

Organizations

FAQ

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1 What Are the Differences in Access Control Between IAM and Organizations?

1. They grant permissions to different entities. IAM policies define permissions for IAM users, IAM user groups, and IAM agencies in an account. Organizations SCPs limit permissions for the root, OUs, and member accounts.
2. They have different control scopes but are relevant to each other. If the organization administrator has attached an SCP to an OU or member account, both the SCP and the granted IAM policies apply to the IAM users, IAM user groups, and IAM agencies in the account. The granted permissions can be applied only if they are allowed by the SCPs. Users cannot perform any actions that are denied by SCPs even if the actions are granted to the users by IAM policies.
3. They also have different effects on permissions. SCPs specify the maximum available permissions for member accounts in an organization and limit their operations. SCPs never grant permissions. In contrast, IAM policies directly grant permissions to IAM users, IAM user groups, and IAM agencies.

2 What Should I Do When Encountering SCP Errors?

Service control policies (SCPs) in Organizations use a similar syntax to that used by Identity and Access Management (IAM) policies. They both use the JSON syntax. For details, see [SCP Syntax](#).

You may encounter the following errors when creating SCPs:

- [More Than One Policy Object](#)
- [More Than One Statement Element](#)
- [Policy Document Exceeding the Maximum Size](#)

More Than One Policy Object

An SCP must consist of one and only one JSON object. You denote an object by placing braces ({}) around it. Although you can nest other objects within a JSON object by embedding additional braces ({}), a policy can contain only one outermost pair of braces ({}). The following example is incorrect because it contains two JSON objects, with two outermost pairs of braces ({}):

```
{
  "Version": "5.0",
  "Statement": [
    {
      "Effect": "Deny",
      "Action": [
        "ecs:*"
      ],
      "Resource": [
        "*"
      ]
    }
  ]
}
{
  "Statement": [
    {
      "Effect": "Deny",
      "Action": [
        "vpc:*"
      ],
      "Resource": [
        "*"
      ]
    }
  ]
}
```

```
}  
]  
}
```

To meet the intention of this example, you can use correct policy syntax. Instead of including two complete policy objects, each with its own Statement element, you can combine the two blocks into a single Statement element. The Statement element has an array of two objects as its value, as shown in the following example:

```
{  
  "Version": "5.0",  
  "Statement": [  
    {  
      "Effect": "Deny",  
      "Action": [  
        "ecs:*:*"  
      ],  
      "Resource": [  
        "*" * "  
      ]  
    },  
    {  
      "Effect": "Deny",  
      "Action": [  
        "vpc:*:*"  
      ],  
      "Resource": [  
        "*" * "  
      ]  
    }  
  ]  
}
```

This example cannot be further compressed into a Statement with one element because the two elements have different effects. Generally, you can combine statements only when the Effect and Resource elements in each statement are identical.

More Than One Statement Element

This error might at first appear to be a variation on the error in the preceding example. However, syntactically it is a different type of error. In the following example, there is only one policy object as denoted by a single outermost pair of braces ({}). However, that object contains two Statement elements within it.

An SCP must contain only one Statement element. The value of a Statement element must be an object, denoted by braces ({}), containing one Effect element, one Action element, one Resource element, and one optional Condition element. The following example is incorrect because it contains two Statement elements in the policy object:

```
{  
  "Version": "5.0",  
  "Statement": [  
    {  
      "Effect": "Deny",  
      "Action": [  
        "ecs:*:*"  
      ],  
      "Resource": [  
        "*" * "  
      ]  
    },  
    {  
      "Effect": "Deny",  
      "Action": [  
        "vpc:*:*"  
      ],  
      "Resource": [  
        "*" * "  
      ]  
    }  
  ]  
}
```

```
"Statement": [  
  {  
    "Effect": "Deny",  
    "Action": [  
      "vpc:*:*"  
    ],  
    "Resource": [  
      "*"   
    ]  
  }  
]
```

The value of the Statement element must be an object, and a value object can be an array of multiple value objects. You can solve this problem by combining the two Statement elements into one element with an object array, as illustrated in the following example. In the example, the value of the Statement element is an object array. The array consists of two objects, each of which is a correct value for a Statement element. Each object in the array is separated by commas.

```
{  
  "Version": "5.0",  
  "Statement": [  
    {  
      "Effect": "Deny",  
      "Action": [  
        "ecs:*:*"  
      ],  
      "Resource": [  
        "*"   
      ]  
    },  
    {  
      "Effect": "Deny",  
      "Action": [  
        "vpc:*:*"  
      ],  
      "Resource": [  
        "*"   
      ]  
    }  
  ]  
}
```

Policy Document Exceeding the Maximum Size

The maximum size of an SCP document is 5,120 characters. This maximum size includes all characters and white space. To reduce the size of your SCP, you can remove all white space characters (such as spaces and line breaks) that are outside quotation marks.