1. 如何用其他编程语言使用AK/SK的参考

**step1. 计算签名必须要的http头部信息**

Host: 从request的endpoint中获取

X-Sdk-Date: 当前系统时间-request的timeoffset（linux时间戳）生成而来,用于标识当前请求发送的时间

**step2. 计算CanonicalRequest字符串**

CanonicalRequest =

HTTPRequestMethod + '\n' +

CanonicalURI + '\n' +

CanonicalQueryString + '\n' +

CanonicalHeaders + '\n' +

SignedHeaders + '\n' +

HexEncode(Hash(RequestPayload))

注意：计算content的哈希值时，对于POST&&Content==null的场景，直接使用QueryParamters来计算哈希值

CanonicalURI： 即资源路径

CanonicalQueryString：即查询参数，没有则为空字符串

CanonicalHeaders格式:

CanonicalHeaders = CanonicalHeadersEntry0 + CanonicalHeadersEntry1 + ...

CanonicalHeadersEntry = Lowercase(HeaderName) + ':' + Trimall(HeaderValue) + '\n'

SignedHeaders格式：

SignedHeaders = Lowercase(HeaderName0) + ';' + Lowercase(HeaderName1) + ";" + ...

RequestPayLoad: API请求的body体，如果为空则写入””

**step3. 计算StringToSign 字符串**

StringToSign =

Algorithm + '\n' +

RequestDate + '\n' +

CredentialScope + '\n' +

HashedCanonicalRequest))

CredentialScope格式：

date/region/service/terminationString

注意：date为x-sdk-date的日期部分，不包含时间

HashedCanonicalRequest: CanonicalRequest的哈希值

**step4. 计算SigningKey**

kSecret = Your Secret Access Key

kDate = HMAC("SDK" + kSecret, Date)

kRegion = HMAC(kDate, Region)

kService = HMAC(kRegion, Service)

kSigning = HMAC(kService, "sdk\_request")

注：Date为签名日期，即x-sdk-date

**step5. 计算Signature**

signature = HexEncode(HMAC(SigningKey, StringToSign))

step6. 生成签名信息到Requst中

增加签名信息到Authorization Header

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Authorization: algorithm Credential=access key ID/credential scope, SignedHeaders=SignedHeaders, Signature=signature

https://support.huaweicloud.com/devg-apig/apig-zh-dev-180307034.html

<http://developer.huawei.com/ict/cn/doc/Object_Storage_Service_API_zh_p/zh-cn_topic_0016616545.html>

<http://developer.huawei.com/ict/cn/doc/IAM_Service_API_zh_p/zh-cn_topic_0033892404.html>