

HWDB Python Command Line Interface

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Purpose

The HWDB Python Command Line Interface allows users to enter hardware items to the hardware database, along with specifications and test results contained in CSV files.



Current Status

- A Python module has been created that wraps basic REST API functionality for use in Python scripts. Most of the available functionality has been implemented. Some issues with the REST API need to be resolved.
- A set of scripts using the above module is being created to allow users to upload items from the command line. The commands shown in this presentation are working, but with very limited error checking. Many smaller supporting scripts (e.g., lookups) need to be created. Features such as defining subcomponents and adding images need to be implemented.
- A more robust data model has been started for use in an upcoming GUI version of this utility.
- We are currently working with the photon detector group (Maritza Gonzales, Alessandro Minotti) to provide custom scripts that will do more sophisticated parsing from CSV files to simplify their workflow.



Interface design

Since command-line interfaces tend to have many parameters and can be confusing to use, we have chosen to not require the user to enter all the data at once. The commands can be used multiple times with different information, and it will not submit to the database until --submit is called.

For example, a user could start an item, realize that he or she needs to see the specification format the item requires, enter a different command to look it up, then resume entering the item.

To make entry easier, the user can configure the utility with a given certificate and password, responsible institution, and country. These can be overridden in later commands, but if not supplied, these will be used as defaults.



Sample Use Case -- configure

```
alexwagner@Farnsworth: ~/Projects
alexwagner@Farnsworth:~/Projects$ hwdb-configure --username awagner --p12 ~/.sisyphus/awagner.p12 --password xxxxxxxx
--inst-name "twin cities" --country-name "united states"

Configuration Summary:
=====
REST API:    dbwebapi2.fnal.gov:8443/cdbdev/api
username:    awagner
auth_type:   pkcs12
auth_data:   (saved)
password:    (saved)
country:     (US) United States
institution:  (186) University of Minnesota Twin Cities
alexwagner@Farnsworth:~/Projects$
```



Sample Use Case – start new item

```
alexwagner@Farnsworth: ~/Projects
alexwagner@Farnsworth:~/Projects$ hwdb-new-item
NOTE: creating new item
NOTE: type-id is missing.
NOTE: manufacturer-id is missing (but not required)
NOTE: specification is missing.
ITEM IS NOT READY: the item still needs more data before it can be submitted

alexwagner@Farnsworth:~/Projects$ hwdb-edit-item --type-id Z00100100049 --manu-id 7
NOTE: continuing with current item
NOTE: specification is missing.
ITEM IS NOT READY: the item still needs more data before it can be submitted

alexwagner@Farnsworth:~/Projects$ hwdb-edit-item --spec ~/DUNE/spec.json --spec-csv data:~/DUNE/spec-csv.csv
NOTE: continuing with current item
ITEM IS READY: the item has enough data to submit

alexwagner@Farnsworth:~/Projects$ hwdb-edit-item --test "Rorschach Test":~/DUNE/Rorschach.json --test-csv "Rorschach Test":Data:~/DUNE/Rorschach.xlsx
NOTE: continuing with current item
ITEM IS READY: the item has enough data to submit

alexwagner@Farnsworth:~/Projects$
```

```
{
  "data": {
    "id": [],
    "name": [],
    "comment": [],
    "_column_order": ["id", "name", "comment"]
  },
  "comment": "Added by command line app",
  "drawing number": "ABC-123-XYZ"
}
```

	A	B	C
1	id	name	comment
2	10	ten	
3	11	eleven	ten plus one

```
{
  "Tested By": "Sigmund Freud",
  "Subject Name": "Crazy Eddie",
  "Data": {
    "Ink Blot ID": [],
    "Patient Impressions": []
  }
}
```

Defined in HWDB for this component type

	A	B
1	Ink Blot ID	Patient Impressions
2		1 Death
3		2 Mother
4		3 Intimacy
5		4 Violence
6		5 Hunger



Sample Use Case – view summary

```
alexwagner@Farnsworth: ~/Projects
alexwagner@Farnsworth:~/Projects$ hwdb-edit-item --summary | more
```

alexwagner@Farnsworth: ~/Projects

NOTE: continuing with current item

Item Information

Type ID	Z00100100049
External ID	Z00100100049-XXXXX
Serial Number	
Country of Origin	(US) United States
Institution	(186) University of Minnesota Twin Cities
Manufacturer	(7) Hajime Inc
Batch ID	
Created	(timestamp set on submit)
Created By	(authenticated user)
Specifications	(see table below)

Specifications

data	(see table below)
comment	Added by command line app
drawing number	ABC-123-XYZ

Subtable 'spec:data'

id	name	comment
10	ten	
11	eleven	ten plus one

Test 'Rorschach Test'

Tested By	Sigmund Freud
Subject Name	Crazy Eddie
Data	(see table below)

Subtable 'Rorschach Test:Data'

Ink Blot ID	Patient Impressions
1	Death
2	Mother
3	Intimacy
4	Violence
5	Hunger

ITEM IS READY: the item has enough data to submit

```
alexwagner@Farnsworth:~/Projects$
```



Sample Use Case – submit

```
alexwagner@Farnsworth: ~/Projects
alexwagner@Farnsworth:~/Projects$ hwdb-edit-item --submit
NOTE: continuing with current item
Submitting...

REST API Response
{
  "component_id": 7152,
  "data": "Created",
  "part_id": "Z00100100049-00064",
  "status": "OK",
  "addl_info": "Processed by Sisyphus.RestApi."
}

REST API Response
{
  "data": "Created",
  "status": "OK",
  "test_id": 4175,
  "test_type_id": 397,
  "addl_info": "Processed by Sisyphus.RestApi."
}

The item has been added to the database.
alexwagner@Farnsworth:~/Projects$
```





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