

Resource Orchestration Service

Product Introduction

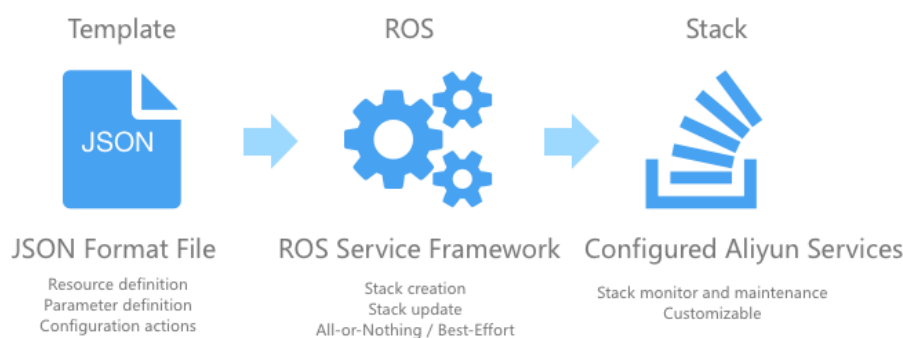
Product Introduction

Resource Orchestration overview

Alibaba Cloud Resource Orchestration Service (ROS) is a service that helps Alibaba Cloud users simplify cloud computing resource management and automate O&M. To compile a template file, you need to follow the template rules defined for ROS. The template defines the collection of cloud computing resources, the dependency between the resources, resource configuration details, and so on. Using the orchestration engine, ROS can automatically create and configure all resources for automatic deployment, operation, and maintenance. The orchestration template is a text file you can read and edit. You can control the template version with tools such as SVN or Git. This will then enable control of the infrastructure version. 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 orchestration template also provides a standard delivery for resources and applications. You can use the template to deliver integrated systems and solutions that include cloud resources and applications. ISVs can utilize such delivery capability to easily integrate Alibaba Cloud resources with their own software systems for consistent delivery.

ROS relies on logical collections such as resource stacks to centrally manage one set of cloud resources. Therefore, cloud resources can be created, deleted, cloned, and otherwise processed in resource groups. In DevOps practices, you can easily clone the development, testing, and production environments, simplifying the overall migration and scaling of applications.



Development history

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

Appendix

ALIYUN::ECS::InstanceClone

The ALIYUN::ECS::InstanceClone type can be used to clone an ECS instance.

Syntax

```
{
  "Type" : "ALIYUN::ECS::InstanceClone",
  "Properties" : {
    "SourceInstanceId" : String,
    "BackendServerWeight" : String,
    "LoadBalancerIdToAttach" : String,
    "SecurityGroupId" : String,
    "ImageId" : String,
    "InstanceName" : String,
    "Description" : String,
    "Password" : String,
    "ZoneId" : String,
    "DiskMappings" : List,
    "Tags" : String,
  }
}
```

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
SourceInstanceId	string	Yes	No	ID of the ECS instance you want to clone.	The clone operation clones the instance type, image, bandwidth billing method, bandwidth limit, and

					network type. If the source ECS instance is added to multiple security groups, the new instance is added to the first of these security groups.
BackendServerWeight	string	No	No	Weight of the ECS instance in the Server Load Balancer instance.	Value range: [0–100]; default value: 100.
LoadBalancerIdToAttach	string	No	No	ID of the Server Load Balancer instance to which the ECS instance is added.	
Description	string	No	No	Description.	The maximum length is 256 characters.
ImageId	string	No	Yes	ID of the image used to start the ECS instance. The image can be a public image, custom image, or marketplace image.	[ECS public image list] (https://ros.console.aliyun.com/#/product/cn-hangzhou/list/imageList)
SecurityGroupId	string	No	No	ID of the security group to which the created instance belongs.	

InstanceName	string	No	No	Instance name.	The data disk name can contain a maximum of 128 characters including Chinese and English characters, numbers, <code>'</code> , <code>-</code> , <code>''</code> , and <code>'-'</code> .
Password	string	No	No	ECS instance logon password.	The password is a string of eight to 30 characters and must contain uppercase/lowercase letters, numbers, and special characters including () ` ~ ! @ # \$ % ^ & * - + = { } [] : ; ' < > , . ? /. If the Password parameter is input, HTTPS must be used by API call to prevent password leakage.
DiskMappings	list	No	No	Disk you want to attach.	Up to four disks can be attached.
Tags	list	No	No	Custom tag.	Up to four tags are supported, in the format of <code>[{"Key": "tagKey", "Value": "tagValue"}, {"Key": "tagKey2", "Value": "tagValue"}]</code> .

					Value2" }].
ZoneId	string	No	No	Zone ID.	
InstanceChargeType	string	No	No	Method of payment for the ECS instance, which can be Pay-As-You-Go or prepayment .	Value options: Prepaid and Postpaid. Default value: Postpaid. If this parameter is set to Prepaid, make sure that your balance is sufficient; otherwise, instance creation fails.
Period	string	No	No	Payment cycle. This parameter must be set when InstanceChargeType is Prepaid. When InstanceChargeType is Postpaid, this parameter is ignored.	Value options: 1–9, 12, 24, and 36; unit: month.

DiskMappings syntax

```
"DiskMappings" : [
{
"Category" : String,
"DiskName" : String,
>Description" : String,
"Device" : String,
"SnapshotId" : String,
"Size" : String
}
]
```

DiskMappings attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
Size	string	Yes	No	Data disk size, in GB.	
Category	string	No	No	Data disk type.	Value options: cloud, cloud_efficiency, cloud_ssd, and ephemeral_ssdDefault.
DiskName	string	No	No	Data disk name.	The data disk name can contain a maximum of 128 characters including Chinese and English characters, numbers, ' ' ' ' ' ' and ' - ' .
Description	string	No	No	Description.	Value range: [2, 256]; default value: null.
Device	string	No	No	Device name of the data disk in the ECS instance.	Example: /dev/xvd[a-z].
SnapshotId	string	No	No	ID of the snapshot used to create the data disk.	

Tags syntax

```
"Tags" : [
{
```

```
"Value" : String,  
"Key" : String  
}  
]
```

Tags attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
Key	string	Yes	No		
Value	string	No	No		

Return values

Fn::GetAtt

InstanceId: ID of the instance, which is generated by the system and globally unique. It is a unique identifier of the instance.

PrivateIp: private IP address of a VPC type instance. This parameter is effective when **NetworkType** is VPC.

InnerIp: private IP address of a Classic type instance. This parameter is effective when **NetworkType** is Classic.

PublicIp: public IP address of a Classic type instance.

ZoneId: zone ID.

Example

```
{  
  "ROSTemplateFormatVersion" : "2015-09-01",  
  "Resources" : {  
    "WebServer": {  
      "Type": "ALIYUN::ECS::InstanceClone",  
      "Properties": {  
        "SourceInstanceId": "i-25zskuabf",  
        "SecurityGroupId": "sg-25zwc3se0",  
        "ZoneId": "cn-beijing-b",  
        "DiskMappings": [  
          {"Size": 10, "Category": "cloud"},  
          {"Size": 10, "Category": "cloud", "SnapshotId": "s-25wswg546"}  
        ]  
      }  
    }  
  }  
}
```



```
]
}
}
},
"Outputs": {
  "InstanceId": {
    "Value" : {"get_attr": ["WebServer", "InstanceId"]}
  },
  "PublicIp": {
    "Value" : {"get_attr": ["WebServer", "PublicIp"]}
  }
}
```

ALIYUNECSInstanceGroup

The ALIYUN::ECS::InstanceGroup type can be used to create a set of ECS instances.

Syntax

```
{
  "Type" : "ALIYUN::ECS::InstanceGroup",
  "Properties" : {
    "SecurityGroupId" : String,
    "ImageId" : String,
    "InstanceType" : String,
    "InstanceName" : String,
    "Description" : String,
    "HostName" : String,
    "Password" : String,
    "IoOptimized" : String,
    "ZoneId" : String,
    "InternetChargeType" : String,
    "InternetMaxBandwidthIn" : Integer,
    "InternetMaxBandwidthOut" : Integer,
    "VpcId" : String,
    "VSwitchId" : String,
    "MaxAmount" : Integer,
    "MixAmount" : Integer,
    "AllocatePublicIP" : Boolean,
    "AutoReleaseTime" : String,
    "DiskMappings" : List,
    "NetworkType" : String,
    "PrivateIpAddress" : String,
    "SystemDiskCategory" : String,
    "SystemDiskDescription" : String,
    "SystemDiskDiskName" : String,
    "SystemDiskSize" : Integer,
    "Tags" : String,
```

```
"UserData" : String
}
}
```

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
MaxAmount	string	Yes	Yes	Maximum number of ECS instances that can be created at a time.	Value range: 1–100. MaxAmount must be greater than or equal to MinAmount .
MinAmount	string	Yes	Yes	Minimum number of ECS instances that must be created at a time.	Value range: 1–100. MinAmount must be smaller than or equal to MaxAmount .
Description	string	No	No	Description.	The maximum length is 256 characters.
InstanceType	string	Yes	No	ECS instance type.	Instance generations and type families.
ImageId	string	Yes	Yes	ID of the image used to start the ECS instances. The image can be a public image, custom image, or marketplace image.	List of ECS public images.
SecurityGroupId	string	Yes	No	ID of the security group to which the	

				created instance belongs.	
InstanceName	string	No	No	Instance name.	The instance name can contain a maximum of 128 characters including Chinese and English characters, numbers, ' ' and ' '.
Password	string	No	No	ECS instance logon password.	The password The password is a string of eight to 30 characters and must contain uppercase/l owercase letters, numbers, and special characters including (), ` , ~, and !. @ # \$ % ^ & * - + = { } [] ; ' < > , . ? / . If the Password parameter is input, HTTPS must be used by API call to prevent password leakage.
HostName	string	No	No	Host name.	This parameter indicates the host name of an ECS instance. It is a string of

					at least two characters. "hostname" cannot start or end with "." or "- ". In addition, consecutive "." or "-" symbols are not allowed. In Windows, the host name can contain a maximum of 15 characters including uppercase/l ower case letters, numbers, and "- ". It cannot contain dots (.) or contain only numbers. In other OSs such as Linux, the host name can contain a maximum of 30 characters which can be separated by dots (.) into segments, and each segment can contain uppercase/l ower case letters, numbers, and " ".
AllocatePublicIP	boolean	No	No	Whether to create public IP addresses. This	The default value is "true" .

				parameter is only valid for the Classic network type. No public IP addresses are assigned if InternetMaxBandwidthOut is set to 0.	
AutoReleaseTime	string	No	No	Automatic ECS instance release time.	The time format follows the ISO8601 standard, for example, "yyyy-MM-ddTHH:mm:ssZ". The maximum release time is three years.
PrivateIpAddress	string	No	No	Internal IP address in VPC. The IP address cannot be the same as the IP addresses of other instances in VPC.	
DiskMappings	list	No	No	Data disks created for the ECS instances.	
InternetChargeType	string	No	No	Bandwidth billing method for access over the Internet; default value: PayByTraffic.	Value options: PayByBandwidth and PayByTraffic.
InternetMaxBandwidthIn	integer	No	No	Maximum Internet inbound bandwidth,	Value range: [1, 100]; default

				in Mbps.	value: 100.
InternetMaxBandwidthOut	integer	No	No	Maximum Internet outbound bandwidth, in Mbps.	Value range in PayByBandwidth mode: [0, 200]; default value: 0. Value range in PayByTraffic mode: [1, 200]. This parameter must be specified in PayByTraffic mode.
IoOptimized	string	No	No	Whether to create an I/O optimized instance.	Value options: none (non-I/O optimized) and optimized (I/O optimized); default value: none.
DiskMappings	list	No	No	Disk you want to attach.	Up to four disks can be attached.
SystemDiskCategory	string	No	No	System disk type.	Value options: cloud, cloud_efficiency, cloud_ssd, and ephemeral_ssd.
SystemDiskDescription	string	No	No	System disk description.	
SystemDiskDiskName	string	No	No	System disk name.	
SystemDiskSize	string	No	No	System disk size.	Value range: 40–500 GB. If a custom image is used to create a

					system disk, make sure that the system disk size is greater than the image size.
Tags	list	No	No	Custom tag.	Up to four tags are supported, in the format of [{ "Key" : "tagKey" , "Value" : "tagValue" }, { "Key" : "tagKey2" , "Value" : "tagValue2" }].
UserData	string	No	No	User data that is input during ECS instance creation.	The user data size cannot exceed 16 KB.
ZoneId	string	No	No	Zone ID.	
VpcId	string	No	No	VPC ID.	
VSwitchId	string	No	No	VSwitch ID.	
Networktype	string	No	No	Network type of the ECS instances.	Value options: VPC and Classic.

DiskMappings syntax

```

"DiskMappings" : [
{
  "Category" : String,
  "DiskName" : String,
  "Description" : String,
  "Device" : String,
  "SnapshotId" : String,
  "Size" : String
}
]

```

DiskMappings attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
Size	string	Yes	No	Data disk size, in GB.	
Category	string	No	No	Data disk type.	Value options: cloud, cloud_efficiency, cloud_ssd, and ephemeral_ssdDefault.
DiskName	string	No	No	Data disk name.	The data disk name can contain a maximum of 128 characters including Chinese and English characters, numbers, ' ' ' ' ' ' and ' - ' .
Description	string	No	No	Description.	Value range: [2, 256]; default value: null.
Device	string	No	No	Device name of the data disk in the ECS instance.	Example: /dev/xvd[a-z].
SnapshotId	string	No	No	ID of the snapshot used to create the data disk.	

Tags syntax

```
"Tags" : [
{
```



```
"Value" : String,  
"Key" : String  
}  
]
```

Tags attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
Key	string	Yes	No		
Value	string	No	No		

Return values

Fn::GetAtt

InstanceIds: IDs of the instances, which are generated by the system and globally unique. It is a unique identifier of the instance.

PrivateIps: list of the private IP addresses of VPC type instances. This parameter is effective when **NetworkType** is VPC. It is a JSON array of ["172.16.1.1" , "172.16.2.1" , ... "172.16.10.1"]. It can contain a maximum of 100 IP addresses, which are separated by commas.

InnerIps: list of the private IP addresses of Classic type instances. This parameter is effective when **NetworkType** is Classic. It is a JSON array of ["10.1.1.1" , "10.1.2.1" , ... "10.1.10.1"]. It can contain a maximum of 100 IP addresses, which are separated by commas.

PublicIps: list of the public IP addresses of Classic type instances. This parameter is effective when **NetworkType** is Classic. It is a JSON array of ["42.1.1.1" , "42.1.2.1" , ... "42.1.10.1"]. It can contain a maximum of 100 IP addresses, which are separated by commas.

ZoneId: zone ID.

Example

```
{
```

```

"ROSTemplateFormatVersion" : "2015-09-01",
"Resources" : {
  "WebServer": {
    "Type": "ALIYUN::ECS::InstanceGroup",
    "Properties": {
      "ImageId" : "m-25l0rcfjo",
      "InstanceType": "ecs.t1.small",
      "SecurityGroupId": "sg-25zwc3se0",
      "ZoneId": "cn-beijing-b",
      "MaxAmount" : 1,
      "MinAmount" : 1,
      "Tags": [{
        "Key": "tiantt",
        "Value": "ros"
      }],
      "Key": "tiantt1",
      "Value": "ros1"
    }
  }
}
},
"Outputs": {
  "InstanceIds": {
    "Value" : {"get_attr": ["WebServer","InstanceIds"]}
  },
  "PublicIps": {
    "Value" : {"get_attr": ["WebServer","PublicIps"]}
  }
}
}

```

ALIYUNECSInstanceGroupClone

The ALIYUN::ECS::InstanceGroupClone type can be used to generate a set of ECS instances by cloning.

Syntax

```

{
  "Type": "ALIYUN::ECS::InstanceGroupClone",
  "Properties": {
    "SourceInstanceId" : String,
    "MaxAmount" : Integer,
    "MinAmount" : Integer,
    "BackendServerWeight" : Integer,
    "LoadBalancerIdToAttach": String,
    "SecurityGroupId" : String,
    "ImageId" : String,
    "InstanceName" : String,

```

```

"Description" : String,
"Password" : String,
"ZoneId" : String,
"InternetMaxBandwidthOut" : Integer,
"AutoReleaseTime" : String,
"DiskMappings" : List,
"Tags" : String
}
}

```

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
SourceInstanceId	string	Yes	No	ID of the ECS instance you want to clone.	The clone operation clones the instance type, image, bandwidth billing method, bandwidth limit, and network type. If the source ECS instance is added to multiple security groups, the new instance is added to the first of these security groups.
MaxAmount	string	Yes	Yes	Maximum number of ECS instances that can be created.	Value range: [1–100]. MaxAmount must be greater than or equal to MinAmount.
MinAmount	string	Yes	Yes	Minimum number of ECS instances that must be created.	Value range: [1–100]. MinAmount must be smaller than

					or equal to MaxAmount .
BackendServerWeight	string	No	No	Weight of the ECS instance in the Server Load Balancer instance.	Value range: [0–100]; default value: 100.
LoadBalancerIdToAttach	string	No	No	ID of the Server Load Balancer instance to which the ECS instance is added.	
Description	string	No	No	Description	The maximum length is 256 characters.
ImageId	string	No	Yes	ID of the image used to start the ECS instance. The image can be a public image, custom image, or marketplace image.	[ECS public image list] (https://ros.console.aliyun.com/#/product/cn-hangzhou/list/imageList) .
InternetMaxBandwidthOut	integer	No	No	Maximum Internet outbound bandwidth, in Mbps.	Value range in PayByBandwidth mode: [0, 200]; default value: 0. Value range in PayByTraffic mode: [1, 200]. This parameter must be specified in PayByTraffic mode.

SecurityGroupId	string	No	No	ID of the security group to which the created instance belongs.	
InstanceName	string	No	No	Instance name.	The data disk name can contain a maximum of 128 characters including Chinese and English characters, numbers, <code>'</code> , <code>''</code> , and <code>-</code> .
Password	string	No	No	ECS instance logon password.	The password The password is a string of eight to 30 characters and must contain uppercase/l ower case letters, numbers, and special characters including (), <code>`</code> , <code>~</code> , and <code>!</code> . <code>@</code> <code>#</code> <code>\$</code> <code>%</code> <code>^</code> <code>&</code> <code>*</code> <code>-</code> <code>+</code> <code>=</code> <code> </code> <code>{</code> <code>}</code> <code>[]</code> <code>:</code> <code>;</code> <code>'</code> <code><</code> <code>></code> <code>,</code> <code>.</code> <code>?</code> <code>/</code> . If the Password parameter is input, HTTPS must be used by API call to prevent password leakage.
DiskMappings	list	No	No	Disk you want to attach.	Up to four disks can be attached.
Tags	list	No	No	Custom tag.	Up to four

					tags are supported, in the format of [{"Key": "tagKey", "Value": "tagValue"}, {"Key": "tagKey2", "Value": "tagValue2"}].
ZoneId	string	No	No	Zone ID.	

DiskMappings syntax

```
"DiskMappings" : [
{
"Category" : String,
"DiskName" : String,
"Description" : String,
"Device" : String,
"SnapshotId" : String,
"Size" : String
}
]
```

DiskMappings syntax

```
"DiskMappings" : [
{
"Category" : String,
"DiskName" : String,
"Description" : String,
"Device" : String,
"SnapshotId" : String,
"Size" : String
}
]
```

DiskMappings attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
Size	string	Yes	No	Data disk size, in GB.	
Category	string	No	No	Data disk type.	Value options:

					cloud, cloud_efficiency, cloud_ssd, and ephemeral_ssdDefault.
DiskName	string	No	No	Data disk name.	The data disk name can contain a maximum of 128 characters including Chinese and English characters, numbers, ' ' ' ' and ' - ' .
Description	string	No	No	Description.	Value range: [2, 256]; default value: null.
Device	string	No	No	Device name of the data disk in the ECS instance.	Example: /dev/xvd[a-z].
SnapshotId	string	No	No	ID of the snapshot used to create the data disk.	

Tags syntax

```
"Tags" : [
{
"Value" : String,
"Key" : String
}
]
```

Tags attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
Key	string	Yes	No		

Value	string	No	No		
-------	--------	----	----	--	--

Return values

Fn::GetAtt

InstanceIds: IDs of the instances, which are generated by the system and globally unique. It is a unique identifier of the instance.

PrivateIps: list of the private IP addresses of VPC type instances. This parameter is effective when **NetworkType** is VPC. It is a JSON array of ["172.16.1.1" , "172.16.2.1" , ... "172.16.10.1"]. It can contain a maximum of 100 IP addresses, which are separated by commas.

InnerIps: list of the private IP addresses of Classic type instances. This parameter is effective when **NetworkType** is Classic. It is a JSON array of ["10.1.1.1" , "10.1.2.1" , ... "10.1.10.1"]. It can contain a maximum of 100 IP addresses, which are separated by commas.

PublicIps: list of the public IP addresses of Classic type instances. This parameter is effective when **NetworkType** is Classic. It is a JSON array of ["42.1.1.1" , "42.1.2.1" , ... "42.1.10.1"]. It can contain a maximum of 100 IP addresses, which are separated by commas.

ZoneId: zone ID.

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "WebServer": {
      "Type": "ALIYUN::ECS::InstanceGroupClone",
      "Properties": {
        "SourceInstanceId": "i-25zskuabf",
        "ImageId" : "m-25l0rcfjo",
        "SecurityGroupId": "sg-25zwc3se0",
        "ZoneId": "cn-beijing-b",
        "MaxAmount" : 1,
        "MinAmount" : 1
      }
    }
  }
}
```



```
},
"Outputs": {
  "InstanceIds": {
    "Value" : {"get_attr": ["WebServer", "InstanceIds"]}
  },
  "PublicIps": {
    "Value" : {"get_attr": ["WebServer", "PublicIps"]}
  }
}
}
```

The ALIYUN::CS::App type can be used to create an ALIYUN::CS::Cluster application.

Syntax

```
{
  "Type" : "ALIYUN::CS::App",
  "Properties" : {
    "Name" : String,
    "Ca" : String,
    "ClusterId" : String,
    "Environment" : Map,
    "Cert" : String,
    "Version" : String,
    "MasterUrl" : String,
    "Key" : String,
    "Template" : String,
    "Description" : String
  }
}
```

Attributes

Attribute name	Type	Required?	Description	Constraint
Name	string	Yes	Application name	
ClusterId	string	Yes	Cluster ID	
MasterUrl	string	Yes	Master URL of the cluster	
Ca	string	No	CA certificate of the cluster	
Environment	map	No	Environment variable	
Cert	string	No	Client certificate of the cluster	

Version	string	No	Application version	
Key	string	No	Primary key of the cluster at the client end	
Template	string	No	Template used to deploy the Docker application	
Description	string	No	Application description	The description is a string of two to 256 characters. The default value is null.

Return values

Fn::GetAtt

- Endpoints: domain used to access the application

Example

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "App": {
      "Properties": {
        "Ca": {
          "Fn::GetAtt": [
            "MyCluster",
            "Ca"
          ]
        },
        "Cert": {
          "Fn::GetAtt": [
            "MyCluster",
            "Cert"
          ]
        },
        "ClusterId": {
          "Fn::GetAtt": [
            "MyCluster",
            "ClusterId"
          ]
        },
        "Key": {
          "Fn::GetAtt": [
            "MyCluster",
```

```

"Key"
]
},
"MasterUrl": {
"Fn::GetAtt": [
"MyCluster",
"MasterUrl"
]
},
"Name": "nginx",
"Template": {"Fn::Join": ["\\n", [
"mysql:",
" environment:",
" - MYSQL_MAJOR=5.6",
" - MYSQL_ROOT_PASSWORD=password",
" expose:",
" - 3306/tcp",
" image: 'registry.aliyuncs.com/acs-sample/mysql:5.6'",
" labels:",
" aliyun.routing.port_3306: nnn:http://nn.abc.com",
" aliyun.scale: '3'",
" restart: always",
" volumes:",
" - /var/lib/mysql"
]]}
},
"Type": "ALIYUN::CS::App"
},
"MyCluster": {
"Properties": {
"InstanceType": "ecs.s1.small",
"Name": "mysqlcluster",
"Password": "Test1234",
"Size": 3
},
"Type": "ALIYUN::CS::Cluster"
}
},
"Outputs": {
"Endpoints": {
"Description": "Endpoints of the app.",
"Value": {
"Fn::GetAtt": [
"App",
"Endpoints"
]
}
}
}
}
}

```

The ALIYUN::CS::Cluster type can be used to create an Alibaba Cloud Docker cluster.

Syntax

```
{
  "Type" : "ALIYUN::CS::Cluster",
  "Properties" : {
    "VpcId" : String,
    "Name" : String,
    "ImageId" : String,
    "VSwitchId" : String,
    "SubnetCidr" : String,
    "Password" : String,
    "InstanceType" : String,
    "ZoneId" : String,
    "Size" : Integer
  }
}
```

Attributes

Attribute name	Type	Required?	Description	Constraint
Name	string	Yes	Name of the Docker cluster	The cluster name is a string of one to 64 characters including numbers, Chinese and English characters, and "-".
InstanceType	string	Yes	ECS type used to create the Docker cluster	
Size	integer	Yes	Number of ECS instances used by the cluster	
VpcId	string	No	VPC ID	
ImageId	string	No	Image ID used by the ECS instances	
VSwitchId	string	No	ID of the VSwitch in VPC	
SubnetCidr	string	No	Subnet address of the Docker container	The allowed subnet segment ranges from 172.17.0.0/24 to 172.31.0.0/24.

				Make sure that the subnet segment is different from VPC.
Password	string	No	ECS instance logon password	The password is a string of eight to 30 characters and must contain numbers and uppercase/lowercase letters. It cannot contain special symbols.
ZoneId	string	No	Zone ID	

Return values

Fn::GetAtt

- MasterUrl: master URL of the cluster-Ca: CA certificate
- ClusterId: cluster ID-Cert: client certificate
- Key: client primary key

Example

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "MyCluster": {
      "Properties": {
        "InstanceType": "ecs.s1.small",
        "Name": "stormcluster",
        "Password": "Test1234",
        "Size": "1"
      },
      "Type": "ALIYUN::CS::Cluster"
    }
  },
  "Outputs": {
    "CaCert": {
      "Description": "CA cert of the cluster.",
      "Value": {
        "Fn::GetAtt": [
          "MyCluster",
          "Ca"
        ]
      }
    }
  }
}
```

```
{
  "ClientCert": {
    "Description": "Client cert of the cluster.",
    "Value": {
      "Fn::GetAtt": [
        "MyCluster",
        "Cert"
      ]
    }
  },
  "ClientKey": {
    "Description": "Client key of the cluster.",
    "Value": {
      "Fn::GetAtt": [
        "MyCluster",
        "Key"
      ]
    }
  },
  "ClusterId": {
    "Description": "Id of the cluster.",
    "Value": {
      "Fn::GetAtt": [
        "MyCluster",
        "ClusterId"
      ]
    }
  },
  "Endpoints": {
    "Description": "Endpoints of the app.",
    "Value": {
      "Fn::GetAtt": [
        "App",
        "Endpoints"
      ]
    }
  },
  "MasterUrl": {
    "Description": "Master url of the cluster.",
    "Value": {
      "Fn::GetAtt": [
        "MyCluster",
        "MasterUrl"
      ]
    }
  }
}
```

The ALIYUN::ECS::BandwidthPackage type can be used to create a bandwidth package for the NAT gateway.

Syntax

```
{
  "Type" : "ALIYUN::ECS::BandwidthPackage",
  "Properties" : {
    "Description" : String,
    "NatGatewayId" : String,
    "ZoneId" : String,
    "BandwidthPackageName" : String,
    "Bandwidth" : Integer,
    "IpCount" : Integer
  }
}
```

Attributes

Attribute name	Type	Required?	Description	Constraint
NatGatewayId	string	Yes	ID of the NAT gateway to which the created bandwidth package will be bound	
Bandwidth	integer	Yes	Bandwidth size	Value range: [5–5,000], in Mbps; default value: 5 Mbps
IpCount	integer	Yes	Number of assigned public IP addresses	Value range: [1–5]
Description	string	No	Bandwidth package description	The description is a string of two to 256 characters. The default value is null.
ZoneId	string	No	Zone in the region where the NAT gateway is located	
BandwidthPackageName	string	No	Name of the bandwidth package	The instance name is a string of two to 128 characters including letters, numbers, Chinese

				characters, <code>'</code> , <code>'</code> , and <code>'</code> . It must start with a letter or Chinese character.
--	--	--	--	--

Return values

Fn::GetAtt

- BandwidthPackageId: ID of the bandwidth package
- BandwidthPackageIps: all IP addresses included in the bandwidth package

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "BandwidthPackage": {
      "Type": "ALIYUN::ECS::BandwidthPackage",
      "Properties": {
        "BandwidthPackageName": "pkg_2",
        "Description": "my_bandwidth",
        "NatGatewayId": "ngw-h1xoxepyf",
        "IpCount": 2,
        "Bandwidth": 5,
        "ZoneId": "cn-beijing-c"
      }
    }
  },
  "Outputs": {
    "BandwidthPackageId": {
      "Value" : {"Fn::GetAttr": ["BandwidthPackage", "BandwidthPackageId"]}
    },
    "BandwidthPackageIps": {
      "Value" : {"Fn::GetAttr": ["BandwidthPackage", "BandwidthPackageIps"]}
    }
  }
}
```

The ALIYUN::ECS::ForwardEntry type can be used to configure the port forwarding table of the NAT gateway.

Syntax


```
{
  "Type" : "ALIYUN::ECS::ForwardEntry",
  "Properties" : {
    "ExternalIp" : String,
    "ExternalPort" : String,
    "ForwardTableId" : String,
    "InternalIp" : String,
    "IpProtocol" : String,
    "InternalPort" : String,
  }
}
```

Attributes

Attribute name	Type	Required?	Description	Constraint
ExternalIp	string	Yes	Source IP address in the port forwarding rule. It must be an IP address included in the shared bandwidth package of the NAT gateway to which the port forwarding table belongs.	
ExternalPort	string	Yes	Source port;	Value range: 1–65,535 Any
ForwardTableId	string	Yes	ID of the port forwarding table	
InternalIp	string	Yes	Destination IP address in the port forwarding rule, which is a private IP address	
IpProtocol	string	Yes	Protocol type	Value options: TCP, UDP, and Any
InternalPort	string	Yes	Target port	Value range: 1–65,535 Any

Return values

Fn::GetAtt

- ForwardEntryId: entry IDs in the port forwarding table

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "ForwardEntry": {
      "Type": "ALIYUN::ECS::ForwardEntry",
      "Properties": {
        "ForwardTableId": "my_forwardtable",
        "ExternalIp": "101.201.34.148",
        "ExternalPort": "8080",
        "IpProtocol": "TCP",
        "InternalIp": "10.2.21.8",
        "InternalPort": "80"
      }
    }
  },
  "Outputs": {
    "ForwardEntryId": {
      "Value" : {"Fn::GetAttr": ["ForwardEntry", "ForwardEntryId"]}
    }
  }
}
```

The ALIYUN::ECS::JoinSecurityGroup type can be used to add one or more ECS instances to the specified security group.

Syntax

```
{
  "Type" : "ALIYUN::ECS::JoinSecurityGroup",
  "Properties" : {
    "InstanceId" : String,
    "InstanceIdList" : List,
    "SecurityGroupId" : String
  }
}
```

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
SecurityGroupId	string	Yes	No	Security group ID	
InstanceId	string	No	No	ID of the ECS	

				instance you want to add to the security group	
InstanceIdList	list	No	Yes	IDs of the ECS instances you want to add to the security group	

Return values

Fn::GetAtt

None

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "SG": {
      "Type": "ALIYUN::ECS::JoinSecurityGroup",
      "Properties": {
        "SecurityGroupId": "sg-25zwc3se0",
        "InstanceIdList": ["i-25zskuabf", "i-25jvzsvr5"]
      }
    }
  }
}
```

The ALIYUN::ECS::NatGateway type can be used to create a NAT gateway in VPC.

Syntax

```
{
  "Type" : "ALIYUN::ECS::NatGateway",
  "Properties" : {
    "VpcId" : String,
    "Description" : String,
    "NatGatewayName" : String,
    "VSwitchId" : String,
    "BandwidthPackage" : List,
```

```
"Spec" : String
}
}
```

Attributes

Attribute name	Type	Required?	Description	Constraint
VpcId	string	Yes	ID of the VPC in which you want to create a NAT gateway	
VSwitchId	string	Yes	VSwitch ID associated with the VPC ID	
BandwidthPackage	list	Yes	Bandwidth package created for the NAT gateway	Up to four bandwidth packages can be created.
Description	string	No	NAT gateway description	The description is a string of two to 256 characters. The default value is null.
NatGatewayName	string	No	Name of the NAT gateway	The instance name is a string of two to 128 characters including letters, numbers, Chinese characters, '-', '.', and '_'. It must start with a letter or Chinese character.
Spec	string	No	NAT gateway specifications	Value options: Small, Middle, and Large

BandwidthPackage syntax

```
"BandwidthPackage" : [
{
"Bandwidth" : Integer,
"ZoneId" : String,
```

```
"IpCount" : Integer
}
]
```

BandwidthPackage attributes

Attribute name	Type	Required?	Description	Constraint
Bandwidth	integer	No	Bandwidth size	Value range: [5–5,000], in Mbps; default value: 5 Mbps
ZoneId	string	No	Zone in the region where the NAT gateway is located	
IpCount	integer	No	Number of assigned public IP addresses	Value range: [1–5]

Return values

Fn::GetAtt

- ForwardTableId: ID of the port forwarding table-SNatTableId SNat: ID of the SNAT table
- NatGatewayId: unique ID of the NAT gateway
- BandwidthPackageIds: IDs of all bandwidth packages
- BandwidthPackageIps: IP addresses included in all bandwidth packages

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "NatGateway": {
      "Type": "ALIYUN::ECS::NatGateway",
      "Properties": {
        "NatGatewayName": "nat_gateway_1",
        "Description": "my nat gateway",
        "VpcId": "vpc-25o8sqkwb",
        "VSwitchId": "vsw-25rc1y5t9",
        "Spec": "Small",
        "BandwidthPackage" : [
          {
            "IpCount": 1,
            "Bandwidth" : 5,
            "ZoneId": "cn-beijing-c"
          }
        ]
      }
    }
  }
}
```

```
{
  "IpCount": 1,
  "Bandwidth" : 5,
  "ZoneId": "cn-beijing-c"
},
{
  "IpCount": 1,
  "Bandwidth" : 5,
  "ZoneId": "cn-beijing-c"
},
{
  "IpCount": 1,
  "Bandwidth" : 5,
  "ZoneId": "cn-beijing-c"
},
{
  "IpCount": 1,
  "Bandwidth" : 5,
  "ZoneId": "cn-beijing-c"
}
]
}
}
},
"Outputs": {
  "NatGatewayId": {
    "Value" : {"Fn::GetAttr": ["NatGateway", "NatGatewayId"]}
  },
  "BandwidthPackageIds": {
    "Value" : {"Fn::GetAttr": ["NatGateway", "BandwidthPackageIds"]}
  },
  "ForwardTableId": {
    "Value" : {"Fn::GetAttr": ["NatGateway", "ForwardTableId"]}
  },
  "SNatTableId": {
    "Value" : {"Fn::GetAttr": ["NatGateway", "SNatTableId"]}
  }
}
}
```

The ALIYUN::ECS::SNatEntry type can be used to configure the SNAT table of the NAT gateway.

Syntax

```
{
  "Type" : "ALIYUN::ECS::SNatEntry",
  "Properties" : {
    "SNatTableId" : String,
    "SNatIp" : String,
    "SourceVSwitchId" : String
  }
}
```

Attributes

Attribute name	Type	Required?	Description	Constraint
SNatTableId	string	Yes	ID of the SNAT table	
SNatIp	string	Yes	Public IP address used by SNAT	The public IP address must be an IP address included in the bandwidth package of the NAT gateway. It cannot exist both in the port forwarding table and the SNAT table.
SourceVSwitchId	string	Yes	ID of the VSwitch whose ECS instances can access the Internet over the SNAT function of the NAT gateway	

Return values

Fn::GetAtt

- SNatEntryId: entry IDs in the SNAT table

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "SNatEntry": {
      "Type": "ALIYUN::ECS::SNatEntry",
      "Properties": {
        "SNatTableId": "stb-3er41e05p",
        "SourceVSwitchId": "vsw-25rc1y5t9",
        "SNatIp": "101.201.34.162"
      }
    }
  },
  "Outputs": {
    "SNatEntryId": {
```

```
"Value" : {"Fn::GetAttr": ["SNatEntry", "SNatEntryId"]}
}
}
```

The ALIYUN::MarketPlace::Image type can be used to buy a marketplace image.

Syntax

```
{
  "Type" : "ALIYUN::MarketPlace::Image",
  "Properties" : {
    "Duration" : Integer,
    "Quantity" : Integer,
    "PricingCycle" : String,
    "ChargeType" : String,
    "ImageId" : String
  }
}
```

Attributes

Attribute name	Type	Required?	Description	Constraint
ImageId	string	Yes	Marketplace image ID	
PricingCycle	string	No	Unit of the payment cycle	This parameter is ignored if ChargeType is Postpaid. If ChargeType is Prepaid, this parameter can be set to Month or Year.
ChargeType	string	No	Method of payment	Value options: Prepaid and Postpaid; default value: Prepaid
Duration	number	No	Payment duration	The default value is 1. This parameter is used with PricingCycle. Marketplace resources support the following payment cycles: one month,

				one quarter, half a year, one year, and two years. If PricingCycle is not specified, the resource is bought only once. Value options: 1, 2, 3, 6, 12, and 24
Quantity	number	No	Resource purchase quantity. The default value is 1.	

Return values

Fn::GetAtt

- OrderId: ID of the marketplace image purchase order

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "ImageOrder": {
      "Type": "ALIYUN::MarketPlace::Image",
      "Properties": {
        "ImageId": "m-25xovkjg5",
        "Duration": "1",
        "PricingCycle": "Month",
        "Quantity": 2,
        "ChargeType": "Prepaid"
      }
    }
  }
}
```

The ALIYUN::MarketPlace::ImageSubscription type is used to subscribe to a marketplace image.

Syntax

```
{
  "Type" : "ALIYUN::MarketPlace::ImageSubscription",
```

```
"Properties" : {  
  "ImageId" : String  
}
```

Attributes

Attribute name	Type	Required?	Description	Constraint
ImageId	string	Yes	Marketplace image ID	Before you use a marketplace image to create a Pay-As-You-Go ECS instance, subscribe to the image.

Return values

Fn::GetAtt

- ImageId: ID of the marketplace image

Example

```
{  
  "ROSTemplateFormatVersion" : "2015-09-01",  
  "Resources" : {  
    "ImageSubscription": {  
      "Type": "ALIYUN::MarketPlace::ImageSubscription",  
      "Properties": {  
        "ImageId": "m-25xovkjg5"  
      }  
    }  
  }  
}
```

The ALIYUN::MarketPlace::Order type can be used to buy a marketplace resource.

Syntax

```
{  
  "Type" : "ALIYUN::MarketPlace::Order",  
  "Properties" : {  
    "ProductCode" : String,  
    "SkuCode" : String,
```

```

"PricingCycle" : String,
"Preference" : Map,
"ChargeType" : String,
"Duration" : Integer,
"Quantity" : Integer
}
}

```

Attributes

Attribute name	Type	Required?	Description	Constraint
ProductCode	string	Yes	Product code of the marketplace resource	
SkuCode	string	Yes	SKU code of the marketplace resource	
PricingCycle	string	No	Unit of the payment cycle	This parameter is ignored if ChargeType is Postpaid. If ChargeType is Prepaid, this parameter can be set to Month or Year.
Preference	map	No	Custom parameters	
ChargeType	string	No	Method of payment	Value options: Prepaid and Postpaid; default value: Prepaid
Duration	number	No	Payment duration	The default value is 1. This parameter is used with PricingCycle. Marketplace resources support the following payment cycles: one month, one quarter, half a year, one year, and two years. If PricingCycle is not specified,

				the resource is bought only once. Value options: 1, 2, 3, 6, 12, and 24
Quantity	number	No	Resource purchase quantity. The default value is 1.	

Return values

Fn::GetAtt

- OrderId: ID of the marketplace resource purchase order

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "MarketOrder": {
      "Type": "ALIYUN::MarketPlace::Order",
      "Properties": {
        "ProductCode": "cmapi011900",
        "SkuCode": "postpay",
        "Duration": "1",
        "PricingCycle": "Year",
        "Quantity": 1,
        "ChargeType": "Prepaid",
        "Preference": {"my_email": "1111@aliyun.com"}
      }
    }
  },
  "Outputs" : {
    "OderId": {
      "Value": {
        "Fn::GetAtt": [
          "MarketOrder",
          "OrderId"
        ]
      }
    }
  }
}
```

The ALIYUN::MEMCACHE::Instance type can be used to create an ApsaraDB for Memcache instance.

Syntax

```
{
  "Type" : "ALIYUN::MEMCACHE::Instance",
  "Properties" : {
    "VpcId" : String,
    "Capacity" : Integer,
    "PrivateIpAddr" : String,
    "ZoneId" : String,
    "SecurityIPArray" : String,
    "VSwitchId" : String,
    "NetworkType" : String,
    "Password" : String,
    "InstanceName" : String
  }
}
```

Attributes

Attribute name	Type	Required?	Description	Constraint
Capacity	integer	Yes	Storage space	Value range: 128 MB to 512 GB. Value options: 128 MB, 256 MB, 512 MB, 1,024 MB, 2,048 MB, 51,200 MB. The unit is MB.
Password	string	Yes	Password	The password is a string of eight to 30 characters and must contain numbers and uppercase/low ercase letters.
VpcId	string	No	VPC ID	
PrivateIpAddr	string	No	Private IP address in VPC	The private IP address must belong to the CIDR block specified by VpcId and VSwitchId.
ZoneId	string	No	Zone ID	
SecurityIPArray	string	No	White list of the IP addresses allowed to	The IP addresses are separated by commas and

			access the instance	cannot be repeated. The list can contain a maximum of 1,000 IP addresses. Supported formats include %, 0.0.0.0/0, 10.23.12.24 (IP), and 10.23.12.24/24. (CIDR mode; classless inter-domain routing. /24 indicates the length of the prefix of an IP address. The range of the prefix length is [1, 32].) 0.0.0.0/0 indicates that no access restriction is applied. By default, no access restriction is applied.
VSwitchId	string	No	VSwitch ID associated with the VPC ID	
NetworkType	string	No	Network type	Value options: VPC and Classic
InstanceName	string	No	Instance name	Length: 128 characters

Return values

Fn::GetAtt

- InstanceStatus: status of the created instance
- InstanceId: ID of the created instance
- ConnectionDomain: domain used to connect to the instance
- QPS: peak QPS of the instance
- InstanceName: name of the instance
- PrivateIpAddress: IP address of the instance in VPC (Classic networks do not have private IP addresses.)

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "OcsInstance": {
      "Type": "ALIYUN::MEMCACHE::Instance",
      "Properties": {
        "Password": "YU76sdfsfdUY",
        "Capacity": 1024,
        "VpcId": "vpc-25o8sqkwb",
        "VSwitchId": "vsw-25rc1y5t9",
        "ZoneId": "cn-beijing-c"
      }
    }
  },
  "Outputs": {
    "ConnectionDomain": {
      "Description": " Intranet connection string",
      "Value": {
        "Fn::GetAtt": [
          "OcsInstance",
          "ConnectionDomain"
        ]
      }
    },
    "PrivateIpAddress": {
      "Description": " Internal IP address",
      "Value": {
        "Fn::GetAtt": [
          "OcsInstance",
          "PrivateIpAddress"
        ]
      }
    }
  }
}
```

The ALIYUN::MONGODB::Instance type can be used to create an ApsaraDB for MongoDB instance.

Syntax

```
{
  "Type" : "ALIYUN::MONGODB::Instance",
  "Properties" : {
    "SrcDBInstanceId" : String,
    "DBInstanceStorage" : Integer,
    "DBInstanceDescription" : String,
    "SecurityIPArray" : String,
```

```

"ZoneId" : String,
"VpcId" : String,
"VSwitchId" : String,
"BackupId" : String,
"NetworkType" : String,
"DBInstanceClass" : String,
"AccountPassword" : String
}
}

```

Attributes

Attribute name	Type	Required?	Description	Constraint
DBInstanceStorage	integer	Yes	Size of the database instance	Value range: [5, 1000], at 5-GB increments; unit: GB
DBInstanceClass	string	Yes	Database instance type	Value options: dds.mongo.mid, dds.mongo.standard, dds.mongo.large, dds.mongo.xlarge, dds.mongo.2xlarge, and dds.mongo.4xlarge
SrcDBInstanceId	string	No	Backup instance used to create a new instance	
DBInstanceDescription	string	No	Instance description	
SecurityIPArray	string	No	List of all IP addresses allowed to access the instance	The IP addresses are separated by commas and cannot be repeated. The list can contain a maximum of 1,000 IP addresses. Supported formats include %, 0.0.0.0/0, 10.23.12.24 (IP), and 10.23.12.24/24. (CIDR mode;

				classless inter-domain routing. /24 indicates the length of the prefix of an IP address. The range of the prefix length is [1, 32].) 0.0.0.0/0 indicates that no access restriction is applied. By default, no access restriction is applied.
ZoneId	string	No	Zone ID	The zone in VPC must be the same as the zone associated with VSwitchId.
VpcId	string	No	VPC ID	
VSwitchId	string	No	VSwitch ID associated with the VPC ID	
BackupId	string	No	Backup set ID	
NetworkType	string	No	Network type	Value options: VPC and Classic
AccountPassword	string	No	Password of user root	The password is a string of six to 32 characters and must contain numbers and ' _ ' .

Return values

Fn::GetAtt

- OrderId: ID of the order for creating an ApsaraDB for MongoDB instance
- DBInstanceId: ID of the ApsaraDB for MongoDB instance, which is globally unique
- DBInstanceStatus: status of the ApsaraDB for MongoDB instance

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "MongoDB": {
      "Type": "ALIYUN::MONGODB::Instance",
      "Properties": {
        "DBInstanceClass": "dds.mongo.mid",
        "DBInstanceStorage": "10",
        "VpcId": "vpc-25o8sqkwb",
        "VSwitchId": "vsw-25w8qld3m"
      }
    }
  },
  "Outputs": {
    "DBInstanceStatus": {
      "Description": "Status of mongodb instance.",
      "Value": {
        "Fn::GetAtt": [
          "MongoDB",
          "DBInstanceStatus"
        ]
      }
    },
    "InstanceId": {
      "Description": "The instance id of created mongodb instance.",
      "Value": {
        "Fn::GetAtt": [
          "MongoDB",
          "DBInstanceId"
        ]
      }
    }
  }
}
```

ALIYUNOSSBucket

The ALIYUN::OSS::Bucket type can be used to create an OSS bucket.

Syntax

```
{
  "Type" : "ALIYUN::OSS::Bucket",
  "Properties" : {
    "BucketName" : String,
```

```

"AccessControl" : String,
"CORSConfiguration" : Map,
"LifecycleConfiguration" : Map,
"LoggingConfiguration" : Map,
"RefererConfiguration" : Map,
"WebsiteConfiguration" : Map
}
}

```

Attributes

Attribute name	Type	Required?	Description	Constraint
BucketName	string	Yes	Bucket name.	The bucket name is a string of three to 63 characters and can contain only lowercase letters, numbers, and "_". It must start and end with a lowercase letter or number.
AccessControl	string	No	Access permission.	Value options: private, public-read, and public-read-write.
CORSConfiguration.	map	No	Cross-origin access configuration.	
LifecycleConfiguration.	map	No	File lifecycle configuration.	
LoggingConfiguration	map	No	Log storage configuration.	
RefererConfiguration	map	No	Anti-leech configuration.	
WebsiteConfiguration	map	No	Static hosting page configuration.	

CORSConfiguration syntax

```

"CORSConfiguration": {
  "CORSRule": [

```

```
{
  "AllowedHeader" : String,
  "AllowedMethod" : List,
  "AllowedOrigin" : List,
  "ExposeHeader" : List,
  "MaxAgeSeconds" : Integre
}
]
```

CORSConfiguration attributes

Attribute name	Type	Required?	Description	Constraint
CORSRule	list	No	Multiple cross-origin access rules.	
AllowedHeader	string	No	Cross-origin access request header.	Value options: *, Cache-Control, Content-Language, Content-Type, Expires, Last-Modified, and Pragma.
AllowedMethod	list	No	Cross-origin access request method.	*, GET, PUT, POST, DELETE, HEAD.
AllowedOrigin	list	No	Cross-origin access request source.	
ExposeHeader	list	No	Response header that users are allowed to access from an application (for example, a JavaScript XMLHttpRequest object).	
MaxAgeSeconds	integre	No	Cache time for the returned results of browser prefetch (OPTIONS) requests to a specific resource.	

LifecycleConfiguration syntax

```
"LifecycleConfiguration": {
  "Rule": [
    {
      "ID": String,
      "Prefix" : String,
      "Status" : String,
      "Expiration" : {
        "Days" : Integre,
        "CreatedBeforeDate" : String
      },
      "AbortMultipartUpload" : {
        "CreatedBeforeDate": String,
        "Days" : String
      }
    }
  ]
}
```

LifecycleConfiguration attributes

Attribute name	Type	Required?	Description	Constraint
Rule	list	No	Lifecycle rule.	
ID	string	No	Unique rule ID.	The ID can contain a maximum of 255 bytes. When this parameter is unspecified or null, OSS generates a unique rule ID.
Prefix	string	No	Prefix applicable to the lifecycle rule.	The rule takes effect only for the objects that match the prefix. Overlapping prefixes are not allowed.
Status	string	No	Whether to enable or disable the lifecycle rule.	Value options: Enable and Disable.
Expiration	map	No	Object rule expiration attribute.	
Days	string	No	Number of	When the

			days after which the rule takes effect following the last object modification time.	number of days from the last modification time of the object exceeds the specified number of days, the rule is executed to delete the object. For example, if it is set to 30 days, the objects whose last modification date is January 1, 2016 are scanned and deleted by the backend program on January 31, 2016.
CreatedBefore Date	string	No	Date before which the rule takes effect.	The date must follow the ISO8601 format and always be UTC 00:00 AM, for example, 2002-10-11T00:00:00.00 OZ.
AbortMultipart Upload	map	No	Expiration time.	

LoggingConfiguration syntax

```
"LoggingConfiguration": {
  "TargetBucket": String,
  "TargetPrefix": String
}
```

LoggingConfiguration attributes

Attribute name	Type	Required?	Description	Constraint
TargetBucket	string	No	Bucket that stores access logs.	
TargetPrefix	string	No	Prefix of the name of the	

			finally saved access log file.	
--	--	--	--------------------------------	--

WebsiteConfiguration syntax

```
"WebsiteConfiguration":{
  "IndexDocument": String,
  "ErrorDocument": String
}
```

WebsiteConfiguration attributes

Attribute name	Type	Required?	Description	Constraint
IndexDocument	string	No	Static homepage of hosting.	
ErrorDocument	string	No	Static error page of hosting.	

RefererConfiguration syntax

```
"RefererConfiguration":{
  "AllowEmptyReferer": String,
  "RefererList": List
}
```

RefererConfiguration attributes

Attribute name	Type	Required?	Description	Constraint
AllowEmptyReferer	string	No	Whether to allow access requests with the null referer field.	
RefererList	list	No	White list of allowed referers.	

Return values

Fn::GetAtt

Name: bucket name, which is globally unique.

DomainName: domain used by bucket access.

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "Bucket": {
      "Type": "ALIYUN::OSS::Bucket",
      "Properties": {
        "AccessControl": "private",
        "BucketName": "roctest",
        "WebsiteConfiguration":{
          "IndexDocument": "index1.html",
          "ErrorDocument": "error404.html"
        },
        "LoggingConfiguration": {
          "TargetBucket": "cos-mirror",
          "TargetPrefix": "test404"
        },
        "CORSConfiguration": {
          "CORSRule": [{
            "AllowedHeader": ["*"],
            "AllowedMethod": ["GET", "PUT"],
            "AllowedOrigin": ["*"],
            "ExposeHeader": ["Date"],
            "MaxAgeSeconds": 3600
          }]
        },
        "LifecycleConfiguration": {
          "Rule": [{
            "ID": "deleteRule",
            "Prefix": "test/",
            "Status": "Enabled",
            "Expiration":{
              "Days": 2
            }
          }],
          "AbortMultipartUpload":{
            "CreatedBeforeDate": "2014-10-11T00:00:00.000Z"
          }
        },
        "RefererConfiguration": {
          "AllowEmptyReferer": true,
          "RefererList": ["http://www.aliyun.com", "https://www?.aliyuncs.com"]
        }
      },
      "Outputs": {
```



```
"Name": {
  "Value" : {"Fn::GetAtt": ["Bucket","Name"]}
},
"DomainName": {
  "Value" : {"Fn::GetAtt": ["Bucket","DomainName"]}
}
}
```

The ALIYUN::RAM::AccessKey type can be used to obtain the access key ID and access key secret of the specified user as well as the status of the access key.

Syntax

```
{
  "Type" : "ALIYUN::RAM::AccessKey ",
  "Properties" : {
    "UserName" : String
  }
}
```

Attributes

Attribute name	Type	Required?	Description	Constraint
UserName	string	Yes	User name	

Return values

Fn::GetAtt

AccessKeyId Access Key ID

AccessKeySecret Access Key Secret

Status: status of the access key, which is disabled or enabled

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
```

```
"RamAK": {
  "Type": "ALIYUN::RAM::AccessKey",
  "Properties": {
    "UserName": "createdByRos"
  }
},
"Outputs": {
  "AccessKeyId": {
    "Value" : {"Fn::GetAtt": ["RamAK", "AccessKeyId"]}
  },
  "AccessKeySecret": {
    "Value" : {"Fn::GetAtt": ["RamAK", "AccessKeySecret"]}
  }
}
```

The ALIYUN::RAM::Group type can be used to create a RAM user group.

Syntax

```
{
  "Type" : "ALIYUN::RAM::Group",
  "Properties" : {
    "GroupName" : String,
    "Comments" : String,
    "Policies" : List
  }
}
```

Attributes

Attribute name	Type	Required?	Description	Constraint
GroupName	string	Yes	Group name	The group name is a string of one to 64 characters including English letters, numbers, and "-".
Comments	string	No	Group remarks	The remarks can contain a maximum of 128 characters.
Policies	list	No	Group policy	

Policies syntax

```
"Policies" : [
{
  "PolicyName" : String,
  "PolicyDocument" : {
    "Version": String,
    "Statement" : [
      {
        "Effect" : String,
        "Action" : List,
        "Resource" : List
      }
    ]
  }
}
]
```

Policies attributes

Attribute name	Type	Required?	Description	Constraint
PolicyName	string	Yes	Policy name	The policy name can contain a maximum of 128 Chinese or other characters.
PolicyDocument	map	No	Policy details	
Version	string	No	Policy version	
Statement	list	No	Policy rules	
Action	list	No	Policy-specific operation	
Resource	list	No	Resource to which the policy is applied	
Effect	string	No	Whether the operation defined by the Action parameter can be performed on the resource defined by the Resource parameter	

Return values

Fn::GetAtt

- GroupName: group name

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "RamGroup": {
      "Type": "ALIYUN::RAM::Group",
      "Properties": {
        "GroupName": "RosTestGroup",
        "Comments": "createdByRos",
        "Policies" : [
          {
            "PolicyName" : "RosPolicy",
            "PolicyDocument" : {
              "Version": "1",
              "Statement" : [
                {
                  "Effect" : "Allow",
                  "Action" : [ "oss:*" ],
                  "Resource" : ["acs:oss:*:*:*"]
                }
              ]
            }
          }
        ]
      },
      "Outputs": {
        "GroupName": {
          "Value" : {"Fn::GetAtt": ["RamGroup", "GroupName"]}
        }
      }
    }
  }
}
```

The ALIYUN::RAM::ManagedPolicy type can be used to create a RAM management policy.

Syntax

```
{
  "Type" : "ALIYUN::RAM::ManagedPolicy",
  "Properties" : {
    "PolicyName" : String,
    "Description": String,
```

```
"PolicyDocument" : Map,
"Users" : List,
"Groups" : List,
"Roles" : List
}
}
```

Attributes

Attribute name	Type	Required?	Description	Constraint
PolicyName	string	Yes	Policy name	The policy name can contain a maximum of 128 characters.
Description	string	No	Policy description	The description can contain a maximum of 1,024 characters.
PolicyDocument	map	Yes	Policy details	
Users	list	No	Users to which the policy is applied	
Groups	list	No	Groups to which the policy is applied	
Roles	list	No	Roles to which the policy is applied	

PolicyDocument syntax

```
"PolicyDocument" : {
  "Version": String,
  "Statement" : [
    {
      "Effect" : String,
      "Action" : List,
      "Resource" : List
    }
  ]
}
```

PolicyDocument attributes

Attribute name	Type	Required?	Description	Constraint
----------------	------	-----------	-------------	------------

Version	string	No	Policy version	
Statement	list	No	Policy rules	
Action	list	No	Policy-specific operation	
Resource	list	No	Resource to which the policy is applied	
Effect	string	No	Whether the operation defined by the Action parameter can be performed on the resource defined by the Resource parameter	

Return values

Fn::GetAtt

- PolicyName: policy name

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "RamPolicy": {
      "Type": "ALIYUN::RAM::ManagedPolicy",
      "Properties": {
        "PolicyName": "RosTest",
        "Description": "createdByRos",
        "PolicyDocument" : {
          "Version": "1",
          "Statement" : [
            {
              "Effect" : "Allow",
              "Action" : [ "oss:*" ],
              "Resource" : ["acs:oss:*:*:*"]
            }
          ]
        },
        "Roles": ["RosRole"],
        "Groups": ["RosGroup"],
        "Users": ["RosUser"]
      }
    }
  }
}
```

```

}
},
"Outputs": {
  "PolicyName": {
    "Value": {
      "Fn::GetAtt": ["RamPolicy", "PolicyName"]
    }
  }
}
}
}
}
}

```

The ALIYUN::RAM::Role type can be used to create a RAM role.

Syntax

```

{
  "Type" : "ALIYUN::RAM::Role",
  "Properties" : {
    "RoleName" : String,
    "Description": String,
    "AssumeRolePolicyDocument" : Map,
    "Policies " : List
  }
}

```

Attributes

Attribute name	Type	Required?	Description	Constraint
RoleName	string	Yes	Role name	The role name can contain a maximum of 64 characters.
Description	string	No	Role description	The description can contain a maximum of 1,024 characters.
AssumeRolePolicyDocument	map	Yes	Identity that can assume this role	
Policies	list	No	Policy applied to the role	

AssumeRolePolicyDocument syntax

```
"AssumeRolePolicyDocument" : {
  "Version": String,
  "Statement" : [
  {
    "Effect" : String,
    "Action" : List,
    "Principal" : {
    "Service": List
    }
  }
  ]
}
```

AssumeRolePolicyDocument attributes

Attribute name	Type	Required?	Description	Constraint
Version	string	No	Policy version	
Statement	list	No	Policy rules	
Action	list	No	Policy-specific operation	
Principal	map	No	Service to which the policy is applied	
Effect	string	No	Whether the operation defined by the Action parameter can be performed on the service defined by the Principal parameter	
Service	list	No	Specific service	

Policies syntax

```
"Policies" : [
{
  "PolicyName" : String,
  "PolicyDocument" : {
    "Version": String,
    "Statement" : [
    {
      "Effect" : String,
      "Action" : List,
      "Resource" : List
    }
  ]
}
]
```



```

]
}
}
]

```

Policies attributes

Attribute name	Type	Required?	Description	Constraint
PolicyName	string	Yes	Policy name	The policy name can contain a maximum of 128 Chinese or other characters.
PolicyDocument	map	No	Policy details	
Version	string	No	Policy version	
Statement	list	No	Policy rules	
Action	list	No	Policy-specific operation	
Resource	list	No	Resource to which the policy is applied	
Effect	string	No	Whether the operation defined by the Action parameter can be performed on the resource defined by the Resource parameter	

Return values

Fn::GetAtt

- RoleId: role ID
- RoleName: role name
- Arn: resource descriptor of the role

Example

```

{

```

```

"ROSTemplateFormatVersion" : "2015-09-01",
"Resources" : {
  "RamRole": {
    "Type": "ALIYUN::RAM::Role",
    "Properties": {
      "RoleName": "RosRole",
      "Description": "createdByRos",
      "AssumeRolePolicyDocument": {
        "Statement" : [
          {
            "Action": "sts:AssumeRole",
            "Effect": "Allow",
            "Principal":{
              "Service":["actiontrail.aliyuncs.com"]
            }
          }
        ],
        "Version": "1"
      },
      "Policies" : [
        {
          "PolicyName" : "RosRolePolicy",
          "PolicyDocument" :
            {
              "Version": "1",
              "Statement" : [
                {
                  "Effect" : "Allow",
                  "Action" : [ "oss:*" ],
                  "Resource" : [ "acs:oss:*:*:*" ]
                }
              ]
            }
        }
      ],
      "Outputs": {
        "RoleName": {
          "Value": {
            "Fn::GetAtt": ["RamRole","RoleName"]
          }
        },
        "Arn": {
          "Value": {
            "Fn::GetAtt": ["RamRole","Arn"]
          }
        }
      }
    }
  }
}

```

The ALIYUN::RAM::User type can be used to create a RAM user.

Syntax

```
{
  "Type" : "ALIYUN::RAM::Role",
  "Properties" : {
    "UserName" : String,
    "DisplayName": String,
    "LoginProfile" : Map,
    "Groups" : List,
    "MobilePhone" : String,
    "Policies " : List
  }
}
```

Attributes

Attribute name	Type	Required?	Description	Constraint
UserName	string	Yes	User name	The role name can contain a maximum of 64 characters.
DisplayName	string	No	Displayed name of the user	The name can contain a maximum of 12 Chinese or other characters.
LoginProfile	map	No	User logon configuration	
Groups	list	No	Group to which the user is added	
MobilePhone	string	No	Mobile number of the user	
Policies	list	No	Policy applied to the user	

LoginProfile syntax

```
"LoginProfile" : {
  "MFABindRequired": Boolean,
  "Password" : String,
  "PasswordResetRequired" : Boolean
}
```

LoginProfile attributes

Attribute name	Type	Required?	Description	Constraint
----------------	------	-----------	-------------	------------

MFABindRequired	boolean	No	Whether the user must bind an MFA device upon next logon	
Password	string	No	Logon password	The logon password is a string of eight to 32 characters and must comply with the password strength requirements.
PasswordResetRequired	boolean	No	Whether the user needs to change the password upon logon	

Policies syntax

```
"Policies" : [
{
  "PolicyName" : String,
  "PolicyDocument" : {
    "Version": String,
    "Statement" : [
    {
      "Effect" : String,
      "Action" : List,
      "Resource" : List
    }
  ]
}
]
```

Policies attributes

Attribute name	Type	Required?	Description	Constraint
PolicyName	string	Yes	Policy name	The policy name can contain a maximum of 128 Chinese or other characters.
PolicyDocument	map	No	Policy details	

Version	string	No	Policy version	
Statement	list	No	Policy rules	
Action	list	No	Policy-specific operation	
Resource	list	No	Resource to which the policy is applied	
Effect	string	No	Whether the operation defined by the Action parameter can be performed on the resource defined by the Resource parameter	

Return values

Fn::GetAtt

- UserName: RAM user name
- UserId: RAM user ID
- CreateDate: RAM user creation time
- LastLoginDate: last logon time of the RAM user

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "RamUser": {
      "Type": "ALIYUN::RAM::User",
      "Properties": {
        "UserName": "RosUser",
        "DisplayName": "createdByRos",
        "MobilePhone": "13800998833",
        "LoginProfile": {
          "Password": "RosUser1234",
          "PasswordResetRequired": false,
          "MFABindRequired": true
        },
      },
    },
    "Policies" : [
      {
        "PolicyName" : "RosUserPolicy",
        "PolicyDocument" : {
```

```

"Version": "1",
"Statement" : [
{
"Effect" : "Allow",
"Action" : [ "oss:*" ],
"Resource" : ["acs:oss:*:*:*"]
}
]
},
},
],
"Groups": ["RosGroup"]
}
}
},
"Outputs": {
"UserName": {
"Value": {
"Fn::GetAtt": ["RamUser", "UserName"]
}
},
"UserId": {
"Value": {
"Fn::GetAtt": ["RamUser", "UserId"]
}
}
}
}
}
}

```

The ALIYUN::RAM::UserToGroupAddition type can be used to add RAM users to a RAM group.

Syntax

```

{
  "Type" : "ALIYUN::RAM::UserToGroupAddition",
  "Properties" : {
    "GroupName" : String,
    "Users" : List
  }
}

```

Attributes

Attribute name	Type	Required?	Description	Constraint
GroupName	string	Yes	Group name	The group name is a string of one to 64 characters including English letters, numbers, and

				" - ".
Users	list	No	User name	

Return values

None

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "RamUserToGroup": {
      "Type": "ALIYUN::RAM::UserToGroupAddition",
      "Properties": {
        "GroupName": "hope",
        "Users": ["hope"]
      }
    }
  },
  "Outputs": {
    "GroupName": {
      "Value" : {"Fn::GetAtt": ["RamGroup", "GroupName"]}
    }
  }
}
```

The ALIYUN::ROS::WaitCondition type can be used to create an instance for processing UserData messages.

Syntax

```
{
  "Type" : "ALIYUN::ROS::WaitCondition",
  "Properties" : {
    "Count" : Integre,
    "Handle" : String,
    "Timeout" : Integre
  }
}
```

Attributes

Attribute name	Type	Required?	Description	Constraint
Handle	string	Yes	Referenced	

			ALIYUN::ROS::WaitConditionHandle instance	
Timeout	number	Yes	Timeout time for UserData message reception	Value range: [1, 43200]; unit: seconds
Count	number	No	Total number of messages to be received	

Return values

Fn::GetAtt

- Data: received message content

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "WaitCondition": {
      "Type": "ALIYUN::ROS::WaitCondition",
      "Properties": {
        "Handle": { "Ref": "WaitConHandle" },
        "Timeout": 5,
        "Count": 2
      }
    },
    "WaitConHandle": {
      "Type": "ALIYUN::ROS::WaitConditionHandle"
    }
  },
  "Outputs" : {
    "CurlCli" : {
      "Value" : { "Fn::GetAtt": ["WaitConHandle", "CurlCli"] }
    },
    "Data" : {
      "Value" : { "Fn::GetAtt": ["WaitCondition", "Data"] }
    }
  }
}
```

The ALIYUN::ROS::WaitConditionHandle type can be used to create an instance for sending and receiving messages during UserData execution.

Syntax

```
{
  "Type": "ALIYUN::ROS::WaitConditionHandle",
  "Properties": {
  }
}
```

Return values

Fn::GetAtt

- CurlCli: A cURL command is generated by the resource and used to send the UserData execution results or status to ROS.

Example

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "WebServer": {
      "Type": "ALIYUN::ECS::Instance",
      "Properties": {
        "ImageId": "centos6u5_64_40G_cloudinit_20160728.raw",
        "InstanceType": "ecs.s2.large",
        "SecurityGroupId": "sg-94q49gota",
        "IoOptimized": "optimized",
        "VSwitchId": "vsw-94vdvonyi",
        "VpcId": "vpc-949uzr8c9",
        "SystemDiskCategory": "cloud_ssd",
        "UserData": { "Fn::Replace": [
          { "ros-notify": { "Fn::GetAtt": ["WaitConHandle", "CurlCli"] } },
          { "Fn::Join": [ "", [
            "#!/bin/sh\n",
            "mkdir ~/test_ros\n",
            "print hello > ~/1.txt\n",
            "ros-notify\n",
            "ros-notify -d '{\"id\": \"1\"}'\n"
          ] ] }
        ] ] }
      }
    },
    "WaitConHandle": {
      "Type": "ALIYUN::ROS::WaitConditionHandle"
    },
    "WaitCondition": {
      "Type": "ALIYUN::ROS::WaitCondition",
      "Properties": {
        "Handle": { "Ref": "WaitConHandle" },
        "Timeout": 60,
        "Count": 2
      }
    }
  }
}
```

```

}
},
},
"Outputs": {
  "InstanceId": {
    "Value" : { "Fn::GetAtt": ["WebServer", "InstanceId"] }
  },
  "PublicIp": {
    "Value" : { "Fn::GetAtt": ["WebServer", "PublicIp"] }
  },
  "CurlCli" : {
    "Value" : { "Fn::GetAtt": ["WaitConHandle", "CurlCli"] }
  },
  "Data" : {
    "Value" : { "Fn::GetAtt": ["WaitCondition", "Data"] }
  }
}
}
}

```

The ALIYUN::SLB::LoadBalancerClone type can be used to clone a Server Load Balancer instance.

Syntax

```

{
  "Type" : "ALIYUN::SLB::LoadBalancerClone",
  "Properties" : {
    "SourceLoadBalancerId" : String,
    "BackendServersPolicy" : String
  }
}

```

Attributes

Attribute name	Type	Required?	Description	Constraint
SourceLoadBalancerId	string	Yes	ID of the Server Load Balancer instance you want to clone	
BackendServersPolicy	string	No	Cloning policy, which specifies the ECS instances monitored by the new Server Load Balancer instance and the weight of each ECS instance	Value options: clone, empty, append, and replace. The default value is "clone" . clone: The ECS instances monitored by the source Server Load Balancer

				instance and the instance weights are cloned to the new Server Load Balancer instance; empty: no ECS instance is added to the new Server Load Balancer instance; append: The ECS instances monitored by the source Server Load Balancer instance and the instance weights are cloned to the new Server Load Balancer instance, and new ECS instances and weights are also added to the new Server Load Balancer instance; replace: New ECS instances and weights are added to the new Server Load Balancer instance, but the ECS instances monitored by the source Server Load Balancer instance and the instance weights are not cloned to the new Server Load Balancer instance.
BackendServers	list	No	List of new ECS instances that need to be monitored	

LoadBalancerName	string	No	Name of the Server Load Balancer instance	The value is a custom string The instance name consists of one to 80 characters including letters, numbers, '-', '/', ':', and '_'.
------------------	--------	----	---	--

BackendServers syntax

```
"BackendServers" : [
{
"ServerId" : String,
"Weight" : Integer
}
]
```

BackendServers attributes

Attribute name	Type	Required?	Description	Constraint
ServerId	string	Yes	ECS instance ID	The ECS instance must be in the running state.
Weight	integer	Yes	Weight of the ECS instance in the Server Load Balancer instance	Value range: 0–100; default value: 100

Return values

Fn::GetAtt

- LoadBalancerId None The id of load balance generated

Example

```
{
"ROSTemplateFormatVersion" : "2015-09-01",
"Resources" : {
"CloneLoadBalance": {
"Type": "ALIYUN::SLB::LoadBalancerClone",
```

```
"Properties": {
  "SourceLoadBalancerId": "150ebed5f06-cn-beijing-btc-a01",
  "LoadBalancerName": "rosnew",
  "BackendServersPolicy": "replace",
  "BackendServers": [
    {
      "ServerId": "i-25zskuabf",
      "Weight": 20
    }
  ]
},
"Outputs": {
  "LoadBalanceDetails": {
    "Value" : {"Fn::GetAtt": ["CloneLoadBalance", "LoadBalancerId"]}
  }
}
```

The ALIYUN::SLB::VServerGroup type can be used to create a virtual server group and add backend servers to a Server Load Balancer instance.

Syntax

```
{
  "Type" : "ALIYUN::SLB::VServerGroup",
  "Properties" : {
    "VServerGroupName" : String,
    "BackendServers" : List,
    "LoadBalancerId" : String
  }
}
```

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
VServerGroupName	string	Yes	No	Name of the virtual server group	
BackendServers	list	Yes	Yes	List of ECS instances you want to add	The list can contain a maximum of 20 ECS instances.
LoadBalancerId	string	Yes	No	ID of the Server Load	

				Balancer instance	
--	--	--	--	-------------------	--

BackendServers syntax

```
"BackendServers" : [
{
  "ServerId" : String,
  "Port" : Integer,
  "Weight" : Integer
}
]
```

BackendServers attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
ServerId	string	Yes	Yes	ECS instance ID	
Port	integer	Yes	Yes	ECS port number monitored by the Server Load Balancer instance	Value: [1, 65535]
Weight	integer	Yes	Yes	Weights of the ECS instances in the Server Load Balancer instance	Value: [0, 100]

Return values

Fn::GetAtt

- VServerGroupId: ID of the virtual server group
- BackendServers: list of backend servers added to the Server Load Balancer instance

Example

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
```

```
"Resources": {
  "CreateVServerGroup": {
    "Type": "ALIYUN::SLB::VServerGroup",
    "Properties": {
      "LoadBalancerId": "lb-2zenh4ndwrqg14yt094fg",
      "VServerGroupName": "VServerGroup-test",
      "BackendServers": [
        {
          "ServerId": "i-25zskuabf",
          "Weight": 20,
          "Port": 8080
        },
        {
          "ServerId": "i-25zskuabf",
          "Weight": 100,
          "Port": 8081
        }
      ]
    }
  },
  "Outputs": {
    "VServerGroupId": {
      "Value": {"Fn::GetAttr": ["CreateVServerGroup", "VServerGroupId"]}
    }
  }
}
```

The ALIYUN::SLS::ApplyConfigToMachineGroup type can be used to apply Log Service configurations to a machine group.

Syntax

```
{
  "Type": "ALIYUN::SLS::ApplyConfigToMachineGroup",
  "Properties" : {
    "ProjectName" : String,
    "ConfigName" : String,
    "GroupName" : String
  }
}
```

Attributes

Attribute name	Type	Required?	Description	Constraint
ProjectName	string	No	Log Service project name	The data disk name can contain a maximum of

				128 characters including Chinese and English characters, numbers, ' ' , and ' - ' .
ConfigName	string	No	Log configuration name	The data disk name can contain a maximum of 128 characters including Chinese and English characters, numbers, ' ' , and ' - ' .
GroupName	string	No	Machine group name	The data disk name can contain a maximum of 128 characters including Chinese and English characters, numbers, ' ' , and ' - ' .

Return values

Fn::GetAtt

None

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "ApplyConfigToMachineGroup": {
      "Type": "ALIYUN::SLS::ApplyConfigToMachineGroup",
      "Properties": {
        "ProjectName": "roctest-beijing",
        "ConfigName": "roctest-conf",
        "GroupName": "machine-group-test1"
      }
    }
  }
}
```


The ALIYUN::SLS::MachineGroup type can be used to create the ECS machine groups that require Logtail for log collection.

Syntax

```
{
  "Type" : "ALIYUN::SLS::MachineGroup",
  "Properties" : {
    "GroupType" : String,
    "ProjectName" : String,
    "MachineList" : List,
    "GroupName" : String,
    "MachineIdentifyType" : String,
    "GroupAttribute" : String
  }
}
```

Attributes

Attribute name	Type	Required?	Description	Constraint
GroupType	string	No	Machine group type	Value options: null and Armory
ProjectName	string	No	Log Service project name	The data disk name can contain a maximum of 128 characters including Chinese and English characters, numbers, ' ' , ' ' , ' ' , and ' - ' .
MachineList	list	No	Machine IP address or user-defined tag	ECS internal IP addresses are supported. Windows and Linux ECS servers must not be added to the same machine group.
GroupName	string	No	Machine group name	The data disk name can contain a maximum of 128 characters including

				Chinese and English characters, numbers, ' ', and '- '.
MachineIdentifyType	string	No	Machine identification type	Value options: ip and userdefined
GroupAttribute	string	No	Machine group attributes	

Return values

Fn::GetAtt

- ProjectName: Log Service project name
- GroupName: name of the Log Service machine group

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "MachineGroup": {
      "Type": "ALIYUN::SLS::MachineGroup",
      "Properties": {
        "ProjectName": "roctest-beijing",
        "GroupName": "machine-group-test2",
        "GroupType": "",
        "MachineIdentifyType": "ip",
        "GroupAttribute": '{
          "groupTopic": "testtopic",
          "externalName": "testgroup"
        }',
        "MachineList": ['192.168.0.1']
      }
    }
  },
  "Outputs" : {
    "ProjectName": {
      "Value" : {"Fn::GetAttr": ["MachineGroup", "ProjectName"]}
    },
    "GroupName": {
      "Value" : {"Fn::GetAttr": ["MachineGroup", "GroupName"]}
    }
  }
}
```

The ALIYUN::ECS::Disk type can be used to create an Alibaba Cloud ECS disk.

Syntax

```
{
  "Type" : "ALIYUN::ECS::Disk",
  "Properties" : {
    "DiskName" : String,
    "Description" : String,
    "Tags" : List,
    "DiskCategory" : String,
    "SnapshotId" : String,
    "ZoneId" : String,
    "Size" : Integer
  }
}
```

Attributes

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
ZoneId	string	Yes	No	Zone ID	
DiskName	string	No	No	Name of the disk	If this parameter is not specified, it is null. The default value is null. The parameter value is a string of two to 128 Chinese or English characters. It must start with an uppercase/l owercase letter or a Chinese character and can contain numbers, " " " " " " or " - " . The disk

					name is displayed on the console. It cannot start with http:// or https://.
Description	string	No	No	Disk description	If this parameter is not specified, it is null. The default value is null. The parameter value is a string of two to 256 characters. The disk description is displayed on the console. It cannot start with http:// or https://.
Tags	list	No	No	Custom tag	Up to four tags are supported, in the format of [{ "Key" : "tagKey" , "Value" : "tagValue" }, { "Key" : "tagKey2" , "Value" : "tagValue2" }].
DiskCategory	string	No	No	Data disk category	Value options: cloud, cloud_efficiency, and cloud_ssd; default value: cloud.
SnapshotId	string	No	No	Snapshot used by data disk creation	The Size parameter is ignored after this parameter is specified.

					The actual size of the created disk is the same as the size of the specified snapshot. Snapshots created on July 15, 2013 and earlier cannot be used by disk creation.
Size	integer	No	No	Capacity, in GB	cloud: 5–2,000; cloud_efficiency: 20–2,048; cloud_ssd: 20–1,024. The value of this parameter must be greater than or equal to the value of SnapshotId.

Tags syntax

```
"Tags" : [
{
"Value" : String,
"Key" : String
}
]
```

Tags attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
Key	string	Yes	No		
Value	string	No	No		

Return values

Fn::GetAtt

DiskId: ID of the created disk

Status: Status of the created disk

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "DataDisk": {
      "Type": "ALIYUN::ECS::Disk",
      "Properties": {
        "Size": 10,
        "ZoneId": "cn-beijing-a",
        "DiskName": "\u4e2d\u6587",
        "Description": "Chinese"
      }
    }
  },
  "Outputs": {
    "DiskId": {
      "Value" : {"Fn::GetAtt": ["DataDisk", "DiskId"]}
    },
    "Status": {
      "Value" : {"Fn::GetAtt": ["DataDisk", "Status"]}
    }
  }
}
```

The ALIYUN::ECS::DiskAttachment type can be used to attach an ECS disk.

Syntax

```
{
  "Type" : "ALIYUN::ECS::Disk",
  "Properties" : {
    "DiskId" : String,
    "InstanceId" : String,
    "Device" : String,
    "DeleteWithInstance" : String
  }
}
```

Attributes

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
InstanceId	string	Yes	No	The instanceId to attach the disk.	
DiskId	string	Yes	No	Disk ID	The disk and instance must be located in the same zone.
Device	string	No	No	Device name of the disk in the ECS instance	If this parameter is set to null, then the parameter value is allocated by the system. The value ranges from /dev/xvdb to /dev/xvdz. The default value is null.
DeleteWithInstance	boolean	No	No	Whether the disk is released along with the release of the instance	"True" indicates that the disk is released along with the release of the instance; "false" indicates that the disk is not released along with the release of the instance. The default value is

					"none" , indicating that the current value is retained without modification.
--	--	--	--	--	---

Return values

Fn::GetAtt

DiskId: ID of the created disk

Status: Status of the created disk

Device: Disk attaching address

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "DataDisk": {
      "Type": "ALIYUN::ECS::Disk",
      "Properties": {
        "Size": 10,
        "ZoneId": "cn-beijing-a"
      }
    },
    "AttachDisk": {
      "Type": "ALIYUN::ECS::DiskAttachment",
      "Properties": {
        "DiskId": { "Fn::GetAtt" : [ "DataDisk", "DiskId" ] },
        "InstanceId": "i-250doz5fs"
      }
    }
  }
}
```

The ALIYUN::ECS::EIP type can be used to apply for an EIP.

Syntax


```
{
  "Type" : "ALIYUN::ECS::EIP",
  "Properties" : {
    "Bandwidth" : String,
    "InternetChargeType" : String
  }
}
```

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
InternetChargeType	string	No	No	Method of payment for traffic usage	Value options: PayByBandwidth and PayByTraffic ; default value: PayByBandwidth
Bandwidth	number	No	No	Rate limit of the EIP. If not specified, it is 5 Mbps by default.	Value range: [1–200]

Return values

Fn::GetAtt

EipAddress: EIP that is assigned

AllocationId: instance ID associated with the EIP

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "NewEip": {
      "Type": "ALIYUN::ECS::EIP"
    }
  },
  "Outputs": {
```

```
"EipAddress": {  
  "Value" : {"get_attr": ["EipAddress"]}  
},  
"AllocationId": {  
  "Value" : {"get_attr": ["AllocationId"]}  
}  
}  
}
```

The ALIYUN::ECS::EIPAssociation type can be used for EIP binding.

Syntax

```
{  
  "Type" : "ALIYUN::ECS::EIP",  
  "Properties" : {  
    "InstanceId" : String,  
    "AllocationId": String  
  }  
}
```

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
InstanceId	string	Yes	No	ID of the instance you want to bind	Only VPC type ECS instances are supported.
AllocationId	string	Yes	No	Application ID of the EIP you want to bind	

Return values

Fn::GetAtt

None

Example

```
{  
  "ROSTemplateFormatVersion" : "2015-09-01",  
}
```

```
"Resources" : {  
  "NewEip": {  
    "Type": "ALIYUN::ECS::EIP",  
    "Properties": {  
      "RegionId" : "cn-beijing"  
    }  
  },  
  "Outputs": {  
    "EipAddress": {  
      "Value" : {"get_attr": ["EipAddress"]}  
    },  
    "AllocationId": {  
      "Value" : {"get_attr": ["AllocationId"]}  
    },  
  }  
}
```

ALIYUN::ECS::Instance

The ALIYUN::ECS::Instance type can be used to create an ECS instance.

Syntax

```
{  
  "Type" : "ALIYUN::ECS::Instance",  
  "Properties" : {  
    "DiskMappings" : List,  
    "IoOptimized" : String,  
    "InternetChargeType" : String,  
    "PrivateIpAddress" : String,  
    "SystemDiskDiskName" : String,  
    "VpcId" : String,  
    "Description" : String,  
    "Tags" : List,  
    "HostName" : String,  
    "ImageId" : String,  
    "InstanceChargeType" : String,  
    "VSwitchId" : String,  
    "Password" : String,  
    "InstanceType" : String,  
    "SystemDiskCategory" : String,  
    "SystemDiskSize" : Integer,  
    "ZoneId" : String,  
    "InternetMaxBandwidthOut" : Integer,  
    "InstanceName" : String,  
    "InternetMaxBandwidthIn" : Integer,  
    "UserData" : String,  
    "SecurityGroupId" : String,  
  }  
}
```

```

"Period" : Integer,
"AllocatePublicIP" : Boolean,
"SystemDiskDescription" : String
}
}

```

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
ImageId	string	Yes	Yes	ID of the image used to start the ECS instance. The image can be a public image, custom image, or marketplace image.	ECS public image list.
InstanceType	string	Yes	No	ECS instance type.	Instance generations and type families.
SecurityGroupId	string	Yes	No	ID of the security group to which the created instance belongs.	
Description	string	No	No	Description.	The maximum length is 256 characters.
InstanceName	string	No	No	Instance name.	The data disk name can contain a maximum of 128 characters including Chinese and English characters, numbers, ' ' and ' '.

Password	string	No	No	ECS instance logon password.	The password The password is a string of eight to 30 characters and must contain uppercase/l owercase letters, numbers, and special characters including (), \, ~, and !. @ # \$ % ^ & * - + = { } [] : ; ' < > , . ? / If the Password parameter is input, HTTPS must be used by API call to prevent password leakage.
HostName	string	No	No	Host name.	This parameter indicates the host name of an ECS instance. It is a string of at least two characters. "hostname" cannot start or end with "." or "- ". In addition, consecutive "." or "- " symbols are not allowed. In Windows, the host name can contain a maximum of 15

					characters including uppercase/l ower case letters, numbers, and " - ". It cannot contain dots (.) or contain only numbers. In other OSs such as Linux, the host name can contain a maximum of 30 characters which can be separated by dots (.) into segments, and each segment can contain uppercase/l ower case letters, numbers, and " " .
AllocatePublicIP	boolean	No	No	Whether to create public IP addresses. This parameter is only valid for the Classic network type. No public IP addresses are assigned if InternetMaxBandwidthOut is set to 0.	The default value is "true" .
PrivateIpAddress	string	No	No	Internal IP address in VPC. The IP address	

				cannot be the same as the IP addresses of other instances in VPC.	
InternetChargeType	string	No	No	Bandwidth billing method for access over the Internet; default value: PayByTraffic.	Value options: PayByBandwidth and PayByTraffic.
InternetMaxBandwidthIn	integer	No	No	Maximum Internet inbound bandwidth, in Mbps.	Value range: [1, 100]; default value: 100.
InternetMaxBandwidthOut	integer	No	No	Maximum Internet outbound bandwidth, in Mbps.	Value range in PayByBandwidth mode: [0, 200]; default value: 0. Value range in PayByTraffic mode: [1, 200]. This parameter must be specified in PayByTraffic mode.
IoOptimized	string	No	No	Whether to create an I/O optimized instance.	Value options: none (non-I/O optimized) and optimized (I/O optimized); default value: none.
DiskMappings	list	No	No	Disk you want to attach.	Up to four disks can be attached.
SystemDisk	string	No	No	System disk	Value

Category				type.	options: cloud, cloud_efficiency, cloud_ssd, and ephemeral_ssd.
SystemDisk Description	string	No	No	System disk description.	
SystemDisk DiskName	string	No	No	System disk name.	
SystemDisk Size	string	No	No	System disk size.	Value range: 40–500 GB. If a custom image is used to create a system disk, make sure that the system disk size is greater than the image size.
Tags	list	No	No	Custom tag.	Up to four tags are supported, in the format of [{ "Key" :" tagKey" ," Value" :" tagValue" }, { "Key" :" tagKey2" ," Value" :" tagValue2" }].
UserData	string	No	No	User data that is input during ECS instance creation.	The user data size cannot exceed 16 KB.
ZoneId	string	No	No	Zone ID.	
VpcId	string	No	No	VPC ID.	
VSwitchId	string	No	No	VSwitch ID.	
InstanceChargeType	string	No	No	Method of payment for the ECS	Value options: Prepaid and

				instance, which can be Pay-As-You-Go or prepayment .	Postpaid. Default value: Postpaid. If this parameter is set to Prepaid, make sure that your balance is sufficient; otherwise, instance creation fails.
Period	integer	No	No	Payment cycle. This parameter must be set when InstanceChargeType is Prepaid. When InstanceChargeType is Postpaid, this parameter is ignored.	Value options: 1–9, 12, 24, and 36; unit: month.

DiskMappings syntax

```
"DiskMappings" : [
{
"Category" : String,
"DiskName" : String,
>Description" : String,
"Device" : String,
"SnapshotId" : String,
"Size" : String
}
]
```

DiskMappings attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
Size	string	Yes	No	Data disk size, in GB.	

Category	string	No	No	Data disk type.	Value options: cloud, <i>cloud_efficiency</i> , <i>cloud_ssd</i> , and <i>ephemeral_ssdDefault</i> .
DiskName	string	No	No	Data disk name.	The data disk name can contain a maximum of 128 characters including Chinese and English characters, numbers, ' ' ' ' and ' - ' .
Description	string	No	No	Description.	Value range: [2, 256]; default value: null.
Device	string	No	No	Device name of the data disk in the ECS instance.	Example: /dev/xvd[a-z].
SnapshotId	string	No	No	ID of the snapshot used to create the data disk.	

Tags syntax

```
"Tags" : [
{
"Value" : String,
"Key" : String
}
]
```

Tags attributes

Attribute	Type	Required?	Update	Description	Constraint
-----------	------	-----------	--------	-------------	------------

name			allowed?		
Key	string	Yes	No		
Value	string	No	No		

Return values

Fn::GetAtt

InstanceId: ID of the instance, which is generated by the system and globally unique. It is a unique identifier of the instance.

PrivateIp: private IP address of a VPC type instance. This parameter is effective when **NetworkType** is VPC.

InnerIp: private IP address of a Classic type instance. This parameter is effective when **NetworkType** is Classic.

PublicIp: list of the public IP addresses of Classic type instances. This parameter is effective when **NetworkType** is Classic.

ZoneId: zone ID.

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "WebServer": {
      "Type": "ALIYUN::ECS::Instance",
      "Properties": {
        "ImageId" : "m-25l0rcfjo",
        "InstanceType": "ecs.t1.small",
        "SecurityGroupId": "sg-25zwc3se0",
        "ZoneId": "cn-beijing-b",
        "Tags": [{
          "Key": "tiantt",
          "Value": "ros"
        }],
        "Key": "tiantt1",
        "Value": "ros1"
      }
    }
  }
}
```

```
}
}
},
"Outputs": {
  "InstanceId": {
    "Value" : {"get_attr": ["WebServer", "InstanceId"]}
  },
  "PublicIp": {
    "Value" : {"get_attr": ["WebServer", "PublicIp"]}
  }
}
}
```

The ALIYUN::ECS::Region type can be used to query the region list.

Syntax

```
{
  "Type" : "ALIYUN::ECS::Region"
}
```

Attributes

None

Return values

Fn::GetAtt

None

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "DataDisk": {
      "Type": "ALIYUN::ECS::Region"
    }
  }
}
```

The ALIYUN::ECS::Route type can be used to create a custom route.

Syntax

```
{
  "Type" : "ALIYUN::ECS::ROUTE",
  "Properties" : {
    "RouteId" : String,
    "RouteTableId" : String,
    "DestinationCidrBlock": String,
    "NextHopType": String,
    "NextHopId": String
  }
}
```

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
DestinationCidrBlock	string	Yes	No	Target network segment of RouteEntry	
RouteTableId	string	Yes	No	Route table ID	
NextHopId	string	Yes	No	ID of the next-hop instance of RouteEntry	
RouteId	string	Yes	No	Route ID	
NextHopType	string	No	No	Next hop type	Value options: Instance Tunnel; default value: Instance, indicating that the next hop is an ECS instance

Return values

Fn::GetAtt

None

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "ECSRoute": {
      "Type": "ALIYUN::ECS::Route",
      "Properties": {
        "RouteId": "vrt-25mz0uxk4",
        "RouteTableId": "vtb-25oudgpsu",
        "DestinationCidrBlock": "172.16.107.0/24",
        "NextHopId": "i-25xzyhxtp"
      }
    }
  }
}
```

The ALIYUN::ECS::SecurityGroup type can be used to create a security group.

Syntax

```
{
  "Type" : "ALIYUN::ECS::SecurityGroup",
  "Properties" : {
    "SecurityGroupName" : String,
    "Description" : String,
    "VpcId": String,
    "SecurityGroupEgress": String,
    "SecurityGroupIngress": String
  }
}
```

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
VpcId	string	No	No	VPC ID	
Description	string	No	No	Security group description	The description is a string of two to 256 characters. It cannot start with http:// or https://.
Tags	list	No	No	Custom tag	Up to four

					tags are supported, in the format of <code>{{ "Key" : "tagKey" , "Value" : "tagValue" }, { "Key" : "tagKey2" , "Value" : "tagValue2" }}</code> .
SecurityGroupName	string	No	No	Name of the security group	If this parameter is not specified, it is null. The default value is null. The parameter value is a string of two to 128 Chinese or English characters. It must start with an uppercase/lowercase letter or a Chinese character and can contain numbers, <code>" ' _ - . / ' "</code> or <code>" - "</code> . The disk name is displayed on the console. It cannot start with <code>http://</code> or <code>https://</code> .
SecurityGroupEgress	list	No	No	Egress access rule of the security group	
SecurityGroupIngress	list	No	No	Ingress access rule of the security	

				group	
--	--	--	--	-------	--

Tags syntax

```
"Tags" : [  
  {  
    "Value" : String,  
    "Key" : String  
  }  
]
```

Tags attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
Key	string	Yes	No		
Value	string	No	No		

SecurityGroupIngress syntax

```
"SecurityGroupEgress" : [  
  {  
    "PortRange" : String,  
    "SecurityGroupId" : String,  
    "NicType" : String,  
    "Priority" : Integer,  
    "DestGroupId" : String,  
    "DestCidrIp" : String,  
    "Policy" : String,  
    "IpProtocol" : String,  
    "DestGroupOwnerAccount" : String  
  }  
]
```

SecurityGroupEgress attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
IpProtocol	string	Yes	No	IP protocol	Value options: tcp udp icmp gre all;The value all indicates the support of all the four

					protocols.
PortRange	string	No	No	Range of the port numbers of a specific IP protocol	When IpProtocol is set to tcp or udp, the default port numbers are used, and the port number range is 1–65,535. For example, "1/200" indicates the port number range 1–200. If the value "200/1" is input, an error is returned when the interface is called. When IpProtocol is set to icmp, the port number range is -1/-1. When IpProtocol is set to gre, the port number range is -1/-1. When IpProtocol is set to all, the port number range is -1/-1.
SecurityGroupId	string	No	No	ID of the security group for which an egress access rule is to be created	

NicType	string	No	No	Network type	Value options: internet and intranet; default value: internet
Priority	integer	No	No	Authorization policy priority	Value range: 1–100; default value: 1
DestGroupId	string	No	No	ID of the target security group in the same region	Either DestGroupId or DestCidrIp must be set. If both are set, DestCidrIp is authorized by default. If this parameter is specified but DestCidrIp is unspecified, NicType can only be set to intranet.
DestCidrIp	string	No	No	Target IP address range	The IP address range must be specified in CIDR format. The default value is 0.0.0.0/0 (indicating that no restriction is applied). Other supported formats include 10.159.6.18/12. Only IPv4 is supported.
Policy	string	No	No	Authorization	Value

				n policy	options: accept (access request accepted) and drop (access request denied); default value: accept
DestGroup OwnerAcco unt	string	No	No	Alibaba Cloud account to which the target security group belongs. This parameter is applicable in cross- user security group authorizatio n.	

SecurityGroupIngress syntax

```
"SecurityGroupIngress" : [
{
"SourceGroupId" : String,
"PortRange" : String,
"SecurityGroupId" : String,
"NicType" : String,
"SourceGroupOwnerAccount" : String,
"Priority" : Integer,
"SourceCidrIp" : String,
"Policy" : String,
"IpProtocol" : String
}
]
```

SecurityGroupIngress attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
IpProtocol	string	Yes	No	IP protocol	Value options: tcp

					udp icmp gre all;The value all indicates the support of all the four protocols.
PortRange	string	No	No	Range of the port numbers of a specific IP protocol	When IpProtocol is set to tcp or udp, the default port numbers are used, and the port number range is 1–65,535. For example, “1/200” indicates the port number range 1–200. If the value “200/1” is input, an error is returned when the interface is called.When IpProtocol is set to icmp, the port number range is -1/- 1.When IpProtocol is set to gre, the port number range is -1/- 1.When IpProtocol is set to all, the port number range is -1/- 1.
SourceGroup pId	string	No	No	ID of the source	ID of the source

				security group in the same region	security group. Either SourceGroupId or SourceCidrIp must be set. If both are set, SourceCidrIp is authorized by default. If this parameter is specified but SourceCidrIp is unspecified, NicType can only be set to intranet.
SecurityGroupId	string	No	No	ID of the security group for which an ingress access rule is to be created	
NicType	string	No	No	Network type	Value options: internet and intranet; default value: internet
SourceGroupOwnerAccount	string	No	No	Alibaba Cloud account to which the target security group belongs. This parameter is applicable in cross-user security group authorization.	

Priority	integer	No	No	Authorization policy priority	Value range: 1–100; default value: 1
SourceCidrIp	string	No	No	Target IP address range	The IP address range must be specified in CIDR format. The default value is 0.0.0.0/0 (indicating that no restriction is applied). Other supported formats include 10.159.6.18/12. Only IPv4 is supported.
Policy	string	No	No	Authorization policy	Value options: accept (access request accepted) and drop (access request denied)Default value: accept

Return values

Fn::GetAtt

- SecurityGroupId: ID of the security group

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "SG": {
```

```

    "Type": "ALIYUN::ECS::SecurityGroup",
    "Properties": {
      "SecurityGroupName": {
        "Ref": "SecurityGroupName"
      },
      "SecurityGroupIngress": [
        {
          "SourceCidrIp": "0.0.0.0/0",
          "IpProtocol": "all",
          "NicType": "internet",
          "PortRange": "-1/-1",
          "Priority": 1
        },
        {
          "SourceCidrIp": "0.0.0.0/0",
          "IpProtocol": "all",
          "NicType": "intranet",
          "PortRange": "-1/-1",
          "Priority": 1
        }
      ],
      "SecurityGroupEgress": [
        {
          "IpProtocol": "all",
          "DestCidrIp": "0.0.0.0/0",
          "NicType": "internet",
          "PortRange": "-1/-1",
          "Priority": 1
        },
        {
          "IpProtocol": "all",
          "DestCidrIp": "0.0.0.0/0",
          "NicType": "intranet",
          "PortRange": "-1/-1",
          "Priority": 1
        }
      ],
      "VpcId": {
        "Ref": "Vpc"
      }
    },
    "Outputs": {
      "SecurityGroupId": {
        "Value": {"Fn::GetAtt": ["SG", "SecurityGroupId"]}
      }
    }
  }

```

The Out ALIYUN::ECS::SecurityGroupEgress type can be used to create the egress access rule of a security group.

Syntax

```
{
  "Type" : "ALIYUN::ECS::SecurityGroupEgress",
  "Properties" : {
    "SecurityGroupId" : String,
    "IpProtocol" : String,
    "PortRange" : String,
    "DestGroupId" : String,
    "DestGroupOwnerAccount" : String,
    "DestCidrIp" : String,
    "Policy" : String,
    "Priority" : String,
    "NicType" : String
  }
}
```

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
IpProtocol	string	Yes	No	IP protocol	Value options: tcp udp icmp gre all;The value all indicates the support of all the four protocols.
PortRange	string	No	No	Range of the port numbers of a specific IP protocol	When IpProtocol is set to tcp or udp, the default port numbers are used, and the port number range is 1–65,535. For example, "1/200" indicates the port number range 1–200. If the value "200/1" is

					input, an error is returned when the interface is called. When IpProtocol is set to icmp, the port number range is -1/-1. When IpProtocol is set to gre, the port number range is -1/-1. When IpProtocol is set to all, the port number range is -1/-1.
SecurityGroupId	string	No	No	ID of the security group for which an egress access rule is to be created	
NicType	string	No	No	Network type	Value options: internet and intranet; default value: internet
Priority	integer	No	No	Authorization policy priority	Value range: 1–100; default value: 1
DestGroupId	string	No	No	ID of the target security group in the same region	Either DestGroupId or DestCidrIp must be set. If both are set, DestCidrIp is authorized

					by default. If this parameter is specified but DestCidrIp is unspecified, NicType can only be set to intranet.
DestCidrIp	string	No	No	Target IP address range	The IP address range must be specified in CIDR format. The default value is 0.0.0.0/0 (indicating that no restriction is applied). Other supported formats include 10.159.6.18/12. Only IPv4 is supported.
Policy	string	No	No	Authorization policy	Value options: accept (access request accepted) and drop (access request denied); default value: accept
DestGroupOwnerAccount	string	No	No	Alibaba Cloud account to which the target security group belongs. This parameter is applicable	

				in cross-user security group authorization.	
--	--	--	--	---	--

Return values

Fn::GetAtt

None

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "SG": {
      "Type": "ALIYUN::ECS::SecurityGroupEgress",
      "Properties": {
        "SecurityGroupId": "sg-25bowo058",
        "IpProtocol": "tcp",
        "PortRange": "65535/65535",
        "DestCidrIp": "0.0.0.0/0"
      }
    }
  }
}
```

The ALIYUN::ECS::SecurityGroupIngress type can be used to create the ingress access rule of a security group.

Syntax

```
{
  "Type" : "ALIYUN::ECS::SecurityGroupIngress",
  "Properties" : {
    "SecurityGroupId" : String,
    "IpProtocol" : String,
    "PortRange" : String,
    "SourceGroupId" : String,
    "SourceGroupOwnerAccount" : String,
    "SourceCidrIp" : String,
    "Policy" : String,
    "Priority" : String,
    "NicType" : String
  }
}
```

```
}
}
```

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
IpProtocol	string	Yes	No	IP protocol	Value options: tcp udp icmp gre all;The value all indicates the support of all the four protocols.
PortRange	string	No	No	Range of the port numbers of a specific IP protocol	When IpProtocol is set to tcp or udp, the default port numbers are used, and the port number range is 1–65,535. For example, "1/200" indicates the port number range 1–200. If the value "200/1" is input, an error is returned when the interface is called.When IpProtocol is set to icmp, the port number range is -1/-1.When IpProtocol is set to gre, the port number

					range is -1/-1. When IpProtocol is set to all, the port number range is -1/-1.
SourceGroupID	string	No	No	ID of the source security group in the same region	ID of the source security group. Either SourceGroupID or SourceCidrIp must be set. If both are set, SourceCidrIp is authorized by default. If this parameter is specified but SourceCidrIp is unspecified, NicType can only be set to intranet.
SecurityGroupId	string	No	No	ID of the security group for which an ingress access rule is to be created	
NicType	string	No	No	Network type	Value options: internet and intranet; default value: internet
SourceGroupOwnerAccount	string	No	No	Alibaba Cloud account to which the source security group. This	If this parameter is not set, authorization is performed for security

				parameter is applicable in cross-user security group authorization.	groups of the same account. This parameter is invalid if SourceCidrIp is set.
Priority	integer	No	No	Authorization policy priority	Value range: 1–100; default value: 1
SourceCidrIp	string	No	No	Target IP address range	The IP address range must be specified in CIDR format. The default value is 0.0.0.0/0 (indicating that no restriction is applied). Other supported formats include 10.159.6.18/12. Only IPv4 is supported.
Policy	string	No	No	Authorization policy	Value options: accept (access request accepted) and drop (access request denied)Default value: accept

Return values

Fn::GetAtt

None

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "SG": {
      "Type": "ALIYUN::ECS::SecurityGroupIngress",
      "Properties": {
        "SecurityGroupId": "sg-25bowo058",
        "IpProtocol": "tcp",
        "PortRange": "65535/65535",
        "SourceCidrIp": "0.0.0.0/0"
      }
    }
  }
}
```

The ALIYUN::ECS::VPC type can be used to create a VPC.

Syntax

```
{
  "Type" : "ALIYUN::ECS::VPC",
  "Properties" : {
    "CidrBlock" : String,
    "VpcName" : String,
    "Description" : String
  }
}
```

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
VpcName	string	No	No	VPC name	The VPC name is a string of two to 128 Chinese or English characters. It must start with an uppercase/overcase letter or a Chinese character and can

					contain numbers, "_", or "-". It cannot start with http:// or https://.
CidrBlock	string	No	No	VPC CIDR block	Value options: 10.0.0.0/8, 172.16.0.0/12, and 192.168.0.0/16 along with corresponding subnets
Description	string	No	No	VPC description	The description is a string of two to 256 Chinese or English characters. It cannot start with http:// or https://.

Return values

Fn::GetAtt

VpcId: VPC ID allocated by the system

VRouterId: Router ID

RouteTableId: Route table ID

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "EcsVpc": {
      "Type": "ALIYUN::ECS::VPC",
      "Properties": {
        "CidrBlock": "172.16.0.0/12",
```



```

"VpcName": "vpc-test-del",
}
},
"Outputs": {
  "VpcId": {
    "Value" : {"Fn::GetAtt": ["EcsVpc","VpcId"]}
  },
  "VRouterId": {
    "Value" : {"Fn::GetAtt": ["EcsVpc","VRouterId"]}
  },
  "RouteTableId": {
    "Value" : {"Fn::GetAtt": ["EcsVpc","RouteTableId"]}
  }
}
}
}

```

The ALIYUN::ECS::VSwitch type can be used to create a VSwitch.

Syntax

```

{
  "Type" : "ALIYUN::ECS::VSwitch",
  "Properties" : {
    "ZoneId" : String,
    "CidrBlock" : String,
    "VpcId" : String,
    "VSwitchName" : String,
    "Description" : String
  }
}

```

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
VpcId	string	Yes	No	ID of the VPC where a VSwitch is to be created	
ZoneId	string	Yes	No	Zone ID	
VSwitchName	string	No	No	VSwitch name	The VSwitch name is a string of two to 128 Chinese or English

					characters. It must start with an uppercase/l owercase letter or a Chinese character and can contain numbers, " " , or "- ". The VSwitch name is displayed on the console. It cannot start with http:// or https://.
CidrBlock	string	No	No	CIDR Block of the VSwitch	The CIDR Block of the VSwitch must be a subnet of the VPC to which the VSwitch belongs and not used by other switches.
Description	string	No	No	VSwitch description	The description is a string of two to 256 Chinese or English characters. It cannot start with http:// or https://.

Return values

Fn::GetAtt

- VSwitchId: VSwitch ID allocated by the system

Example

```

{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Parameters" : {
    "VpcName" : {
      "Type" : "String"
    },
    "VSwitch1CidrBlock" : {
      "Type" : "String",
      "Default" : "172.16.100.0/24"
    },
    "VSwitch2CidrBlock" : {
      "Type" : "String",
      "Default" : "172.16.80.0/24"
    }
  },
  "Resources" : {
    "EcsVpc" : {
      "Type" : "ALIYUN::ECS::VPC",
      "Properties" : {
        "CidrBlock" : "172.16.0.0/12",
        "VpcName" : { "Ref" : "VpcName" },
      },
    },
    "VSwitch1" : {
      "Type" : "ALIYUN::ECS::VSwitch",
      "Properties" : {
        "ZoneId" : "cn-beijing-a",
        "CidrBlock" : { "Ref" : "VSwitch1CidrBlock" },
        "VpcId" : { "Fn::GetAtt" : [ "EcsVpc", "VpcId" ] },
        "VSwitchName" : "create_vpc_vswitch_sg1"
      },
    },
    "VSwitch2" : {
      "Type" : "ALIYUN::ECS::VSwitch",
      "Properties" : {
        "ZoneId" : "cn-beijing-a",
        "CidrBlock" : { "Ref" : "VSwitch2CidrBlock" },
        "VpcId" : { "Fn::GetAtt" : [ "EcsVpc", "VpcId" ] },
        "VSwitchName" : "create_vpc_vswitch_sg2"
      },
    },
    "SG_VSwitch1" : {
      "Type" : "ALIYUN::ECS::SecurityGroup",
      "Properties" : {
        "SecurityGroupName" : "app_mall",
        "Description" : "this is created by heat",
        "VpcId" : { "Fn::GetAtt" : [ "EcsVpc", "VpcId" ] }
      },
    },
    "Outputs" : {
      "SecurityGroupId" : {
        "Value" : { "get_attr" : [ "SG_VSwitch1", "SecurityGroupId" ] }
      }
    },
    "SG_VSwitch1_InRule" : {

```

```

    "Type": "ALIYUN::ECS::SecurityGroupIngress",
    "Properties": {
      "SecurityGroupId": { "Fn::GetAtt" : [ "SG_VSwitch1", "SecurityGroupId" ] },
      "IpProtocol": "tcp",
      "PortRange": "1/65535",
      "SourceCidrIp": { "Ref" : "VSwitch2CidrBlock" }
    },
    "SG_VSwitch1_OutRule": {
      "Type": "ALIYUN::ECS::SecurityGroupEgress",
      "Properties": {
        "SecurityGroupId": { "Fn::GetAtt" : [ "SG_VSwitch1", "SecurityGroupId" ] },
        "IpProtocol": "tcp",
        "PortRange": "1/65535",
        "DestCidrIp": { "Ref" : "VSwitch2CidrBlock" }
      }
    },
    "SG_VSwitch2": {
      "Type": "ALIYUN::ECS::SecurityGroup",
      "Properties": {
        "SecurityGroupName": "app_mall",
        "Description": "this is created by heat",
        "VpcId": { "Fn::GetAtt" : [ "EcsVpc", "VpcId" ] }
      }
    },
    "SG_VSwitch2_InRule": {
      "Type": "ALIYUN::ECS::SecurityGroupIngress",
      "Properties": {
        "SecurityGroupId": { "Fn::GetAtt" : [ "SG_VSwitch2", "SecurityGroupId" ] },
        "IpProtocol": "tcp",
        "PortRange": "1/65535",
        "SourceCidrIp": { "Ref" : "VSwitch1CidrBlock" }
      }
    },
    "SG_VSwitch2_OutRule": {
      "Type": "ALIYUN::ECS::SecurityGroupEgress",
      "Properties": {
        "SecurityGroupId": { "Fn::GetAtt" : [ "SG_VSwitch2", "SecurityGroupId" ] },
        "IpProtocol": "tcp",
        "PortRange": "1/65535",
        "DestCidrIp": { "Ref" : "VSwitch1CidrBlock" }
      }
    }
  }
}

```

ALIYUN::ESS::ScalingConfiguration

The ALIYUN::ESS::ScalingConfiguration type can be used to create a scaling configuration.

Syntax

```
{
  "Type" : "ALIYUN::ESS::ScalingConfiguration",
  "Properties" : {
    "DiskMappings" : List,
    "InternetMaxBandwidthIn" : Integer,
    "InstanceId" : String,
    "SecurityGroupId" : String,
    "SystemDiskCategory" : String,
    "ImageId" : String,
    "InternetMaxBandwidthOut" : Integer,
    "IoOptimized" : String,
    "ScalingGroupId" : String,
    "InternetChargeType" : String,
    "InstanceType" : String,
    "ScalingConfigurationName" : String
  }
}
```

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
ScalingGroupId	string	Yes	No	ID of the scaling group to which the scaling configuration belongs.	
DiskMappings	list	No	No	Disk you want to attach.	Up to four disks can be attached.
InternetChargeType	string	No	No	Bandwidth billing method for access over the Internet; default value: PayByTraffic.	Value options: PayByBandwidth and PayByTraffic.
InternetMaxBandwidthIn	integer	No	No	Maximum Internet inbound bandwidth, in Mbps.	Value range: [1, 100]; default value: 100.
InternetMaxBandwidthOut	integer	No	No	Maximum Internet	Value range in

ut				outbound bandwidth, in Mbps.	PayByBandwidth mode: [0, 200]; default value: 0. Value range in PayByTraffic mode: [1, 200]. This parameter must be specified in PayByTraffic mode.
InstanceId	string	No	No	ID of the ECS instance whose attributes are used to create the scaling configuration.	
SystemDiskCategory	string	No	No	System disk type.	Value options: cloud, <i>cloud_efficiency</i> , <i>cloud_ssd</i> , and <i>ephemeral_ssd</i> .
ImageId	string	No	No	ID of the image used to start the ECS instance. The image can be a public image, custom image, or marketplace image.	ECS public image list.
InstanceType	string	No	No	ECS instance type	Instance generations and type families.
SecurityGroupId	string	No	No	ID of the security group to	

				which the created instance belongs.	
IoOptimized	string	No	No	Whether to create an I/O optimized instance.	Value options: none (non-I/O optimized) and optimized (I/O optimized); default value: none.
ScalingConfigurationName	string	No	No	Displayed name of the scaling configuration.	The name is a string of two to 40 Chinese or English characters. It must start with a number, an uppercase/lowercase letter, or a Chinese character and can contain " ", or "-". The scaling configurations in the same scaling group under the same account and located in the same region must be uniquely named. If this parameter is not specified, the default value is ScalingConfigurationId.

DiskMappings syntax

```
"DiskMappings" : [
{
"Category" : String,
"DiskName" : String,
"Description" : String,
"Device" : String,
"SnapshotId" : String,
"Size" : String
}
]
```

DiskMappings attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
Size	string	Yes	No	Data disk size, in GB.	
Category	string	No	No	Data disk type.	Value options: cloud, <i>cloud_efficiency</i> , <i>cloud_ssd</i> , and <i>ephemeral_ssdDefault</i> .
DiskName	string	No	No	Data disk name.	The data disk name can contain a maximum of 128 characters including Chinese and English characters, numbers, ' ' ' ' ' ' and ' - ' '.
Description	string	No	No	Description.	Value range: [2, 256]; default value: null.
Device	string	No	No	Device name of the data disk in the ECS	Example: /dev/xvd[a-z].

				instance.	
SnapshotId	string	No	No	ID of the snapshot used to create the data disk.	

Return values

Fn::GetAtt

- ScalingConfigurationId: ID of the scaling configuration, which is generated by the system and globally unique.

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "ScalingConfiguration": {
      "Type": "ALIYUN::ESS::ScalingConfiguration",
      "Properties": {
        "ImageId": "ubuntu1404_64_20G_aliaegis_20150325.vhd",
        "InstanceType": "ecs.t1.small",
        "InstanceId": "i-25xhhcqbu",
        "InternetChargeType": "PayByTraffic",
        "InternetMaxBandwidthIn": 1,
        "InternetMaxBandwidthOut": 20,
        "SystemDisk_Category": "cloud",
        "ScalingGroupId": "bwhtvpcBcKYac9fe3vd0kv7E",
        "SecurityGroupId": "sg-25zwc3se0",
        "DiskMappings": [
          {
            "Size": 10
          },
          {
            "Category": "cloud",
            "Size": 10
          }
        ]
      }
    },
    "Outputs": {
      "ScalingConfiguration": {
        "Value" : {"get_attr": ["ScalingConfigurationId"]}
      }
    }
  }
}
```

The ALIYUN::ESS::ScalingGroup type can be used to create a scaling group.

Syntax

```
{
  "Type" : "ALIYUN::ESS::ScalingGroup",
  "Properties" : {
    "VpcId" : String,
    "ScalingGroupName" : String,
    "RemovalPolicies" : List,
    "MinSize" : Integer,
    "MaxSize" : Integer,
    "VSwitchId" : String,
    "LoadBalancerIds" : List
    "DefaultCooldown" : Integer,
    "DBInstanceIds" : List
  }
}
```

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
MinSize	integer	Yes	No	Minimum number of ECS instances in the scaling group	Value range: [0, 100]
MaxSize	integer	Yes	No	Maximum number of ECS instances in the scaling group	Value range: [0, 100].
VpcId	string	No	No	VPC ID	
ScalingGroupName	string	No	No	Displayed name of the scaling group	The name is a string of two to 40 Chinese or English characters. It must start with a number, an uppercase/lowercase letter, or a Chinese

					character and can contain “_”, or “-”. The scaling groups under the same account and located in the same region must be uniquely named. If this parameter is not specified, the default value is ScalingGroupId.
RemovalPolicy	list	No	No	Policy for removing ECS instances from the scaling group	Value options:OldestInstance: removes the first ECS instance attached to the scaling groupNewestInstance: removes the latest ECS instance attached to the scaling groupOldestScalingConfiguration: removes the ECS instance with the oldest scaling configurationDefault value options: OldestScalingConfiguration and OldestInstance. You can input up to two

					removal policies.
VSwitchId	string	No	No	ID of the VSwitch in VPC	
LoadBalancerIds	list	No	No	ID of a Server Load Balancer instance	
DefaultCooldown	integer	No	No	Default cool-down time of the scaling group	Value range: [0, 86,400], in seconds.The default value is 300s.
DBInstanceIds	list	No	No	ID of an ApsaraDB for RDS instance	

Return values

Fn::GetAtt

- ScalingGroupId: ID of the scaling group, which is generated by the system and globally unique.

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "ScalingGroup": {
      "Type": "ALIYUN::ESS::ScalingGroup",
      "Properties": {
        "MaxSize": 1,
        "MinSize": 1,
        # "ScalingGroupName": "HeatCreatedReal2",
        # "DefaultCooldown": 500,
        # "RemovalPolicy_1": "",
        # "RemovalPolicy_2": "",
      }
    }
  },
  "Outputs": {
    "ScalingGroup": {
      "Value" : {"Fn::GetAtt": ["ScalingGroup", "ScalingGroupId"]}
    }
  }
}
```

```
}  
}
```

The ALIYUN::ESS::ScalingGroupEnable type can be used to enable a scaling group.

Syntax

```
{  
  "Type" : "ALIYUN::ESS::ScalingGroupEnable",  
  "Properties" : {  
    "ScalingGroupId" : Integer,  
    "ScalingConfigurationId" : Integer,  
    "InstanceIds" : String  
  }  
}
```

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
ScalingGroup pId	string	Yes	No	ID of the scaling group	
ScalingConfi gurationId	string	No	No	ID of the scaling configuration you want to activate in the scaling group	
InstanceIds	list	No	No	ID of the ECS instance you want to add to the enabled scaling group	You can input up to 20 IDs.

Return values

Fn::GetAtt

LifecycleState: status of the scaling group.

ScalingInstances: automatically created instances of the scaling group.

ScalingGroupId: ID of the scaling group.

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "ScalingGroupEnable": {
      "Type": "ALIYUN::ESS::ScalingGroupEnable",
      "Properties": {
        "ScalingGroupId": "r0HUqbJ411cc2eQw8bUwyXI",
        "ScalingConfigurationId": "bJlLfexm77LdsyptmelVWdS",
        "InstanceIds": "",
      }
    }
  },
  "Outputs": {
    "ScalingGroupEnable": {
      "Value": {"Fn::GetAtt": ["ScalingGroupEnable", "LifecycleState"]}
    }
  }
}
```

The ALIYUN::REDIS::Instance type can be used to create an ApsaraDB for Redis instance.

Syntax

```
{
  "Type" : "ALIYUN::REDIS::Instance",
  "Properties" : {
    "VpcId" : String,
    "Capacity" : Integer,
    "EvictionPolicy" : String,
    "ZoneId" : String,
    "VSwitchId" : String,
    "Password" : String,
    "InstanceName" : String,
  }
}
```

Attributes

Attribute name	Type	Required?	Description	Constraint
Capacity	integer	Yes	Storage space, in GB.	Value range: 1–512; value

				options: 1, 2, 4, 8, 16, 32, 64, 128, 256, and 512
VpcId	string	No	VPC ID	
EvictionPolicy	string	No	Data eviction policy	Value options: noeviction, allkeys-lru, volatile-lru, allkeys-random, volatile-random, and volatile-ttl
ZoneId	string	No	Zone in the region where the ApsaraDB for Redis instance is located	
VSwitchId	string	No	ID of the VSwitch in VPC	
Password	string	No	Password	The password is a string of eight to 30 characters and must contain numbers and uppercase/lowercase letters.
InstanceName	string	No	Instance name	The instance name is a string of two to 128 characters including letters, numbers, Chinese characters, '-', '.', and '_'. It must start with a letter or Chinese character.

Return values

Fn::GetAtt

- InstanceId: ID of the created instance

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "CreateInstance": {
      "Type": "ALIYUN::REDIS::Instance",
      "Properties": {
        "InstanceName": "createdByHeat",
        "Password": "1234Qwer",
        "ZoneId": "cn-beijing-a",
        "Capacity": 1,
        "EvictionPolicy": "noeviction",
      }
    }
  },
  "Outputs": {
    "InstanceDetails": {
      "Value" : {"Fn::GetAtt": ["CreateInstance", "InstanceId"]}
    }
  }
}
```

The ALIYUN::RDS::DBInstance type can be used to create a database instance.

Syntax

```
{
  "Type" : "ALIYUN::RDS::DBInstance",
  "Properties" : {
    "Engine" : String,
    "MultiAZ" : Boolean,
    "VpcId" : String,
    "DBMappings" : List,
    "DBInstanceDescription" : String,
    "ConnectionMode" : String,
    "MasterUsername" : String,
    "MasterUserPassword" : String,
    "ZoneId" : String,
    "DBInstanceNetType" : String,
    "DBInstanceStorage" : Integer,
    "VSwitchId" : String,
    "AllocatePublicConnection" : Boolean,
    "EngineVersion" : String,
    "PreferredBackupTime" : String,
    "DBInstanceClass" : String,
    "SecurityIPList" : String,
    "BackupRetentionPeriod" : Integer,
    "PrivateIpAddress" : String,
```



```
"PreferredBackupPeriod" : List
}
}
```

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
Engine	string	Yes	No	Data type.	Value options: MySQL, SQLServer, PostgreSQL, and PPAS.
DBInstancesStorage	integer	Yes	Yes	Database storage space.	Value range: [5, 1000] for MySQL; [10, 1000] for SQL Server; [5, 2000] for PostgreSQL and PPAS. 5-GB increments. Unit: GB.
EngineVersion	string	Yes	No	Database version.	Value options: 5.5, 5.6, 2008r2, 9.4, and 9.3. MySQL: 5.5/5.6; SQLServer: 2008r2; PostgreSQL: 9.4; PPAS: 9.3.
DBInstanceClass	string	Yes	Yes	Instance type.	Examples: rds.mys2.large, rds.mss1.large, and rds.pg.s1.small.
SecurityIPList	string	Yes	Yes	List of IP addresses allowed to access all databases of the instance.	The IP addresses are separated by commas and cannot be repeated. The list

					contains up to 1,000 IP addresses. Supported formats include %, 0.0.0.0/0, 10.23.12.24 (IP), and 10.23.12.24/24 (CIDR mode; classless inter-domain routing. /24 represents the length of the prefix of an IP address. The range of the prefix length is [1, 32].) 0.0.0.0/0 indicates that no access restriction is applied.
MultiAZ	boolean	No	No	Whether the database instance has multi-zone support.	
VpcId	string	No	No	VPC ID.	
DBMappings	list	No	No	Databases created under the instance.	
DBInstanceDescription	string	No	No	Instance description or remarks.	The parameter value can contain a maximum of 256 bytes. It cannot start with http:// or https://. It must start with a Chinese

					character or an English letter. It is a string of two to 256 characters including Chinese and English characters, "_", "-", and numbers.
Connection Mode	string	No	No	Database connection mode. If this parameter is not specified, the database connection mode is automatically specified by the ApsaraDB for RDS instance.	Value options: Performance and Safety. "Performance" is the standard access mode, whereas "Safety" is the advanced security access mode. The access mode is assigned by the ApsaraDB for RDS system by default.
MasterUser name	string	No	No	Name of the primary account of the database instance.	The primary account name requires a uniqueness check. It must start with a letter and contain a maximum of 16 characters including lowercase letters, numbers, and underlines.

MasterUser Password	string	No	No	Password of the primary account of the database instance.	The password is a string of six to 32 characters and must contain letters, numbers, and underlines.
ZoneId	string	No	No	Zone ID.	
DBInstance NetType	string	No	No	Network type of the database instance.	Value options: Internet and Intranet. The Internet type is used by access from the public network, whereas the Intranet type is used by access from the private network. The default value is "Intranet".
VSwitchId	string	No	No	ID of the VSwitch in VPC.	
AllocatePublicConnection	boolean	No	No	Whether to apply for an Internet connection string of the instance.	
PreferredBackupTime	string	No	No	Backup time.	Format: HH:mmZ-HH:mm Z. Value options: 00:00Z-01:00Z, 01:00Z-02:00Z, 02:00Z-03:00Z, 03:00Z-04:00Z,

					04:00Z-05:00Z, 05:00Z-06:00Z, 06:00Z-07:00Z, 07:00Z-08:00Z, 08:00Z-09:00Z, 09:00Z-10:00Z, 10:00Z-11:00Z, 11:00Z-12:00Z, 12:00Z-13:00Z, 13:00Z-14:00Z, 14:00Z-15:00Z, 15:00Z-16:00Z, 16:00Z-17:00Z, 17:00Z-18:00Z, 18:00Z-19:00Z, 19:00Z-20:00Z, 20:00Z-21:00Z, 21:00Z-22:00Z, 22:00Z-23:00Z, and 23:00Z-24:00Z.
BackupRetentionPeriod	number	No	No	Backup retention period, measured in days.	Value range: 7–730; default value: 7.
PrivateIpAddress	string	No	No	Private IP address associated with the VSwitch ID. If not specified, the private IP address is automatically allocated by the	

				system.	
PreferredBackupPeriod	list	No	No	Backup cycle.	Value options: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, and Sunday.

DBMappings syntax

```
"DBMappings" : [
{
  "DBDescription" : String,
  "CharacterSetName" : String,
  "DBName" : String
}
]
```

DBMappings attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
CharacterSetName	string	Yes	No	Character set.	Value options: utf8, gbk, latin1, utf8mb4, Chinese_PRC_CI_AS, Chinese_PRC_CS_AS, SQL_Latin1_General_CP1_CI_AS, SQL_Latin1_General_CP1_CS_AS, and Chinese_PRC_BIN. MySQL: utf8, gbk, latin1, and utf8mb4 (applicable to 5.5 and 5.6); SQL Server: Chinese_PR

					<i>C_CI_AS, Chinese_PR C_CS_AS, SQL_Latin1_ General_CP 1_CI_AS, SQL_Latin1_ General_CP 1_CS_AS, and Chinese_PR C_BIN.</i>
DBName	string	Yes	No	Database name.	The database name requires a uniqueness check. It must start with a letter and can contain lowercase letters, numbers, and underlines. The maximum length is 64 characters.
DBDescription	string	No	No	Database description.	The parameter can contain a maximum of 256 characters. It cannot start with http:// or https://. It must start with a Chinese character or an English letter. It is a string of two to 256 characters including Chinese and English characters, " ", "_", and numbers.

Return values

Fn::GetAtt

DBInstanceId: ID of the database instance.

InnerPort: internal port of the database instance.

InnerIPAddress: internal IP address.

InnerConnectionString: intranet connection string.

PublicPort: public port of the database instance.

PublicConnectionString: Internet connection string.

PublicIPAddress: public IP address.

Example

Create an ApsaraDB for RDS instance.

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "Database": {
      "Type": "ALIYUN::RDS::DBInstance",
      "Properties": {
        "Engine": "MySQL",
        "EngineVersion": "5.6",
        "DBInstanceClass": "rds.mysql.t1.small",
        "DBInstanceStorage": "10",
        "DBInstanceNetType": "Intranet",
        "SecurityIPList": "0.0.0.0/0",
        "MasterUsername": "hope",
        "DBMappings": [{
          "DBName": "hope",
          "CharacterSetName": "utf8"
        }]
      }
    }
  },
  "Outputs": {
    "DBInstanceId": {
      "Value" : {"get_attr": ["DBInstanceId"]}
    }
  },
}
```



```

"PublicConnectionString": {
  "Value" : {"get_attr": ["ConnectionString"]}
},
"PublicPort": {
  "Value" : {"get_attr": ["Port"]}
}
}
}
}

```

Create an ApsaraDB for RDS instance in VPC.

```

{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "Database": {
      "Type": "ALIYUN::RDS::DBInstance",
      "Properties": {
        "Engine": "MySQL",
        "EngineVersion": "5.6",
        "DBInstanceClass": "rds.mys2.small",
        "DBInstanceStorage": "10",
        "DBInstanceNetType": "Intranet",
        "SecurityIPList": "0.0.0.0/0",
        "VSwitchId": "tvt",
        "VpcId": "myvpc_id"
      }
    }
  },
  "Outputs": {
    "DBInstanceId": {
      "Value" : {"get_attr": ["DBInstanceId"]}
    },
    "InnerConnectionString": {
      "Value" : {"get_attr": ["ConnectionString"]}
    },
    "InnerPort": {
      "Value" : {"get_attr": ["Port"]}
    }
  }
}

```

The ALIYUN::RDS::DBInstanceParameterGroup type can be used to modify the database parameter list.

Syntax

```

{
  "Type": "ALIYUN::RDS::DBInstanceParameterGroup",
  "Properties" : {
    "DBInstanceId" : String,
    "Parameters" : String,

```

```
"Forcerestart" : Boolean
}
}
```

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
DBInstanceId	string	Yes	No	Database instance ID	
Parameters	list	Yes	No	Parameters	A JSON string of parameters and their values. The values must belong to the string type. { "auto_increment_increment" : " 1" , " character_set_client" : " utf8" }
Forcerestart	string	No	No	Whether to force a restart of the database instance	True: to force a restart of the database instance; false: not to force a restart of the database instance. Default value: false.

Return values

Fn::GetAtt

None

Example

```
{
```

```
"ROSTemplateFormatVersion" : "2015-09-01",
"Resources" : {
  "Database": {
    "Type": "ALIYUN::RDS::DBInstance",
    "Properties": {
      "Engine": "MySQL",
      "EngineVersion": "5.6",
      "DBInstanceClass": "rds.mys2.small",
      "DBInstanceStorage": "10",
      "DBInstanceNetType": "Intranet",
      "SecurityIPList": "0.0.0.0/0"
    }
  },
  "DatabaseConfig": {
    "Type": "ALIYUN::RDS::DBInstanceParameterGroup",
    "Properties": {
      "DBInstanceId": { "Ref" : "Database" },
      "Parameters": [
        {
          "Key": "auto_increment_increment",
          "Value": "xxx"
        }
      ]
    }
  },
  "Outputs": {
    "DBInstanceId": {
      "Value" : {"Fn::GetAtt": ["Database", "DBInstanceId"]}
    }
  }
}
```

The ALIYUN::RDS::DBInstanceSecurityIps type can be used to modify the instance access white list.

Syntax

```
{
  "Type": "ALIYUN::RDS::DBInstanceSecurityIps",
  "Properties" : {
    "DBInstanceId" : String,
    "DBInstanceIPArrayName" : String,
    "DBInstanceIPArrayAttribute" : String
  }
}
```

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
----------------	------	-----------	-----------------	-------------	------------

DBInstanceId	string	Yes	No	Instance ID	
DBInstanceIPArrayAttribute	string	Yes	Yes	This parameter differentiates attribute values. The console does not display arrays labeled with "hidden" .	
DBInstanceIPArrayName	string	No	No	IP white list group name	The group name can contain only lowercase letters and '_'. If this parameter is not input, the "Default" group is operated by default.

Return values

Fn::GetAtt

- SecurityIps: instance access white list after modification

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "Database": {
      "Type": "ALIYUN::RDS::DBInstanceSecurityIps",
      "Properties": {
        "DBInstanceId": "rds9ogv018s75py54433",
        "DBInstanceIPArrayAttribute": "1.1.1.1, 2.2.2.2"
      }
    }
  },
  "Outputs": {
    "DBInstanceId": {
      "Value" : {"get_attr": ["SecurityIps"]}
    }
  }
}
```

```
}
```

The ALIYUN::SLB::BackendServerAttachment type can be used to add backend servers.

Syntax

```
{  
  "Type" : "ALIYUN::SLB::BackendServerAttachment",  
  "Properties" : {  
    "LoadBalancerId" : String,  
    "BackendServers" : List,  
    "BackendServerList" : List,  
    "BackendServerWeightList" : List  
  }  
}
```

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
LoadBalancerId	string	Yes	No	Unique ID of a Server Load Balancer instance	
BackendServerList	list	No	Yes	List of backend servers you want to add	This parameter is used with BackendServerWeightList. ECS instance IDs are separated by commas. This parameter is ignored when BackendServers is specified.
BackendServerWeightList	list	No	Yes	Weights of all ECS instances in BackendServerList, which are specified in sequence.	If this parameter is not specified, the weights of the ECS instances in BackendServerList

					verList are all 100. When the length of BackendServerWeightList is smaller than that of BackendServerList, the weights of the remaining ECS instances in BackendServerList are set to the last value in BackendServerWeightList.
BackendServers	list	No	Yes	List of backend servers you want to add	Only backend servers in the running state can be added to Server Load Balancer.

BackendServers syntax

```
"BackendServers" : [
{
  "ServerId" : String,
  "Weight" : Integer
}
]
```

BackendServers attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
ServerId	string	Yes	Yes	ECS instance ID	The ECS instance must be in the running state.
Weight	integer	Yes	Yes	Weight of the ECS	Value range:

				instance in the Server Load Balancer instance	0–100; default value: 100
--	--	--	--	---	---------------------------

Return values

Fn::GetAtt

BackendServers: list of backend servers added to the Server Load Balancer instance

LoadBalancerId: ID of the Server Load Balancer instance

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "Attachment2": {
      "Type": "ALIYUN::SLB::BackendServerAttachment",
      "Properties": {
        "LoadBalancerId": "15187200816-cn-beijing-btc-a01",
        "BackendServerList": ["i-25o0m3nzq","i-25zskuabf"],
        "BackendServerWeightList": ["20", "100"]
      }
    }
  }
}
```

The ALIYUN::SLB::Listener type is used to create a listener.

Syntax

```
{
  "Type" : "ALIYUN::SLB::Listener",
  "Properties" : {
    "Protocol" : String,
    "HealthCheck" : Map,
    "ListenerPort" : Integer,
    "Persistence" : Map,
    "Bandwidth" : Integer,
    "BackendServerPort" : Integer,
    "Scheduler" : String,
    "LoadBalancerId" : String,
```

```

"CACertificateId" : String,
"ServerCertificateId" : String,
"VServerGroupId" : String
}
}

```

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
Protocol	string	Yes	No	IP protocol	Value options: http, https, tcp, and udp
ListenerPort	integer	Yes	No	Front-end port used by the Server Load Balancer instance	Value range: 1–65,535
Bandwidth	integer	Yes	No	Peak bandwidth of the listener.	Value range: –1 or 1–1,000 MbpsFor a public instance billed in PayByBandwidth mode,this parameter cannot be set to –1, and the sum of the peak bandwidths assigned to different listeners cannot exceed the bandwidth value specified when the Server Load Balancer instance is created.For a public instance billed in PayByTraffic

					mode, this parameter can be set to -1, indicating that no peak bandwidth limit is applied.
BackendServerPort	integer	Yes	No	Backend port used by the Server Load Balancer instance	Value range: 1-65,535
LoadBalancerId	string	Yes	No	ID of the Server Load Balancer instance	
HealthCheck	map	No	No	Health check setting	
Persistence	map	No	No	Persistence related parameter	
Scheduler	string	No	No	Scheduling algorithm	Value options: wrr and wlc Default value: wrr
CACertificateId	string	No	No	CA certificate ID	This parameter is only valid for HTTPS. Two-way authentication is adopted if the CA certificate and server certificate are uploaded. One-way authentication is adopted if only the server certificate is uploaded.

ServerCertificateId	string	No	No	Server certificate ID	This parameter is mandatory and only valid for HTTPS.
VServerGroupId	string	No	No	Virtual server group ID	

HealthCheck syntax

```
"HealthCheck" : {
  "Domain" : String,
  "Interval" : Integer,
  "URI" : String,
  "HttpCode" : String,
  "HealthyThreshold" : Integer,
  "Timeout" : Integer,
  "UnhealthyThreshold" : Integer,
  "Port" : Integer
}
```

HealthCheck attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
Domain	string	No	No	Domain used for health check	Value options: \$_ip, custom string, and null A custom string consists of one to 80 characters and can contain only letters, numbers, '-' and '.'. When this parameter is set to '\$_ip' or null, the Server Load

					Balancer instance uses the private IP addresses of backend servers as the domain of health check.
Interval	integer	No	No	Health check interval	Value range: 1–5, in seconds
URI	string	No	No	URI used for health check	The value is a string of one to 80 characters. It must start with '/' and contain only letters, numbers, '-', '/', ':', '%', '?', '#', and '&'.
HttpCode	string	No	No	HTTP status code for health check	Multiple HTTP status codes are separated by ",". Value options: http_2xx, http_3xx, http_4xx, and http_5xx. Default value: http_2xx
HealthyThreshold	integer	No	No	Threshold value used to determine that a health check is successful. This value indicates the number of consecutive	Value range: 1–10

				successful health checks required to change the health check status of backend servers from Fail to Success.	
Timeout	integer	No	No	Maximum timeout time for returning a health check response	Value range: 1–50, in seconds NOTE: If the value of Timeout is smaller than Interval, Timeout is invalid and the timeout time uses the value of Interval.
UnhealthyThreshold	integer	No	No	Threshold value used to determine that a health check fails. This value indicates the number of consecutive failed health checks required to change the health check status of backend servers from Success to Fail.	Value range: 1–10
Port	integer	No	No	Port used for health check	Value range: 0–65,535

Persistence syntax

```
"Persistence" : {
  "PersistenceTimeout" : Integer,
  "CookieTimeout" : Integer,
  "XForwardedFor" : String,
  "Cookie" : String,
  "StickySession" : String,
  "StickySessionType" : String,
}
```

Persistence attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
StickySession	string	Yes	No	Whether to enable session persistence	Value options: On and Off
PersistenceTimeout	integer	No	No	Connection persistence timeout time	Value range: 0–1,000, in seconds; default value: 0, indicating that connection persistence is disabled.
CookieTimeout	integer	No	No	Cookie timeout	This parameter must be set when StickySession is On and StickySessionType is Insert. In other cases, this parameter is ignored. Value range: 1–86,400, in seconds
XForwardedFor	string	No	No	Whether to use the X-Forwarded-For record to obtain a visitor's real IP address	Value options: On and Off Default value: On

Cookie	string	No	No	Cookie configured on the server	This parameter must be set when StickySession is On and StickySessionType is Server. In other cases, this parameter is ignored. The parameter value is a string of one to 200 characters and follows the RFC 2965 standard. It can contain only ASCII English letters and numbers. It cannot contain commas, semicolons, or spaces, and cannot start with "\$" .
StickySessionType	string	No	No	Cookie processing method	This parameter must be set when StickySession is set to On. When StickySession is Off, this parameter is ignored. Value options: Insert and Server. "Insert" indicates insertion by the Server

					Load Balancer instance. "Server" indicates learning by the Server Load Balancer instance from backend servers.
--	--	--	--	--	--

Return values

Fn::GetAtt

LoadBalancerId: unique ID of the Server Load Balancer instance.

ListenerPortsAndProtocol: front-end ports and protocol of the Server Load Balancer instance, in array format

Example

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "LoadBalancer": {
      "Type": "ALIYUN::SLB::LoadBalancer",
      "Properties": {
        "LoadBalancerName": "createdByHeat",
        "AddressType": "internet",
        "InternetChargeType": "paybybandwidth"
      }
    },
    "CreateListener": {
      "Type": "ALIYUN::SLB::Listener",
      "Properties": {
        "LoadBalancerId": {"Ref": "LoadBalancer"},
        "ListenerPort": "8094",
        "BackendServerPort": 8080,
        "Bandwidth": 1,
        "Protocol": "http",
        "HealthCheck": {
          "HealthyThreshold": 3,
          "UnhealthyThreshold": 3,
          "Interval": 2,
          "Timeout": 5,
```

```
"HttpCode": "http_2xx,http_3xx,http_4xx,http_5xx"
},
"Scheduler": "wrr",
"Persistence": {
  "PersistenceTimeout": 1,
  "XForwardedFor": 1,
  "StickySession": 1,
  "StickySessionType": 1,
  "CookieTimeout": 0,
  "Cookie": 1
}
}
},
"Outputs": {
  "LoadBalancerDetails": {
    "Value" : {"Fn::GetAtt": ["LoadBalancer", "LoadBalancerId"]}
  }
}
```

The ALIYUN::SLB::LoadBalancer type can be used to create a Server Load Balancer instance.

Syntax

```
{
  "Type" : "ALIYUN::SLB::LoadBalancer",
  "Properties" : {
    "VpcId" : String,
    "SlaveZoneId" : String,
    "Bandwidth" : Integer,
    "AddressType" : String,
    "VSwitchId" : String,
    "LoadBalancerName" : String,
    "InternetChargeType" : String,
    "MasterZoneId" : String
  }
}
```

Attributes

Attribute name	Type	Required?	Update allowed?	Description	Constraint
VpcId	string	No	No	VPC ID	
SlaveZoneId	string	No	No	ID of the standby zone of the created instance	

Bandwidth	integer	No	No	Peak bandwidth of a public instance in PayByBandwidth mode	If the created instance is a public instance in PayByBandwidth mode, the parameter value takes effect after it is assigned by the Bandwidth parameter of the listener. If the created instance is a public instance in PayByTraffic mode, the peak bandwidth is specified by the Bandwidth parameter of the listener. In this case, this parameter is ignored. Value range: 1–1,000, in Mbps Default value: 1 For VPC type instances, this parameter is set in PayByTraffic mode.
AddressType	string	No	No	Address type	Value options: internet intranet Default value:

					internet
VSwitchId	string	No	No	ID of the VSwitch in VPC	
LoadBalancerName	string	No	No	Name of the Server Load Balancer instance	The value is a custom string of one to 80 characters including letters, numbers, '-', '/', ':', and '_'. When this parameter is not specified, a default instance name is assigned by the system.
InternetChargeType	string	No	No	Method of payment for a public instance	Value options: PayByBandwidth PayByTraffic Default value: PayByTraffic
MasterZoneId	string	No	No	ID of the primary zone of the created instance	

Return values

Fn::GetAtt

- LoadBalancerId: unique ID of the Server Load Balancer instance
- NetworkType: network type of the Server Load Balancer instance, which can be VPC or Classic
- AddressType Address: "intranet" or "internet"
- IpAddress: IP address of the Server Load Balancer instance

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "CreateLoadBalance": {
      "Type": "ALIYUN::SLB::LoadBalancer",
      "Properties": {
        "LoadBalancerName": "createdByHeat",
        "AddressType": "internet",
        "InternetChargeType": "paybybandwidth",
      }
    }
  },
  "Outputs": {
    "LoadBalanceDetails": {
      "Value" : {"Fn::GetAtt": ["CreateLoadBalance", "LoadBalancerId"]}
    }
  }
}
```

Resource List

Resource index

ALIYUN::CS::App	Create a Docker cluster-based application.
ALIYUN::CS::Cluster	Create a Docker cluster.
ALIYUN::ECS::Disk	Create a data disk.
ALIYUN::ECS::DiskAttachment	Associate a data disk to the corresponding ECS instance.
ALIYUN::ECS::EIP	Buy an EIP.
ALIYUN::ECS::EIPAssociation	Bind an EIP to the corresponding ECS instance.
ALIYUN::ECS::Instance	Create a single ECS instance.
ALIYUN::ECS::InstanceClone	Create a single ECS instance by cloning an existing ECS instance.
ALIYUN::ECS::InstanceGroup	Create multiple ECS instances.
ALIYUN::ECS::InstanceGroupClone	Create multiple ECS instances by cloning an existing ECS instance.

ALIYUN::ECS::SecurityGroup	Create a security group.
ALIYUN::ECS::SecurityGroupEgress	Configure the traffic egress rule of a security group.
ALIYUN::ECS::SecurityGroupIngress	Configure the traffic ingress rule of a security group.
ALIYUN::ECS::JoinSecurityGroup	Add an ECS instance to a security group.
ALIYUN::ECS::NatGateway	Create a VPC NAT gateway.
ALIYUN::ECS::BandwidthPackage	Create a bandwidth package for the NAT gateway.
ALIYUN::ECS::ForwardEntry	Configure the forwarding table of the NAT gateway.
ALIYUN::ECS::SNatEntry	Configure the SNAT table of the NAT gateway.
ALIYUN::ECS::Route	Configure the VPC route table.
ALIYUN::ECS::VPC	Create a VPC.
ALIYUN::ECS::VSwitch	Create a VSwitch in VPC.
ALIYUN::ESS::ScalingConfiguration	Create scaling configurations.
ALIYUN::ESS::ScalingGroup	Create a scaling group.
ALIYUN::ESS::ScalingGroupEnable	Activate a scaling group.
ALIYUN::MEMCACHE::Instance	Create an ApsaraDB for Memcache instance.
ALIYUN::MONGODB::Instance	Create an ApsaraDB for MongoDB instance.
ALIYUN::MarketPlace::Order	Buy marketplace resources.
ALIYUN::MarketPlace::Image	Buy marketplace images.
ALIYUN::MarketPlace::ImageSubscription	Subscribe to marketplace images.
ALIYUN::OSS::Bucket	Create an OSS bucket instance.
ALIYUN::RAM::AccessKey	Obtain the access key of the specified user.
ALIYUN::RAM::Group	Create a RAM group.
ALIYUN::RAM::ManagedPolicy	Create a RAM policy.
ALIYUN::RAM::Role	Create a RAM role.
[48371]	Create a RAM subaccount.
ALIYUN::RAM::UserToGroupAddition	Add a subaccount to the RAM group.
ALIYUN::RDS::DBInstance	Create an ApsaraDB for RDS instance.
ALIYUN::RDS::DBInstanceParameterGroup	Modify the parameters of an ApsaraDB for RDS instance.
ALIYUN::RDS::DBInstanceSecurityIps	Configure the white list of an ApsaraDB for RDS instance.

ALIYUN::REDIS::Instance	Create an ApsaraDB for Redis instance.
ALIYUN::ROS::WaitCondition	Process the returned UserData message.
ALIYUN::ROS::WaitConditionHandle	Provide the command in the returned message to UserData and receive messages.
ALIYUN::SLB::BackendServerAttachment	Add an ECS instance to a Server Load Balancer instance.
ALIYUN::SLB::Listener	Configure the listener parameters of Server Load Balancer.
ALIYUN::SLB::LoadBalancer	Create a Server Load Balancer instance.
ALIYUN::SLB::LoadBalancerClone	Create a single Server Load Balancer instance by cloning an existing Server Load Balancer instance.
ALIYUN::SLB::VServerGroup	Create a virtual server group and add it to a Server Load Balancer instance.
ALIYUN::SLS::ApplyConfigToMachineGroup	Assign Log Service configurations to a machine group.
ALIYUN::SLS::MachineGroup	Create the ECS machine groups that require Logtail for log collection.