME', 'STATUS', 'PROTECTED APPS', 'PROTECTED DATA', and 'OS VERSION'. One cluster is listed: 'testdrive-cluster' with a status of 'Active', 1 protected app, 0 B of protected data, and OS version 'v1.22.17-eks-2d98532'. The footer contains support contact information: 'For support issues, contact: pxbaas@purestorage.com' and a unique identifier: 'PX-BACKUP.PURESTORAGE-AHODSONEKS-68411-ZUQRFCE'.

CLUSTER NAME	STATUS	PROTECTED APPS	PROTECTED DATA	OS VERSION
testdrive-cluster	Active	1	0 B	v1.22.17-eks-2d98532

Adding a Cluster (Walk Through)



Portworx Services

+ Connect Cluster + Add Service

NAME	STATUS	LICENSE	DATE ADDED
purestorage-ahodsoneks-68411-zuqrfxce	✓ Active	Freemium	September 12, 2023, 12:01:44

For support issues, contact : pxbaas@purestorage.com



Adding your own cluster (Walk Through)

- STORK Commands

```
qWubaH8pX1_q8h9Z7kOUisz8s2cBuzB9nkZ_0V2y1M0A1ufbI9RjBCmb_
A3UBurZ8jZfn0FGg --set
apiEndpoint=https://prod.pds.portworx.com/api --set
tags.baas=true --set prometheus.helmChartEnabled=false --
set prometheusServerEnabled=false
```

① Connected cluster will appear in the UI automatically.

If the cluster doesn't appear after few minutes, follow our [documentation guide](#) or reach out to [Portworx support](#).

① Please ensure Stork 2.4+ is running on the cluster.

Copy command to install stork for: PX Cluster Non PX Cluster

```
KBVER=$(kubectl version --short |
awk -Fv '/Server Version: /{print
$3}')
curl -fsL -o stork-spec.yaml
"https://install.portworx.com/pxback
kup?kbver=${KBVER}&comp=stork"
kubectl apply -f stork-spec.yaml
```

```
curl -fsL -o stork-spec.yaml
"https://install.portworx.com/pxback
up?comp=stork&storkNonPx=true"
kubectl apply -f stork-spec.yaml
```

Adding a Cluster

More Information

Portworx Documentation

Portworx Backup as-a-Service Documentation

Access Portworx BaaS >

Choose subscription plan >

Use Portworx BaaS ▾

Portworx Services overview

Add or delete Portworx services

Add private and cloud clusters

Portworx BaaS user roles >

Portworx BaaS security >

Release notes

[Home](#) > [Use Portworx BaaS](#) > [Add private and cloud clusters](#)

Add private and cloud clusters

Connect and add a Kubernetes cluster

This topic explains how to bring-in your private and cloud Kubernetes clusters to Portworx BaaS.

Prerequisites

- Portworx BaaS organization ADMIN privileges
- Helm versions 3.x.x. See the [Helm documentation](#) to install the latest Helm version.
- Ensure that Stork version 2.4.0 or newer is running on the cluster.

Connect a cluster

As a Portworx BaaS organization ADMIN, you can connect as many private and cloud clusters such as AKS, EKS, GKE, IBM and add them in the BaaS Clusters page. If you are a Freemium user, then you can add only one cluster.

To connect a Kubernetes cluster in Portworx BaaS:

1. In the Portworx BaaS left panel, select the **Clusters** icon.
2. In the **Clusters** page that appears, select **Connect Cluster**:

<https://docs.portworx.com/portworx-backup-saas/use-px-baas/add-clusters>



Portworx Backup: Protect Kubernetes Data Anywhere

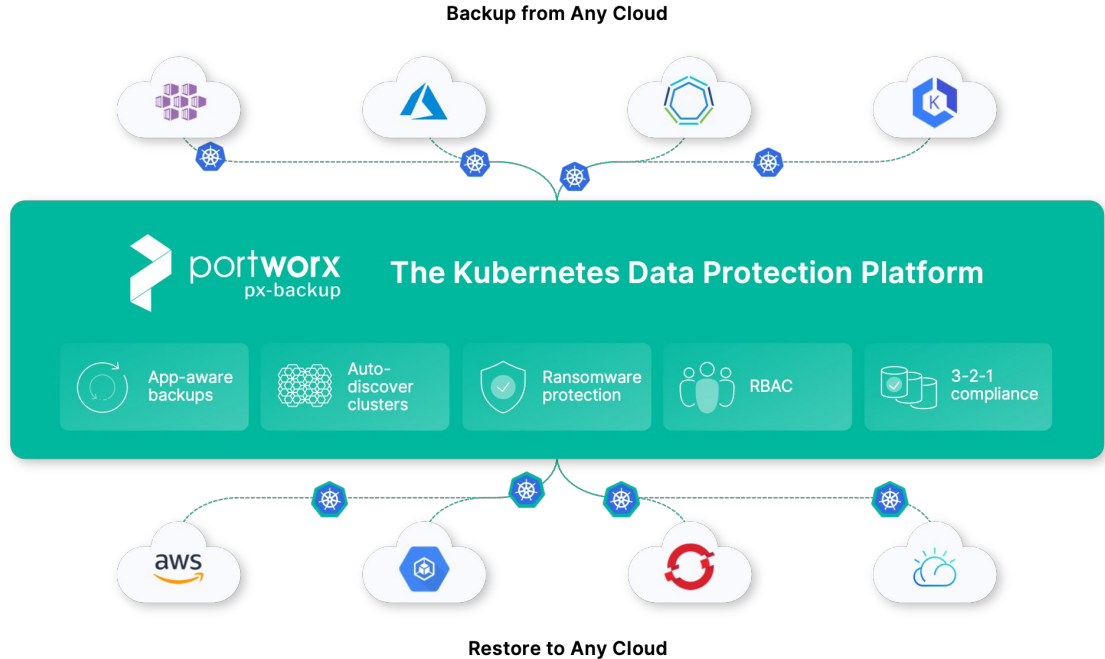
Backup and Restore Kubernetes Apps Anywhere with a Fast, Easy, and Secure platform

Why Portworx Backup?

Protect Kubernetes Apps with the EASY button for Data Protection using container granularity

- Self-service backup for app users in a few clicks
- Recover and migrate apps anywhere in minutes
- Sleep sound with safe and secure data
- Ensure business continuity

2 command install
1 TB Free K8s Backup
management, forever!



Demonstrations & Learn More

Get in touch:
ahodson@purestorage.com
linkedin.com/in/anthonyhodson

bit.ly/3ro8ebq



Portworx
Backup (7 min)

bit.ly/3JPECKE



Portworx
Zero data loss
DR (7 min)

bit.ly/3XN0Q5J



Portworx-Ent
HA and
Migration
(7 min)

bit.ly/3pvzG6S



Portworx Data
Services
DBaaS (2 min)

Portworx 101 Video (15m)

bit.ly/px-101

GigaOm Report on Kubernetes Storage

bit.ly/px-number1

Why run data into Kubernetes (CNCF)

bit.ly/px-dok