Parsec: Galaxy at the speed of light

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Parsec

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Parsec
Help

Histories
fetch all
. . . with JQ
attributes
all attributes
xargs
xargs+jq
@tsv

Tools
upload
bash!

Devops
Reporting

Related
Projects
Chado/Chakin
Apollo/Arrow

Q&A

- CLI BioBlend wrappers
- All responses as JSON
- Parsec + JQ = ♡

```
$ pip install galaxy-parsec
$ parsec init
```

Parsec Help

```
$ parsec
Options:
  -g, --galaxy_instance TEXT  Name of Galaxy Instance
  -f, --path TEXT             config file path
  -h, --help                  Show this message and e

Commands:
  config
  datasets
  datatypes
  folders
  forms
  ftpfiles
  genomes
  groups
  histories
```

```
$ parsec histories
Usage: parsec histories [OPTIONS] COMMAND [ARGS]...

Options:
  -h, --help  Show this message and exit.

Commands:
  create_dataset_collection      Create a new dataset
  create_history                 Create a new history
                                 the...
  create_history_tag             Create history tag
                                 with...
  delete_dataset                 Mark corresponding
  delete_dataset_collection      Mark corresponding
  delete_history                 Delete a history.
  download_dataset               ..
```

Fetching all histories

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Q&A

```
$ parsec histories get_histories
[
  {
    "annotation": null,
    "deleted": false,
    "id": "5148a1f64f25bf61",
    "model_class": "History",
    "name": "BuildID=Manual WF=Structural Org=P-NIH10
    "published": false,
    "purged": false,
    "tags": ["Automated"],
    "url": "/galaxy/api/histories/5148a1f64f25bf61"
  },
  "..."
]
```

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```
$ parsec histories get_histories | jq .[0]

{
  "annotation": null,
  "deleted": false,
  "id": "5148a1f64f25bf61",
  "model_class": "History",
  "name": "BuildID=Manual WF=Structural Org=P-NIH10_L
  "published": false,
  "purged": false,
  "tags": ["Automated"],
  "url": "/galaxy/api/histories/5148a1f64f25bf61"
}
```

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```
$ parsec histories get_histories | jq .[0].id
"5148a1f64f25bf61"
```

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```
$ parsec histories get_histories | jq .[].id
"96f7d0364fee9384"
"95ef3413d7e7ee5b"
"10f65fe385037913"
"b0fac40f72726344"
"f8fb0fb2a1475498"
"c986d68e808d1f1b"
"dd64eb6009f37788"
"80e3a9497d06f961"
"262d732a5c8f92e0"
"b1efa94c6df9872d"
"26878b6f18a648a1"
"063e597a9f134f1b"
"6497f6d3325080ef"
"08453d7ae4f91dee"
"c0c58f242817ab4f"
"be1a30dcac314ef9"
"f9d1b553680d2daa"
"266c965c37fb9872"
"1742342ad1933233"
"5b2c2bfc47f8a42d"
```

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Q&A

```
$ parsec histories get_histories | jq .[].id | \
    xargs -n 1 parsec histories show_history
{
  "annotation": null,
  "contents_url": "/galaxy/api/histories/5148a1f64f25bf61/contents",
  "create_time": "2017-06-26T17:59:52.868909",
  "deleted": false,
  "empty": false,
  "genome_build": null,
  "id": "5148a1f64f25bf61",
  "importable": false,
  "model_class": "History",
  "name": "BuildID=Manual WF=Structural Org=P-NIH10_LMin Source=Jenkins",
  "published": false,
  "purged": false,
  "size": 1631779681,
  "slug": null,
  "state": "ok",
  "state_details": {
    "discarded": 0,
    "empty": 0,
    "error": 0,
    "failed_metadata": 0,
    "new": 0,
    "ok": 45,
    "paused": 0,
    "queued": 0,
    "running": 0,
    "setting_metadata": 0,
```

Fetching Specific History Attributes

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Q&A

```
$ parsec histories get_histories | jq .[].id | \
    xargs -n 1 parsec histories show_history | \
    jq '[.id, .size, .importable, .slug]'
[
  "5148a1f64f25bf61",
  1631779681,
  false,
  null
]
[
  "1e0fb5a4654a13de",
  111077737,
  false,
  null
]
[
  "0e0bc5c03c31a20b",
  63912787,
  false,
  null
]
```

```
$ parsec histories get_histories | jq .[].id | \
    xargs -n 1 parsec histories show_history | \
    jq '[.id, .size, .importable, .slug] | @tsv' -r
5148a1f64f25bf61      1631779681      false
1e0fb5a4654a13de      111077737       false
0e0bc5c03c31a20b      63912787        false
742f8640b914f3a2      223110138       false
bd51b07197d04eef      91514358        false
125b9423b24a8763      4824946 false
75ff0b19a07b1520      59332973        false
c9832d8b307e1578      0       false
7fa45ec20a19d82d      92842122        false
...
```

```
$ parsec tools show_tool upload1
{
    "config_file": "/galaxy/tools/data_source/upload.
    "description": "from your computer",
    "edam_operations": [],
    "edam_topics": [],
    "form_style": "regular",
    "id": "upload1",
    "labels": [],
    "model_class": "Tool",
    "name": "Upload File",
    "panel_section_id": "8a843907-df36-4d82-a1ab-2bde
    "panel_section_name": "Get Data",
    "version": "1.1.4"
}
```

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Q&A

```
$ parsec tools upload_file my_file.tsv c89d6abdbfb26d
{
    "output_collections": [],
    "implicit_collections": [],
    "jobs": [
        {
            "model_class": "Job",
            "state": "new",
            "update_time": "2017-06-30T07:02:46.17353
            "create_time": "2017-06-30T07:02:45.74687
            "tool_id": "upload1",
            "exit_code": null,
            "id": "10bf3dfa9c84edf2"
        }
    ],
    "outputs": [
```

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Q&A

```bash
$ parsec tools upload_file my_file.tsv \
    $(parsec histories create_history --name 'Test' \
        | jq .id) \
    | jq .outputs[0]
```

```
{
  "peek": "<table cellspacing=\"0\" cellpadding=\"3\"></table>",
  "visible": true,
  "hid": 1,
  "create_time": "2017-06-30T07:04:25.058273",
  "uuid": "049351a2-3d55-4408-91eb-b56920e03985",
  "data_type": "galaxy.datatypes.data.Text",
  "update_time": "2017-06-30T07:04:25.127352",
  "output_name": "output0",
  "history_content_type": "dataset",
  "genome_build": "?",
  "misc_info": null,
  "id": "ec7715646bde6b45",
  "purged": false,
  "hda_ldda": "hda",
  "tags": [],
  "file_ext": "auto",
  "state": "queued",
  "name": "my_file.tsv",
  "metadata_dbkey": "?",
  "metadata_data_lines": null,
  "model_class": "HistoryDatasetAssociation",
  "file_size": 0
```

Parsec is good for DevOps and Galactic Automation

- Bash loops & xargs
- Easily composable functions

API Keys

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Q&A

```
# Reset API keys
$ parsec users create_user_apikey eee708f9257ce041
$ parsec users get_users | jq .[].id \
  xargs -n 1 parsec users create_user_apikey

# Get all API keys
$ parsec users get_users | jq .[].id \
  xargs -n 1 parsec users get_user_apikey

# Reset API keys for users with a specific domain
$ parsec users get_users | \
    jq '.[] | \
    select(.username|contains("@gmail.com"))|.id' | \
    xargs -n 1 parsec users create_user_apikey
```

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Q&A

```
$ parsec users get_users | jq '.[].id' | \
    xargs -n 1 parsec users show_user | \
    jq '[.username, .email, .] | @tsv' -r
user-a    user-a@tamu.edu    207.3 MB
user-b    user-b@tamu.edu    0 bytes
user-c    user-c@tamu.edu    3.0 KB
```

Related Projects

```
$ chakin organism get_organisms
...
$ chakin organism add_organism escherichia \
    --species coli 'E. coli' e.coli
{
  "abbreviation": "e.coli",
  "comment": null,
  "common_name": "E. coli",
  "genus": "escherichia",
  "organism_id": 7,
  "species": "coli"
}
```

```
$ arrow users get_users
[
  {
    "role": "USER",
    "lastName": "USER",
    "firstName": "REMOTE",
    "availableGroups": [
      {
        "name": "bich464-2016-spring-admin"
      },
      {
        "name": "bich464-2017"
      },
      {
        "name": "testing2"
      }
    ],
    "groups": [],
    "username": "redacted@tamu.edu",
    "userId": 265323,
    "organismPermissions": [
      {
        "permissions": [
          "EXPORT",
          "READ",
          "WRITE"
        ],
        "userId": 265323,
        "organism": "464_2017_assessment1",
```

Thank you

BioBlend / Parsec
github.com/galaxy-iuc/parsec

Chado / Chakin
github.com/galaxy-genome-annotation/python-chado

Apollo / Arrow
github.com/galaxy-genome-annotation/python-apollo

GitHub	github.com/erasche
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GPG Fingerprint	F063 D331 6E63 E7B5 23FD
	B9EA C527 B0FC 0AF6 3592