阿里云弹性 IP 管理

该脚本提供了一个命令行界面来管理阿里云弹性公网 IP (EIP)。它允许你使用阿里云 Python SDK 来创建、绑定、解绑和释放 EIP。该脚本接受要执行的任务和 EIP 的分配 ID 作为参数。

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python aliyun_elastic_ip_manager.py unbind --allocation_id eip-j6c2olvsa7jk9l42iaaa
python aliyun_elastic_ip_manager.py bind --allocation_id eip-j6c7mhenamvy6zao3haaa
python aliyun_elastic_ip_manager.py release --allocation_id eip-j6c2olvsa7jk9l42aaa
python aliyun_elastic_ip_manager.py describe
```

```
# -*- coding: utf-8 -*-
# 此文件是自动生成的，请勿编辑。谢谢。
import logging
import os
import sys
from typing import List
import argparse
import json

from alibabacloud_vpc20160428.client import Client as Vpc20160428Client
from alibabacloud_tea_openapi import models as open_api_models
from alibabacloud_vpc20160428 import models as vpc_20160428_models
from alibabacloud_tea_util import models as util_models
from alibabacloud_tea_util.client import Client as UtilClient
from alibabacloud_ecs20140526.client import Client as Ecs20140526Client


logging.basicConfig(level=logging.INFO, format='%(asctime)s - %(levelname)s - %(message)s')

class Sample:
    def __init__(self):
        pass

    @staticmethod
    def create_client() -> Vpc20160428Client:
        config = open_api_models.Config(
            access_key_id=os.environ['ALIBABA_CLOUD_ACCESS_ID_API_KEY'],
            access_key_secret=os.environ['ALIBABA_CLOUD_ACCESS_API_KEY']
        )
        config.endpoint = f'vpc.cn-hongkong.aliyuncs.com'
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    return Vpc20160428Client(config)

@staticmethod
def bind_eip(
    region_id: str,
    allocation_id: str,
    instance_id: str,
) -> bool:
    client = Sample.create_client()
    associate_eip_address_request = vpc_20160428_models.AssociateEipAddressRequest(
        region_id=region_id,
        allocation_id=allocation_id,
        instance_id=instance_id
    )
    runtime = util_models.RuntimeOptions(read_timeout=60000, connect_timeout=60000)
    try:
        result = client.associate_eip_address_with_options(associate_eip_address_request, runtime)
        logging.info(f" 成功将 EIP {allocation_id}绑定到实例 {instance_id}。结果：{result}")
        return True
    except Exception as error:
        logging.error(f" 绑定 EIP {allocation_id}到实例 {instance_id}时出错：{error}")
        if hasattr(error, 'message'):
            logging.error(f" 错误信息：{error.message}")
        if hasattr(error, 'data') and error.data and error.data.get('Recommend'):
            logging.error(f" 建议：{error.data.get('Recommend')}")
        UtilClient.assert_as_string(str(error))
        return False

@staticmethod
def unbind_eip(
    region_id: str,
    allocation_id: str,
    instance_id: str,
) -> bool:
    client = Sample.create_client()
    unassociate_eip_address_request = vpc_20160428_models.UnassociateEipAddressRequest(
        region_id=region_id,
        allocation_id=allocation_id,
        instance_id=instance_id
    )
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    runtime = util_models.RuntimeOptions(read_timeout=60000, connect_timeout=60000)
    try:
        result = client.unassociate_eip_address_with_options(unassociate_eip_address_request, runtime)
        logging.info(f" 成功解绑 EIP {allocation_id}与实例 {instance_id}。结果：{result}")
        return True
    except Exception as error:
        logging.error(f" 解绑 EIP {allocation_id}与实例 {instance_id}时出错：{error}")
        if hasattr(error, 'message'):
            logging.error(f" 错误信息：{error.message}")
        if hasattr(error, 'data') and error.data and error.data.get('Recommend'):
            logging.error(f" 建议：{error.data.get('Recommend')}")
        UtilClient.assert_as_string(str(error))
        return False

@staticmethod
def create_eip(
    region_id: str,
) -> str | None:
    client = Sample.create_client()
    allocate_eip_address_request = vpc_20160428_models.AllocateEipAddressRequest(
        region_id=region_id
    )
    runtime = util_models.RuntimeOptions(read_timeout=60000, connect_timeout=60000)
    try:
        result = client.allocate_eip_address_with_options(allocate_eip_address_request, runtime)
        print(result.body)
        allocation_id = result.body.allocation_id
        logging.info(f" 成功创建 EIP。分配 ID：{allocation_id}")
        return allocation_id
    except Exception as error:
        logging.error(f" 创建 EIP 时出错：{error}")
        if hasattr(error, 'message'):
            logging.error(f" 错误信息：{error.message}")
        if hasattr(error, 'data') and error.data and error.data.get('Recommend'):
            logging.error(f" 建议：{error.data.get('Recommend')}")
        UtilClient.assert_as_string(str(error))
        return None

@staticmethod
def release_eip(
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    allocation_id: str,
) -> bool:
    client = Sample.create_client()
    release_eip_address_request = vpc_20160428_models.ReleaseEipAddressRequest(
        allocation_id=allocation_id
    )
    runtime = util_models.RuntimeOptions(read_timeout=60000, connect_timeout=60000)
    try:
        result = client.release_eip_address_with_options(release_eip_address_request, runtime)
        logging.info(f" 成功释放 EIP {allocation_id}。结果：{result}")
        return True
    except Exception as error:
        logging.error(f" 释放 EIP {allocation_id}时出错：{error}")
        if hasattr(error, 'message'):
            logging.error(f" 错误信息：{error.message}")
        if hasattr(error, 'data') and error.data and error.data.get('Recommend'):
            logging.error(f" 建议：{error.data.get('Recommend')}")
        UtilClient.assert_as_string(str(error))
        return False

@staticmethod
def describe_eip(
    region_id: str,
) -> None:
    client = Sample.create_client()
    describe_eip_addresses_request = vpc_20160428_models.DescribeEipAddressesRequest(
        region_id=region_id
    )
    runtime = util_models.RuntimeOptions(read_timeout=60000, connect_timeout=60000)
    try:
        result = client.describe_eip_addresses_with_options(describe_eip_addresses_request, runtime)
        logging.info(f" 成功描述 EIP。 ")
        print(json.dumps(result.body.to_map(), indent=4))
    except Exception as error:
        logging.error(f" 描述 EIP 时出错：{error}")
        if hasattr(error, 'message'):
            logging.error(f" 错误信息：{error.message}")
        if hasattr(error, 'data') and error.data and error.data.get('Recommend'):
            logging.error(f" 建议：{error.data.get('Recommend')}")
        UtilClient.assert_as_string(str(error))
```

```
@staticmethod
def main(
    args: List[str],
) -> None:
    region_id = "cn-hongkong"
    instance_id = "i-j6c44l4zpphv7u7agdbk"

    parser = argparse.ArgumentParser(description='管理阿里云弹性公网 IP。')
    parser.add_argument('job', choices=['create', 'bind', 'unbind', 'release', 'describe'], help='要执行的
    parser.add_argument('--allocation_id', type=str, help='EIP 的分配 ID。')
    parser.add_argument('--instance_id', type=str, default=instance_id, help='要绑定/解绑 EIP 的实例 ID。

    parsed_args = parser.parse_args(args)

    if parsed_args.job == 'create':
        new_allocation_id = Sample.create_eip(region_id)
        if new_allocation_id:
            print(f"EIP 创建过程已成功启动。分配 ID：{new_allocation_id}")
        else:
            print("EIP 创建过程失败。")
    elif parsed_args.job == 'bind':
        if not parsed_args.allocation_id:
            print(" 错误：bind 任务需要 --allocation_id 参数。")
            return
        if Sample.bind_eip(region_id, parsed_args.allocation_id, parsed_args.instance_id):
            print(f"EIP 绑定过程已成功启动，EIP：{parsed_args.allocation_id}，实例：{parsed_args.instanc
        else:
            print(f"EIP 绑定过程失败，EIP：{parsed_args.allocation_id}，实例：{parsed_args.instance_id}。
    elif parsed_args.job == 'unbind':
        if not parsed_args.allocation_id:
            print(" 错误：unbind 任务需要 --allocation_id 参数。")
            return
        if Sample.unbind_eip(region_id, parsed_args.allocation_id, parsed_args.instance_id):
            print(f"EIP 解绑过程已成功启动，EIP：{parsed_args.allocation_id}，实例：{parsed_args.instanc
        else:
            print(f"EIP 解绑过程失败，EIP：{parsed_args.allocation_id}，实例：{parsed_args.instance_id}。
    elif parsed_args.job == 'release':
        if not parsed_args.allocation_id:
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                print(" 错误：release 任务需要 --allocation_id 参数。 ")
                return
            if Sample.release_eip(parsed_args.allocation_id):
                 print(f"EIP 释放过程已成功启动，EIP：{parsed_args.allocation_id}。 ")
            else:
                print(f"EIP 释放过程失败，EIP：{parsed_args.allocation_id}。 ")
        elif parsed_args.job == 'describe':
            Sample.describe_eip(region_id)


    @staticmethod
    async def main_async(
        args: List[str],
    ) -> None:
        client = Sample.create_client()
        associate_eip_address_request = vpc_20160428_models.AssociateEipAddressRequest(
            region_id='cn-hongkong'
        )
        runtime = util_models.RuntimeOptions()
        try:
            await client.associate_eip_address_with_options_async(associate_eip_address_request, runtime)
        except Exception as error:
            print(error)
            if hasattr(error, 'message'):
                print(error.message)
            if hasattr(error, 'data') and error.data.get("Recommend"):
                print(error.data.get("Recommend"))
            UtilClient.assert_as_string(str(error))


if __name__ == '__main__':
    Sample.main(sys.argv[1:])

# python scripts/auto-ss-config/aliyun_elastic_ip_manager.py unbind --allocation_id eip-j6c2olvsa7jk9l42i1aaa
# python scripts/auto-ss-config/aliyun_elastic_ip_manager.py bind --allocation_id eip-j6c7mhenamvy6zao3haaa
# python scripts/auto-ss-config/aliyun_elastic_ip_manager.py release --allocation_id "eip-j6c2olvsa7jk9l42i"
# python scripts/auto-ss-config/aliyun_elastic_ip_manager.py describe
```