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CloudMonitor  
SDK Reference

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# Document conventions

Style	Description	Example
 <b>Danger</b>	A danger notice indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results.	 <b>Danger:</b> Resetting will result in the loss of user configuration data.
 <b>Warning</b>	A warning notice indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.	 <b>Warning:</b> Restarting will cause business interruption. About 10 minutes are required to restart an instance.
 <b>Notice</b>	A caution notice indicates warning information, supplementary instructions, and other content that the user must understand.	 <b>Notice:</b> If the weight is set to 0, the server no longer receives new requests.
 <b>Note</b>	A note indicates supplemental instructions, best practices, tips, and other content.	 <b>Note:</b> You can use Ctrl + A to select all files.
>	Closing angle brackets are used to indicate a multi-level menu cascade.	Click <b>Settings &gt; Network &gt; Set network type</b> .
<b>Bold</b>	Bold formatting is used for buttons, menus, page names, and other UI elements.	Click <b>OK</b> .
Courier font	Courier font is used for commands	Run the <code>cd /d C:/window</code> command to enter the Windows system folder.
<i>Italic</i>	Italic formatting is used for parameters and variables.	<code>bae log list --instanceid</code> <i>Instance_ID</i>
[ ] or [a b]	This format is used for an optional value, where only one item can be selected.	<code>ipconfig [-all -t]</code>
{ } or {a b}	This format is used for a required value, where only one item can be selected.	<code>switch {active stand}</code>

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# 1. Cloud Monitor SDK for Java

This topic describes how to install and use Cloud Monitor SDK for Java.

## Maven dependencies

To install the SDK by using Maven, add the following dependencies:

```
<dependencies>
  <dependency>
    <groupId>com.aliyun</groupId>
    <artifactId>aliyun-java-sdk-core</artifactId>
    <version>3.2.6</version>
  </dependency>
  <dependency>
    <groupId>com.aliyun</groupId>
    <artifactId>aliyun-java-sdk-cms</artifactId>
    <version>7.0.3</version>
  </dependency>
</dependencies>
```

## Download the SDK

You can download [aliyun-java-sdk-cms](#) from GitHub.

## Sample code

- Query monitoring data
  - Sample request

In your code, replace `accessKeyId` and `accessSecret` with your AccessKey ID and AccessKey secret.

```
import com.aliyuncs.DefaultAcsClient;
import com.aliyuncs.IAcsClient;
import com.aliyuncs.exceptions.ClientException;
import com.aliyuncs.exceptions.ServerException;
import com.aliyuncs.profile.DefaultProfile;
import com.google.gson.Gson;
import java.util.*;
import com.aliyuncs.cms.model.v20190101.*;

public class DescribeMetricListDemo {

    public static void main(String[] args) {
        DefaultProfile profile = DefaultProfile.getProfile("cn-beijing", "<accessKeyId>", "<accessSecret>");
        IAcsClient client = new DefaultAcsClient(profile);

        DescribeMetricListRequest request = new DescribeMetricListRequest();
        request.setDimensions("{\"instanceld\":<instanceld_as_example>}");
        request.setEndTime("2019-05-13 11:06:27");
        request.setStartTime("2019-05-13 10:20:27");
        request.setPeriod("60");
        request.setNamespace("acs_ecs_dashboard");
        request.setMetricName("cpu_total");

        try {
            DescribeMetricListResponse response = client.getAcsResponse(request);
            System.out.println(new Gson().toJson(response));
        } catch (ServerException e) {
            e.printStackTrace();
        } catch (ClientException e) {
            System.out.println("ErrCode:" + e.getErrCode());
            System.out.println("ErrMsg:" + e.getErrMsg());
            System.out.println("RequestId:" + e.getRequestId());
        }
    }
}
```

- Sample response

```
Code:200
Message:null
RequestId:737B40DD-55E3-45E9-B5E4-1D993055E7A4
```

```
requestId: /Z/B48BD-55E3-4E5D-BE4-1D09Z055F/A4
```

```
Datapoints:[
  {
    "Maximum":100,
    "Minimum":25,
    "instanceId":"i-bp18abl200xk9599****",
    "Average":94.62,
    "userId":"127067667954****",
    "timestamp":1489472460000
  },
  {
    "Maximum":100,
    "Minimum":25,
    "instanceId":"i-bp18abl200xk9599****",
    "Average":95.11,
    "userId":"127067667954****",
    "timestamp":1489472520000
  },
  {
    "Maximum":100,
    "Minimum":25,
    "instanceId":"i-bp18abl200xk9599****",
    "Average":95.16,
    "userId":"127067667954****",
    "timestamp":1489472580000
  },
  {
    "Maximum":100,
    "Minimum":25,
    "instanceId":"i-bp18abl200xk9599****",
    "Average":94.69,
    "userId":"127067667954****",
    "timestamp":1489472640000
  },
  {
    "Maximum":100,
    "Minimum":20,
    "instanceId":"i-bp18abl200xk9599****",
    "Average":95.82,
    "userId":"127067667954****",
    "timestamp":1489472700000
  }
]
```

```
},
{
  "Maximum":100,
  "Minimum":25,
  "instanceId":"i-bp18abl200xk9599****",
  "Average":94.77,
  "userId":"127067667954****",
  "timestamp":1489472760000
},
{
  "Maximum":100,
  "Minimum":33.33,
  "instanceId":"i-bp18abl200xk9599****",
  "Average":95.18,
  "userId":"127067667954****",
  "timestamp":1489472820000
},
{
  "Maximum":100,
  "Minimum":25,
  "instanceId":"i-bp18abl200xk9599****",
  "Average":95.11,
  "userId":"127067667954****",
  "timestamp":1489472880000
},
{
  "Maximum":100,
  "Minimum":20,
  "instanceId":"i-bp18abl200xk9599****",
  "Average":94.5,
  "userId":"127067667954****",
  "timestamp":1489472940000
},
{
  "Maximum":100,
  "Minimum":20,
  "instanceId":"i-bp18abl200xk9599****",
  "Average":94.99,
  "userId":"127067667954****",
  "timestamp":1489473000000
}
```



```
]
}
```

- Create an alert rule
  - Sample request

```
import com.aliyuncs.DefaultAcsClient;
import com.aliyuncs.IAcsClient;
import com.aliyuncs.exceptions.ClientException;
import com.aliyuncs.exceptions.ServerException;
import com.aliyuncs.profile.DefaultProfile;
import com.google.gson.Gson;
import java.util.*;
import com.aliyuncs.cms.model.v20190101.*;

public class CmsDemo {

    public static void main(String[] args) {
        DefaultProfile profile = DefaultProfile.getProfile("cn-hangzhou", "<accessKeyId>", "<accessSecret>");
        IAcsClient client = new DefaultAcsClient(profile);

        PutResourceMetricRuleRequest request = new PutResourceMetricRuleRequest();
        request.setNamespace("acs_ecs_dashboard");
        request.setRuleId("aabbccdddx001");
        request.setInterval("60");
        request.setPeriod("60");
        request.setRuleName("aaabbbcc");
        request.setContactGroups("alert group");
        request.setResources("[{"instanceId": "i-8vb6p16*****"}]");
        request.setMetricName("cpu_total");

        List<PutResourceMetricRuleRequest.Escalations> escalationsList = new ArrayList<PutResourceMetricRuleRequest.Escalations>();

        PutResourceMetricRuleRequest.Escalations escalations1 = new PutResourceMetricRuleRequest.Escalations();
        escalations1.setStatistics("Average");
        escalations1.setComparisonOperator("GreaterThanOrEqualToThreshold");
        escalations1.setThreshold("90");
        escalations1.setTimes(2);
    }
}
```

```
escalationsList.add(escalations1);
request.setEscalationss(escalationsList);

try {
    PutResourceMetricRuleResponse response = client.getAcsResponse(request);
    System.out.println(new Gson().toJson(response));
} catch (ServerException e) {
    e.printStackTrace();
} catch (ClientException e) {
    System.out.println("ErrCode:" + e.getErrCode());
    System.out.println("ErrMsg:" + e.getErrMsg());
    System.out.println("RequestId:" + e.getRequestId());
}
}
}
```

- Sample response

```
{
  "Message": "",
  "RequestId": "7aa25dfa-3bb9-4ed3-9704-a2d41bf67649",
  "Success": true,
  "Code": 200
}
```

## 2. Cloud Monitor SDK for Python

This topic describes how to install and use Cloud Monitor SDK for Python.

Before you install Cloud Monitor SDK for Python, make sure that Python 2.7 is installed on your computer.

### Install pip

If you have installed pip or another package management system, skip this step.

For more information about how to install pip, see [Install pip](#).

### Install the SDK

```
pip install aliyun-python-sdk-core
pip install aliyun-python-sdk-cms
```

[Latest version of the SDK for Python](#)

### Sample code

```
#!/usr/bin/env python
#coding=utf-8

from aliyunsdkcore.client import AcsClient
from aliyunsdkcore.acs_exception.exceptions import ClientException
from aliyunsdkcore.acs_exception.exceptions import ServerException
from aliyunsdkcms.request.v20190101.DescribeMetricListRequest import DescribeMetricListRequest

client = AcsClient('<accessKeyId>', '<accessSecret>', 'cn-beijing')

request = DescribeMetricListRequest()
request.set_accept_format('json')

request.set_StartTime("2019-05-21 10:00:00")
request.set_Dimensions("{\"instanceId\":\"i-2ze3*****\"}")
request.set_Period("60")
request.set_Namespace("acs_ecs_dashboard")
request.set_MetricName("CPUUtilization")

response = client.do_action_with_exception(request)
# python2: print(response)
print(str(response, encoding='utf-8'))
```

## 3.PHP SDK

This topic is a reference for installing and using the PHP SDK.

### Download SDK

Download addresses:

- [aliyun-php-sdk-cms](#)
- [aliyun-php-sdk-core](#)

### Test code

```
<?php
use AlibabaCloud\Client\AlibabaCloud;
use AlibabaCloud\Client\Exception\ClientException;
use AlibabaCloud\Client\Exception\ServerException;

// Download: https://github.com/aliyun/openapi-sdk-php
// Usage: https://github.com/aliyun/openapi-sdk-php/blob/master/README.md

AlibabaCloud::accessKeyClient('<accessKeyId>', '<accessSecret>')
    ->regionId('cn-beijing')
    ->asDefaultClient();

try {
    $result = AlibabaCloud::rpc()
        ->product('Cms')
        // ->scheme('https') // https | http
        ->version('2019-01-01')
        ->action('DescribeMetricList')
        ->method('POST')
        ->options([
            'query' => [
                'RegionId' => 'cn-beijing',
                'MetricName' => 'cpu_idle',
                'Namespace' => 'acs_ecs_dashboard',
                'Period' => '60',
                'StartTime' => '2019-05-13 10:20:27',
                'EndTime' => '2019-05-13 11:06:27',
                'Dimensions' => '{"instanceld\":"<instanceld_as_example>}',
            ],
        ])
        ->request();
    print_r($result->toArray());
} catch (ClientException $e) {
    echo $e->getErrorMessage() . PHP_EOL;
} catch (ServerException $e) {
    echo $e->getErrorMessage() . PHP_EOL;
}
```