

Downloading calls info from Webitel CDR

Quite often, our customers are faced with the necessity to download information about calls from the [Call Detail Record](#) section to their systems. As you already know, all historical statistics are stored in the [Elasticsearch](#) database. In the documentation, you could also see an example of receiving data [using our REST API](#). But, what if there are several hundreds or thousands of calls? How to get this amount of data? This article will answer this question.

Scroll

To get a lot of data, Elasticsearch provides [the scroll function](#), which we repeated in our REST API. An example:

webitel_scroll_request.json

```
{
  "scroll" : "5m",
  "limit": 1000,
  "sort": {
    "created_time": {
      "order": "desc",
      "unmapped_type": "boolean"
    }
  },
  "index": "cdr-a",
  "query": "*",
  "columns": [
    "created_time",
    "uuid",
    "direction",
    "duration"
  ],
  "filter": [
    {
      "bool": {
        "must": [
          {
            "range": {
              "created_time": {
                "gte": "now/w",
                "lte": "now"
              }
            }
          ]
        }
      }
    ]
  }
}
```

We have added 2 new parameters to the body of our request:

- **scroll** - how long to keep the result of the request on the server
- **limit** - which parts to return the query result

Next, we execute the first request with the specified body on the REST API, for simplicity I use the **cURL** console utility:

```
curl -s -L -XPOST \
-H 'Content-Type: application/json' \
-H 'X-Access-Token: ciOiJIUzI1NiJ9.jEyM2UxNThjLWVhNzMtNDAwI'\
"https://pre.webitel.com/engine/api/v2/cdr/text" -d@webitel_scroll_request.json
```

Together with a result that will not exceed the value specified in **limit**, we get **_scroll_id**:

```
curl -s -L -XPOST \  
-H 'Content-Type: application/json' \  
-H 'X-Access-Token: eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJpZCI6I9.IjKpitL050LjUPeUQyd4E'\   
"https://pre.webitel.com/engine/api/v2/cdr/text/scroll" -d '  
{  
  "scroll": "5m",  
  "scrollId": "received scrollId"  
}'
```

Bonus

```
#!/bin/bash
#
rm cdr.csv

tmpfile=$(mktemp /tmp/scroll.XXXXXX)
scroll_id=$(curl -s -L -XPOST \
-H 'Content-Type: application/json' \
-H 'X-Access-Token: eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJpZCI6IjEyM2UxNThjLWVhbnZmNDAzOC1hOWExLTA5Y2MxZjk4ZDZmYmYsImV4cCI6MTU0OTQ5MDQwMDAwMCwiZCI6IndlYm10ZWwuZHZJydXBpYWguY29tIiwidCI6ImRvbWZpbiIsInYiOiJ9.IjK6qlra6umlZJ0_gJImkNcZUpitL05OLjUPeUQyd4E'\
"https://pre.webitel.com/engine/api/v2/cdr/text" -d@webitel_scroll_request.json | tee >(jq -r '.hits.hits[].fields | [.created_time[], .uid[], .direction[], .duration[]] | @csv' >>cdr.csv) >(jq '.hits.hits | length' >${tmpfile}) | jq ._scroll_id)
size=$(cat ${tmpfile})
total=$size

while [ $size -ge 1000 ]
do
    size=$(curl -s -L -XPOST \
-H 'Content-Type: application/json' \
-H 'X-Access-Token: eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJpZCI6IjEyM2UxNThjLWVhbnZmNDAzOC1hOWExLTA5Y2MxZjk4ZDZmYmYsImV4cCI6MTU0OTQ5MDQwMDAwMCwiZCI6IndlYm10ZWwuZHZJydXBpYWguY29tIiwidCI6ImRvbWZpbiIsInYiOiJ9.IjK6qlra6umlZJ0_gJImkNcZUpitL05OLjUPeUQyd4E'\
"https://pre.webitel.com/engine/api/v2/cdr/text/scroll" -d '{
    "scroll": "5m",
    "scrollId": "${scroll_id}"
}' | tee >(jq -r '.hits.hits[].fields | [.created_time[], .uid[], .direction[], .duration[]] | @csv' >>cdr.csv) | jq '.hits.hits | length')
    echo $size
    total=$(( $total + $size ))
done

echo "$total - done"

rm $tmpfile
exit 0
```

Good luck with your requests!