



IAM Health Cloud Developers Guide

Welcome to the IAM Health Cloud developer guide. This document teaches you how to parse IAM Health Cloud Reports into pure **JavaScript Object Notation (JSON)** using Linux command line tools.

Page | 1

Understanding IAM Health Cloud Report Format

IAM Health Cloud Reports are comprised of many small JSON documents concatenated together and separated by JSON comments. Each JSON comment describes the JSON document located below.

For Example:

```
//list-policy-versions--for--arn:aws:iam::aws:policy/aws-service-role/ServiceQuotasServiceRolePolicy
{
  "Versions": [
    {
      "VersionId": "v2",
      "IsDefaultVersion": true,
      "CreateDate": "2019-06-24T14:52:56Z"
    },
    {
      "VersionId": "v1",
      "IsDefaultVersion": false,
      "CreateDate": "2019-05-22T20:44:17Z"
    }
  ]
}
//list-entities-for-policy--for--arn:aws:iam::aws:policy/IAMSelfManageServiceSpecificCredentials
{
  "PolicyGroups": [],
  "PolicyUsers": [],
  "PolicyRoles": []
}
```

Note: *The above image contains 2 JSON document divided by JSON comments.*

Typically, an IAM Health Cloud Report will contain tens of thousands of lines of IAM data for each AWS Account included in the report.

Parsing IAM Health Cloud Reports into to pure JSON

It is possible to parse an IAM Health Cloud Report into the many individual JSON documents that it is comprised of by just about any programming language.

In example below, I will use AWK to parse the IAM Health Report named “master-report” into the many JSON documents that it is comprised of.

```
4 awk 'BEGIN {
5     for (i = 0; i <= 255; i++) {
6         ord[sprintf("%c", i)] = i
7     }
8 }
9 function escape(str, c, len, res) {
10     len = length(str)
11     res = ""
12     for (i = 1; i <= len; i++) {
13         c = substr(str, i, 1);
14         if (c ~ /[0-9A-Za-z]/)
15             res = res c
16         else
17             res = res "%" sprintf("%02X", ord[c])
18         }
19     return res
20 }
21 {if(/^\//) {T=$0; } else print $0 >> escape(T) }' master-report
```

Note: **AWK** is a domain-specific language designed for text processing and typically used as a data extraction and reporting tool. It is a standard feature of most Unix-like operating systems.

The above example creates individual files for each JSON document each with a filename that is equal to the result of the URL-encoded JSON comment that precedes it.

Example filename: %2F%2Flist%2Dusers%2D%2Dfor%2D%2DALL

The contents of the %2F%2Flist%2Dusers%2D%2Dfor%2D%2DALL file will be a JSON document.

All the data in the files we generated is pure JSON and can be parsed with standard tools.