

# Resource Orchestration Service

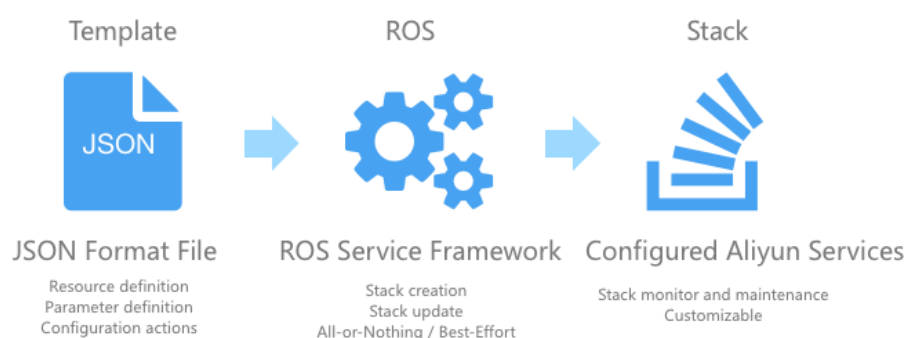
Product Introduction

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Alibaba Cloud Resource Orchestration Service (ROS) is a service that helps Alibaba Cloud users simplify the cloud computing resource management and automate O&M. You compile a resource stack template first. In the template, you define what cloud resources you need, the dependency between the resources, and the resource configurations. With the orchestration engine, ROS can automatically create and configure all resources for automatic deployment, operation, and maintenance according to your template. A orchestration template is a text file in JSON format, which you can read and edit at any time. You can compile your template in JSON directly, or you can use **Visual Editor** on the ROS console to compile the template more visually. You can control the template version with tools such as SVN or Git. You can also enable IAC (Infrastructure as Code) using API, SDK, and other methods to integrate the orchestration capabilities of ROS into your own applications.

The resource orchestration template also provides a standard delivery method for resources and applications. You can use the template to deliver integrated systems and solutions that include cloud resources and applications. Independent software vendors (ISV) can use such delivery method to easily integrate Alibaba Cloud resources with their own software systems for consistent delivery.

ROS manages cloud resources in groups. A group of resources is a resource stack. Therefore, cloud resources can be created, deleted, modified, and cloned in groups. In DevOps practices, you can easily clone the development, testing, and running environments, simplifying the overall migration and scaling of applications.



The Resource Orchestration Service (ROS) allows you to model and configure Alibaba Cloud's resources. After you create a resource stack template, which defines the expected resources (for example, ECS instances, VPC, ApsaraDB for RDS instances and others) and the relationships among the resources, ROS creates and configures these resources based on the template. ROS frees you from creating and configuring the resources one by one. ROS has the following benefits for you:

## Automate resource orchestration

With a resource stack template, which includes the information of the resources and relationships among the resources, ROS creates, deploys, and configures the resources automatically, and manages the lifecycle of the cloud resources. The standardized revision control and resource tracking simplify the resource management. With APIs and SDKs, ROS integrates the resource stack with automatic O&M capacities.

## Simplify resource management

If you want to create a scalable web application with backend databases or a cluster consisting of dozens of ECS instances, you must use the ECS, ApsaraDB for RDS, Server Load Balancer, VPC, and Auto Scaling resources provided by Alibaba Cloud. Without ROS, you must create and configure these resources one by one, and then configure the combination between resources, to make sure that the application runs smoothly. The whole process increases the complexity and time cost of using the cloud resources.

Use ROS, you can:

- Minimize the complexity and time cost for resource creation and configuration by creating or modifying a resource orchestration template. Template lists the attributes (type, configuration, and quantity) and dependencies of required resources. Then ROS parses this template, creates resources based on the dependencies and parameters, and configures the combination between resources, which guarantees that all resources operate properly in accordance with template description.
- Modify the template to modify the resources and to meet your ongoing business requirements.
- Delete all the resources with a single click.
- Perform health check for your resources with a single click.

## Fast and complete resource copy

After you have created a resource stack for a web application by ROS, you can reuse the resource orchestration template to copy the group of resources quickly. Because the template records the attributes and dependencies of all resources, related configuration is not required during the resource copy.

## Combine multiple Alibaba Cloud products and services

Using ROS, you can combine the key Alibaba Cloud products and services according to your business requirements. Currently, ROS supports: ECS, ApsaraDB for RDS, ApsaraDB for Memcache, ApsaraDB for Redis, ApsaraDB for MongoDB, Server Load Balancer, Object Storage Service, Log Service, RAM,

VPC, API Gateway and other key products and services of Alibaba Cloud.

## Create resource stack template easily and visually

To simplify the resource stack template creation, we provide some common used templates on the ROS console. You choose a template, which meet your requirements, and create your resource stack based on it with some clicks.

For you can see the structure of the resource stack to be created visually, we provide **Visual Editor** on the ROS console as the template editor. Using **Visual Editor**, you drag the resources to the canvas, drag lines to build the dependencies of resources, and enter parameters to create a template.

## Development history

- December 21, 2015: The Resource Orchestration Service (ROS) launches for public testing.
- May 20, 2016: ROS is commercially available.