AWS Automation Suite - Production Ready Services

AWS Cloud Automation Deployment Guide

1. **Select an AWS Service**.
   - In X-ops, navigate to **CloudOps → AWS Automation**.
   - Click on the desired service (e.g., Virtual Private Cloud, Elastic Compute Cloud, S3).
2. **Review Prerequisites**.
   - Check the **Overview** for service description.
   - Confirm **Terraform** (>=1.0) and **AWS Provider** versions.
   - Ensure your AWS IAM role permissions allow resource creation.
3. **Configure Inputs**.
   - Open the **Inputs** section.
   - Fill in required parameters (e.g., `vpc_cidr`, `availability_zones`).
   - Accept sensible defaults for optional settings or customize as needed.
4. **Copy and Customize Terraform**.
   - Scroll to **Usage** and click **Copy Code**.
   - Paste into `main.tf` and replace placeholders with your values.
   - Update network ranges, region, and tags.
5. **Initialize and Deploy**.
   - Run `terraform init` to set up providers.
   - Run `terraform fmt` and `terraform validate`.
   - Run `terraform plan` to preview changes.
   - Run `terraform apply` to create resources.
6. **Verify Outputs**.
   - Check the **Outputs** section for IDs, IPs, and endpoints.
   - Log in to the AWS Console to confirm resources exist.
   - Test connectivity and review security settings.

Virtual Private Cloud (VPC)

Create and manage a scalable, isolated cloud network for your AWS resources.

- **What it does**: Automatically provisions secure network infrastructure with public/private subnets, NAT gateways, and routing tables.
- **Why you'll love it**: Deploy enterprise-grade networking in minutes, not hours.
- **Perfect for**: Applications requiring secure, multi-tier architecture.

Elastic Container Service (ECS)

Deploy and orchestrate containerized applications with Amazon's fully managed container service.

- **What it does**: Sets up container clusters, task definitions, and load balancing for your applications.
- **Why you'll love it**: Scale your applications seamlessly without managing servers.
- **Perfect for**: Microservices architectures and modern application deployments.

Simple Storage Service (S3)

Store and retrieve any amount of data with high durability and availability on Amazon's object storage service.

- **What it does**: Creates secure, scalable storage buckets with lifecycle policies and access controls.
- **Why you'll love it**: 99.999999999% (11 9's) of durability with intelligent cost optimization.
- **Perfect for**: Data backup, content distribution, and data lakes.

Application Load Balancer (ALB)

Distribute incoming application traffic across multiple targets for seamless load balancing and improved availability.

- **What it does**: Routes traffic intelligently across multiple availability zones with health checks.
- **Why you'll love it**: Automatic failover and SSL termination for high availability.
- **Perfect for**: Web applications requiring high performance and reliability.

Relational Database Service (RDS)

Set up, operate, and scale a relational database in the cloud with automated administration and maintenance.

- **What it does**: Deploys managed databases with automated backups, patches, and monitoring.
- **Why you'll love it**: Focus on your data, not database management.
- **Perfect for**: Applications requiring ACID compliance and complex queries.

Amazon CloudFront

Deliver content securely to global users with low latency through Amazon's content delivery network.

- **What it does**: Sets up global edge locations for fast content delivery with SSL/TLS encryption.
- **Why you'll love it**: Accelerate your website performance worldwide.
- **Perfect for**: Global applications and content distribution.

Elastic Compute Cloud (EC2)

Provision and manage virtual servers in the cloud, with scalable computing capacity on-demand.

- **What it does**: Launches configured virtual machines with auto-scaling and security groups.
- **Why you'll love it**: Pay only for what you use with instant scalability.
- **Perfect for**: Web servers, development environments, and compute-intensive applications.

Elastic Kubernetes Service (EKS)

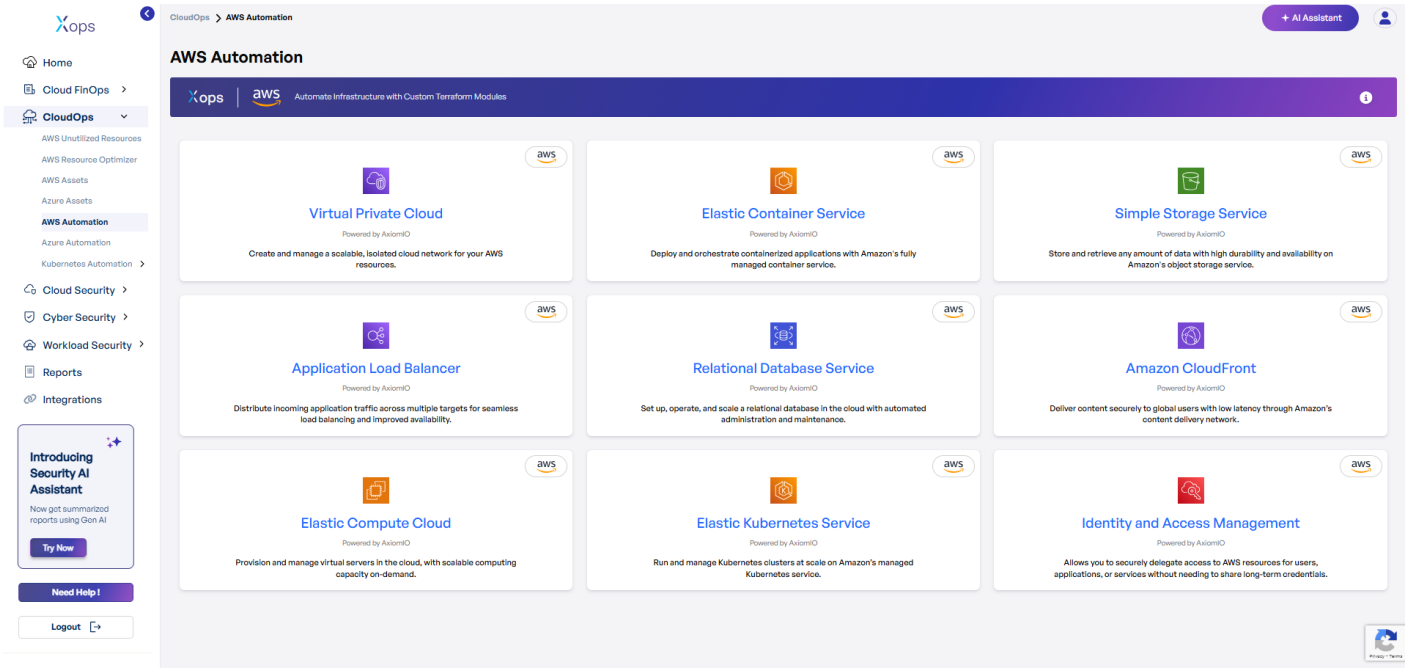
Run and manage Kubernetes clusters at scale on Amazon's managed Kubernetes service.

- **What it does**: Deploys production-ready Kubernetes clusters with worker nodes and networking.
- **Why you'll love it**: Container orchestration without the operational overhead.
- **Perfect for**: Modern applications requiring container orchestration.

Identity and Access Management (IAM)

Allows you to securely delegate access to AWS resources for users, applications, or services without needing to share long-term credentials.

- **What it does**: Creates secure access policies, roles, and permissions for your AWS resources.
- **Why you'll love it**: Zero-trust security with granular access control.
- **Perfect for**: Enterprise environments requiring strict security governance.



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