




Helm: Your Kubernetes Package Manager

Simplifying Kubernetes Deployments

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Engineering Challenges Helm Solves

Complexity of Deployments

Managing multiple Kubernetes YAML files is error-prone.

Manual YAML Configuration

Writing and maintaining configurations manually leads to inconsistencies.

Deployment Inconsistencies

Keeping environments (dev, test, prod) aligned is difficult.

Helm Charts: Standardized Kubernetes Packages

What Are Helm Charts?

Pre-configured templates for Kubernetes resources.

Package applications with configurations and dependencies.

Benefits

Simplify deployments.

Improve reusability.

Enhance collaboration among teams.



Chart Creation and Packaging

1

Define Resources

Define Kubernetes resources (e.g., Deployments, Services) in templates.

2

Bundle Resources

Bundle resources into a reusable Helm chart.

Chart Deployment and Management

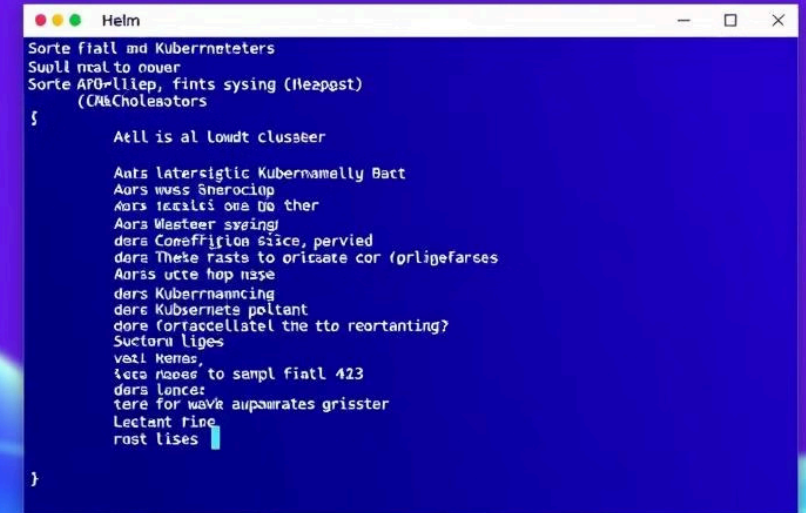
1 Deploy Applications

Deploy and manage applications using Helm CLI.

2 Key Components

values.yaml: Default configurations for the chart.

Templates: Define Kubernetes resources like Deployments and Services.



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Demo: Deploying NGINX with Helm

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Install the Chart

helm install nginx-release ./nginx-
demo



Access Application

kubectl port-forward svc/nginx-
release-nginx-demo 8080:80

Visit: <http://127.0.0.1:8080>



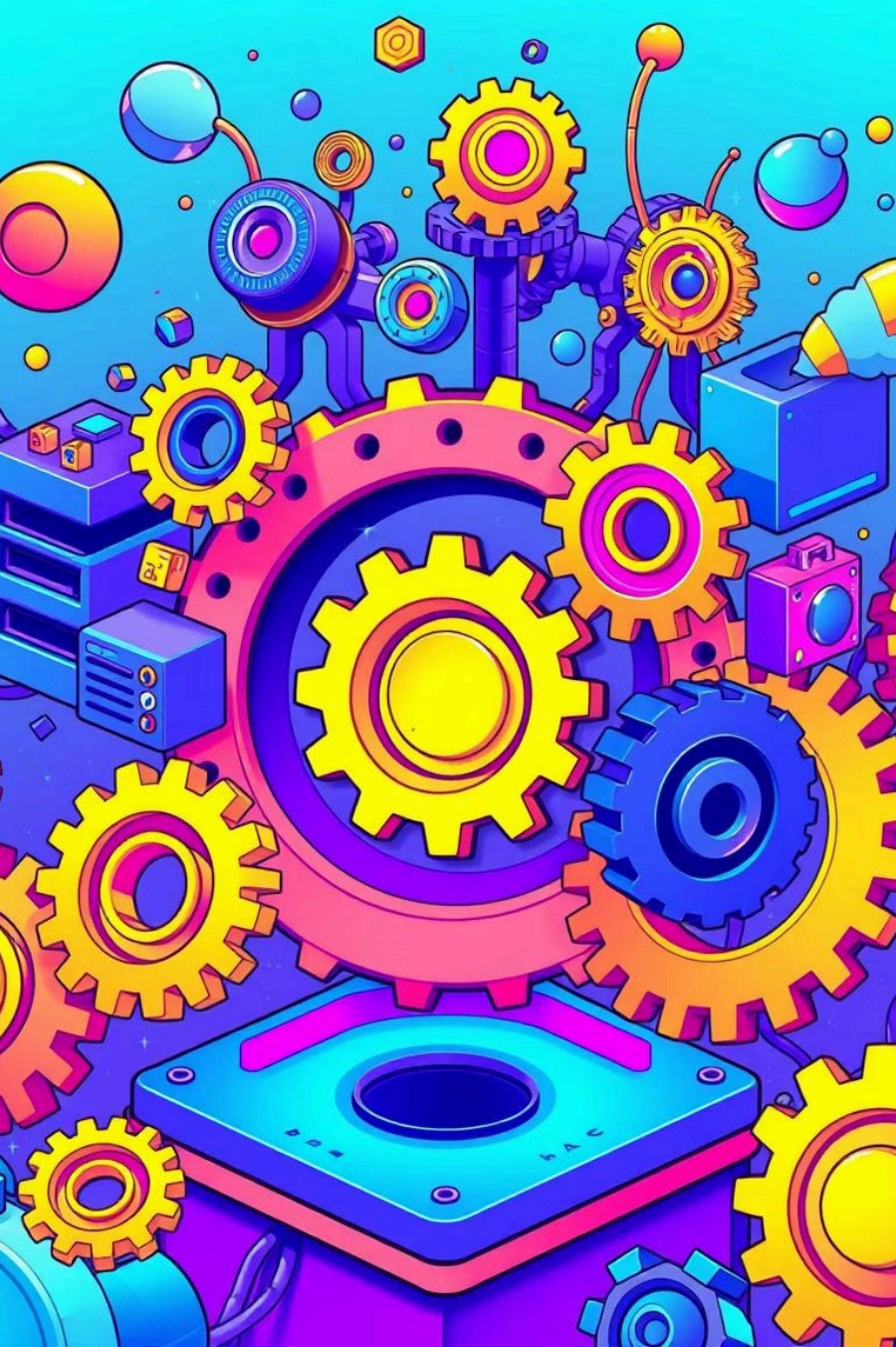
Verify Deployment

kubectl get all



Uninstall the Chart

helm uninstall nginx-release



Real World Use Cases

1

Deploying Databases

Use Helm charts for PostgreSQL or MySQL.

2

Microservices Management

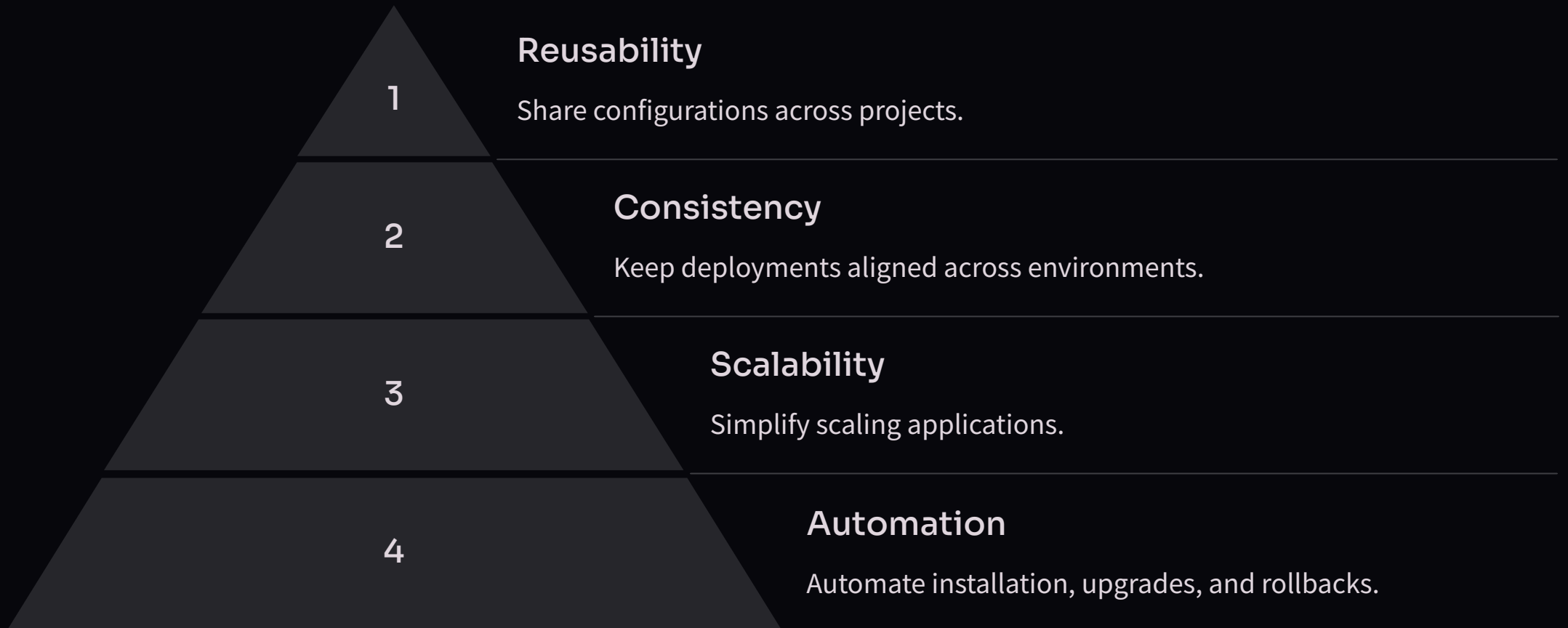
Simplify deployment and scaling of services.

3

CI/CD Tools

Deploy tools like Jenkins or ArgoCD.

Why Use Helm?



Conclusion: Simplifying Kubernetes Deployments

Key Takeaways

Helm is a package manager for Kubernetes.

It simplifies application deployment and management.

Next Steps

Explore Helm documentation and tutorials.

Start using Helm for your Kubernetes deployments.



Thank You