

State of workloads adoption on containers and Kubernetes



Applications are increasingly built as discrete functional parts, each of which can be delivered as a container. That means for every application, there are more parts to manage. To handle this complexity at scale, teams need a policy-driven, automated solution that dictates how and where containers will run. Kubernetes is an open source, extensible container orchestrator designed to handle these challenges.

Pulse and Red Hat surveyed 100 enterprise tech leaders from multiple industries to find out what workloads they are deploying on containers and Kubernetes, and why and how they are deploying those workloads across hybrid cloud environments, including the usage of Kubernetes Operators and Helm charts to help achieve key business goals and objectives.

Data collected from April 24 - June 3, 2021
 Respondents: 100 enterprise tech leaders using containers and Kubernetes

TECH LEADERS ARE DEPLOYING A WIDE VARIETY OF MISSION-CRITICAL WORKLOADS ON KUBERNETES

The top workloads tech leaders are deploying on Kubernetes are databases or data cache (80%), data ingestion, cleansing, and analytics (66%), and logging and monitoring (60%).

Which of the following workloads are you currently deploying on Kubernetes containers?



QUICK TIP: While Java is still the most popular enterprise application language, the demand for data, analytics and AI/ML workloads is driving significant usage patterns on Kubernetes.

77% of tech leaders are deploying or planning to deploy a fair mix of both stateless and stateful workloads on containers and Kubernetes.

What mix of stateless (e.g. NGINX for web servers) and stateful workloads (e.g. databases, data analytics, etc.) are you deploying or plan to deploy on containers and Kubernetes?

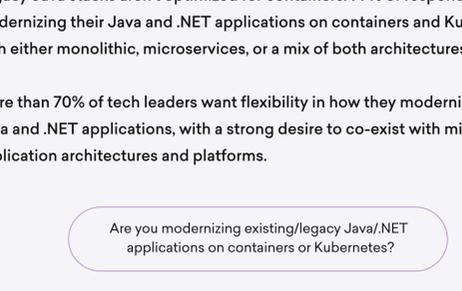


QUICK TIP: This is an area where Kubernetes Operators can make a big difference, since they have the expertise of the application and built-in automation for Day-1 & Day-2 operations.

MODERNIZE YOUR APPLICATIONS WITH CONTAINERS AND KUBERNETES

Kubernetes isn't just for cloud-native applications. Over half of respondents (51%) using Kubernetes are deploying a mix of modernized applications and new cloud-native applications.

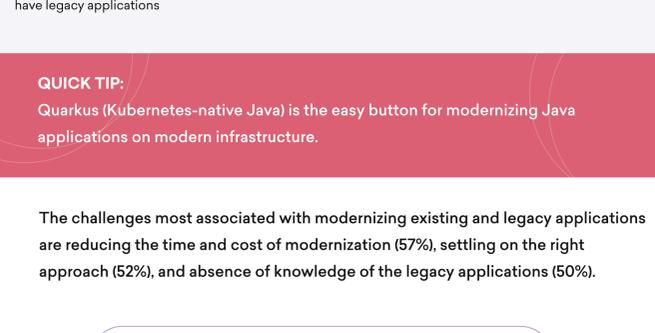
What types of applications are you deploying on containers and Kubernetes?



Legacy Java stacks aren't optimized for containers. 99% of respondents are modernizing their Java and .NET applications on containers and Kubernetes with either monolithic, microservices, or a mix of both architectures.

More than 70% of tech leaders want flexibility in how they modernize their Java and .NET applications, with a strong desire to co-exist with microservice application architectures and platforms.

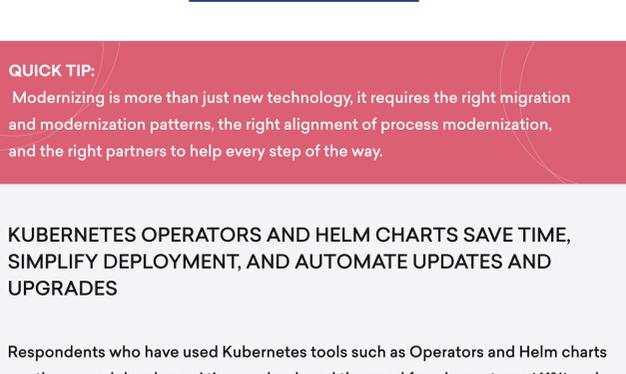
Are you modernizing existing/legacy Java/.NET applications on containers or Kubernetes?



QUICK TIP: Quarkus (Kubernetes-native Java) is the easy button for modernizing Java applications on modern infrastructure.

The challenges most associated with modernizing existing and legacy applications are reducing the time and cost of modernization (57%), settling on the right approach (52%), and absence of knowledge of the legacy applications (50%).

What challenges have you experienced, or do you foresee in the modernization of your existing/legacy applications?

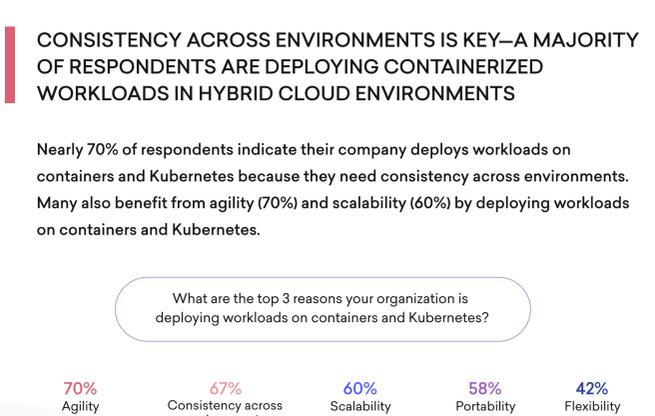


QUICK TIP: Modernizing is more than just new technology, it requires the right migration and modernization patterns, the right alignment of process modernization, and the right partners to help every step of the way.

KUBERNETES OPERATORS AND HELM CHARTS SAVE TIME, SIMPLIFY DEPLOYMENT, AND AUTOMATE UPDATES AND UPGRADES

Respondents who have used Kubernetes tools such as Operators and Helm charts say they saved developers' time and reduced the need for a larger team (61%) and automated updates and upgrades (54%).

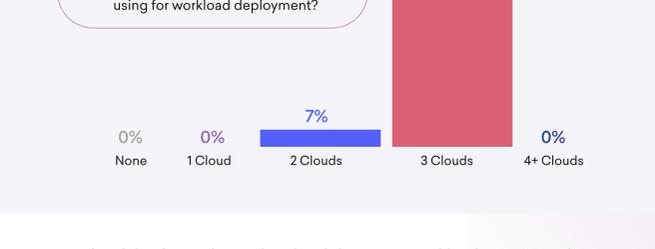
If using Kubernetes Operators and Helm charts, what benefits are you achieving?



CONSISTENCY ACROSS ENVIRONMENTS IS KEY—A MAJORITY OF RESPONDENTS ARE DEPLOYING CONTAINERIZED WORKLOADS IN HYBRID CLOUD ENVIRONMENTS

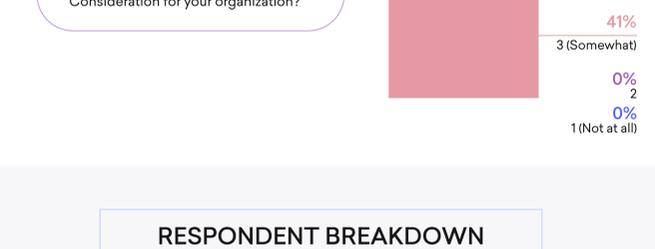
Nearly 70% of respondents indicate their company deploys workloads on containers and Kubernetes because they need consistency across environments. Many also benefit from agility (70%) and scalability (60%) by deploying workloads on containers and Kubernetes.

What are the top 3 reasons your organization is deploying workloads on containers and Kubernetes?



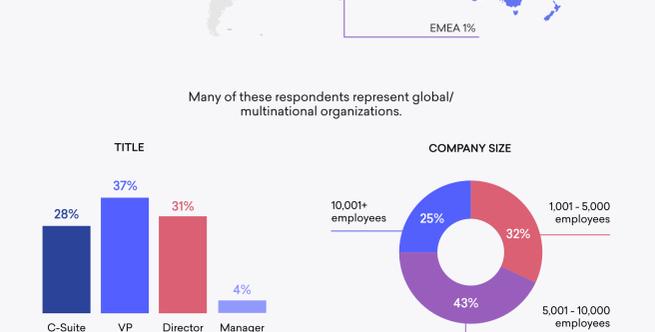
All respondents indicated they rely on multiple public clouds with 93% of tech leaders saying their organization relies on or plans to rely on three public clouds for workload deployment. The other 7% all indicate they are using two public clouds.

How many public clouds does your organization currently rely on or plan on using for workload deployment?



100% of tech leaders indicate that the ability to run workloads consistently across a hybrid environment is important for their organization, with the majority (58%) saying it is a 4 on a scale of 1-5, with 5 being significantly important.

On a scale of 1-5 (5 being high), to what extent is the ability to run these workloads consistently across the hybrid cloud (mix of on-premises and 1 or more public clouds) an important consideration for your organization?



RESPONDENT BREAKDOWN

REGION



Many of these respondents represent global/multinational organizations.

TITLE

COMPANY SIZE

INDUSTRIES

- Arts, Entertainment and Recreation
- Biotech and Scientific R&D
- Consumer Goods
- Educational Services
- Financial services
- Transportation and Warehousing
- Healthcare and Social Assistance
- Manufacturing
- Retail
- Software
- Telecommunication Services