Overview

• Learn about the available APIs
  - REST API
  - Realtime RIPE Atlas streaming

• Pointers to more information

• Ready-made tools for working with the APIs
REST API

• Core, comprehensive RIPE Atlas API
• Manual
  - https://atlas.ripe.net/docs/api/v2/manual/
• Reference
  - https://atlas.ripe.net/docs/api/v2/reference/
• Authentication with API keys linked to your RIPE Access account
GET /api/v2/measurments/1001/

HTTP 200 OK

```json
{
  "af": 4,
  "creation_time": 1285891200,
  "description": null,
  "group": null,
  "group_id": null,
  "id": 1001,
  "in_wifi_group": false,
  "include_probe_id": null,
  "interval": 240,
  "is_all_scheduled": true,
  "is_oneoff": false,
  "is_public": true,
  "packet_interval": null,
  "packets": 3,
  "participant_count": null,
  "probes_requested": null,
  "probes_scheduled": null,
  "resolve_on_probe": false,
  "resolved_ips": null,
  "result": "https://atlas.ripe.net/api/v2/measurments/1001/results/",
  "size": null,
  "spread": null,
  "start_time": 1285891200,
  "status": {
    "id": 2,
    "name": "Ongoing"
  },
  "stop_time": 1577836800,
  "target": "k.root-servers.net",
  "target_asn": null,
  "target_ip": "193.0.14.129",
  "type": "ping"
}
```
API documentation

• More

  - https://atlas.ripe.net/doc/credits
  - https://atlas.ripe.net/doc/udm
  - https://labs.ripe.net/Members/suzanne_taylor_muzzin/new-ripe-atlas-apis
RIPE Atlas REST APIs

- List of scheduled measurements
  - https://atlas.ripe.net/api/v2/measurements/
  - https://atlas.ripe.net/api/v2/measurements/{TYPE}/

- Information about a specific measurement
  - https://atlas.ripe.net/api/v2/measurements/{ID}/

- Results of a specific measurement
  - https://atlas.ripe.net/api/v2/measurements/{ID}/results
RIPE Atlas REST APIs

• List of probes
  - https://atlas.ripe.net/api/v2/probes/

• Information about a specific probe
  - https://atlas.ripe.net/api/v2/probes/{ID}

• List of anchors
  - https://atlas.ripe.net/api/v2/anchors/

• Information about a specific anchor
  - https://atlas.ripe.net/api/v2/anchors/{ID}
RIPE Atlas REST APIs

- List of measurements targeted to an anchor
  - https://atlas.ripe.net/api/v2/anchor-measurements/
- Info about a specific anchor measurement
  - https://atlas.ripe.net/api/v2/anchor-measurements/{ID}

Reference: https://atlas.ripe.net/docs/api/v2/reference/
Manual: https://atlas.ripe.net/docs/api/v2/manual/
Using API to schedule a measurement

• Scripting with the API
  - https://atlas.ripe.net/docs/measurement-creation-api/
  - https://atlas.ripe.net/keys/

• You will need API keys
  - To create measurements without logging in
  - To securely share your measurement data
Creating API keys

- [https://atlas.ripe.net/keys/](https://atlas.ripe.net/keys/)
- Create a key and add permissions
- [https://atlas.ripe.net/docs/keys/](https://atlas.ripe.net/docs/keys/)
Creating a measurement

• Schedule a measurement using API
  - Use the “key” you just generated
  - Hint: copy and past API call syntax from the measurement generated by the GUI

```
$ curl -H "Content-Type: application/json" -H "Accept: application/json" -X POST 
  -d '{ "definitions": [ { "target": "ping.xs4all.nl", "description": "My First API 
  Measurement", "type": "ping", "af": 4 } ], "probes": [ { "requested": 10, "type": 
  "country", "value": "RS" } ] }' https://atlas.ripe.net/api/v1/measurement/?
key=YOUR_API_KEY
```

Shortcut!

- Use the website to set up measurement options
- Use JSON in “API Compatible Specification” as the basis for your scripts
RIPE Atlas streaming

• **RIPE Atlas streaming** is an architecture that allows users to receive the measurement results as soon as they are sent by the probes - in real time
  - Publish/subscribe through web sockets, or fall back to polling (SocketIO)

• There are three types of data:
  - Measurement results
  - Probe connection status events
  - Measurements metadata
RIPE Atlas streaming

• Visualising network outages
  – http://sg-pub.ripe.net/demo-area/atlas-stream/conn/

• Real-time server and performance monitoring

• *Filtering and reusing measurement results*

• Documentation:
  – https://atlas.ripe.net/docs/result-streaming/
Libraries and tools

• You don’t (always) have to reinvent the wheel!
• ripe.atlas.cousteau: Python API bindings
  - https://github.com/RIPE-NCC/ripe-atlas-cousteau
• ripe.atlas.sagan: Python result parsing
  - https://github.com/RIPE-NCC/ripe.atlas.sagan
• Community binding for other languages
• Official command-line tools