



# DB\_CHECK

A tool for checking specifications requirements of a complex database infrastructure

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# Introduction

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- ❖ About myself
- ❖ About work at Cern



# The problem:

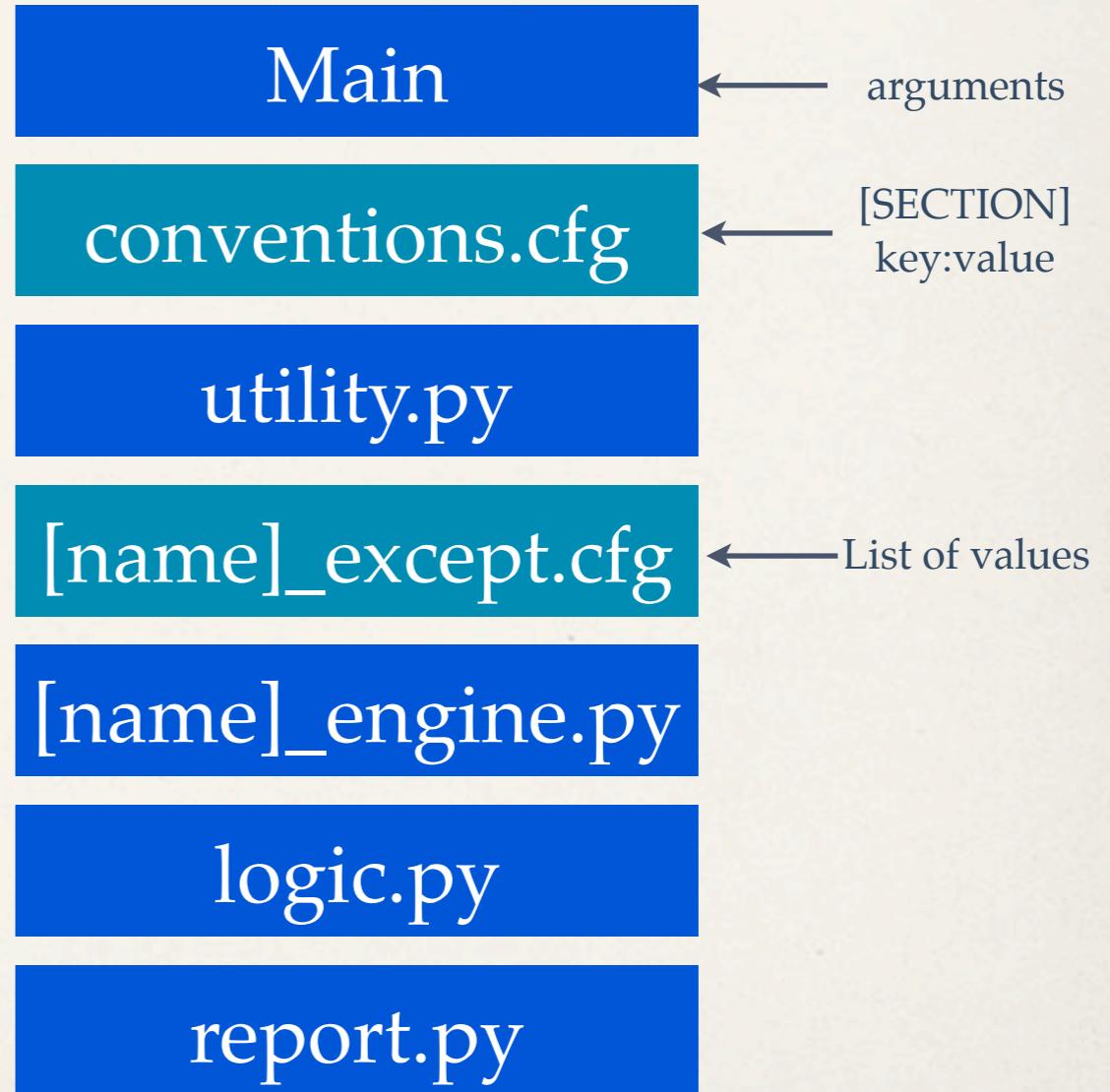
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- ❖ Why they need such a tool?
  - ❖ Check if there are any misconfigurations in the existing infrastructure
  - ❖ Standardize DB VMs
  - ❖ Keep informations up to date

# The solution: Db\_check

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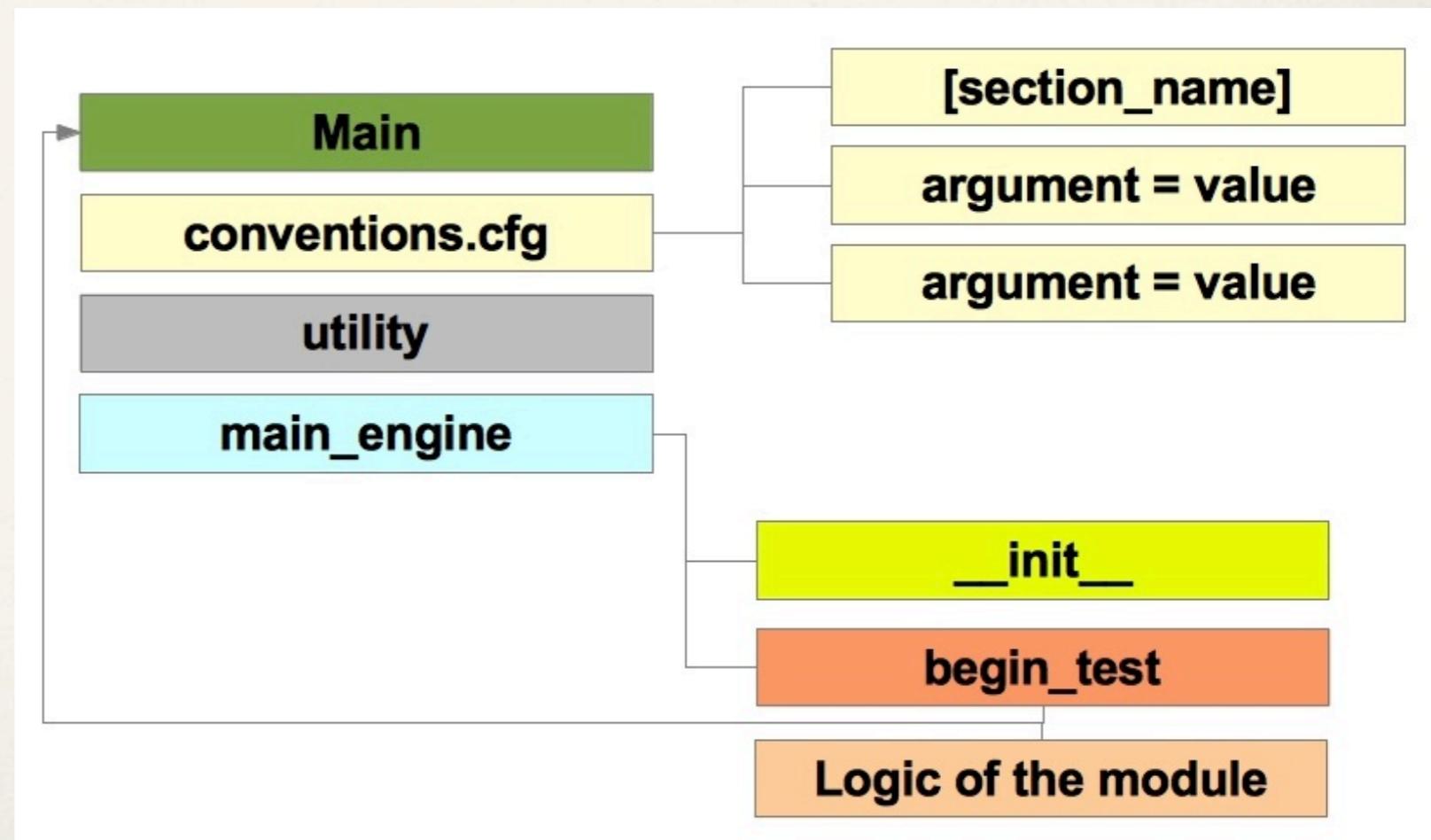
- ❖ Overview of the tool
  - ❖ Centralized
  - ❖ Extensible  
(Micro Framework)
  - ❖ Easy to learn
  - ❖ Practical



# At the beginning

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- ❖ Where it all started, first development:
  - ❖ Written in Perl
  - ❖ Less Modular
  - ❖ Main is not generic



# Why Python, why not Perl?

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- ❖ Easy to learn
  - ❖ Important for occasional users
- ❖ More readable code
  - ❖ Improved code maintenance

# How does it work - Main.py

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- ❖ The router: *main.py*
- ❖ Arguments are required
- ❖ Need to provide an Entities\_list
- ❖ --help

# How does it work - Configurations

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- \* *conventions.cfg*  
[SECTION]  
Key = Value  
Key = Value  
...  
#COMMENTS
- \* *exception\_[module].cfg*  
[SECTION]  
Key = Value  
Key = Value  
...
- \* Utility functions widely used in the tool

# How does it work - Engines

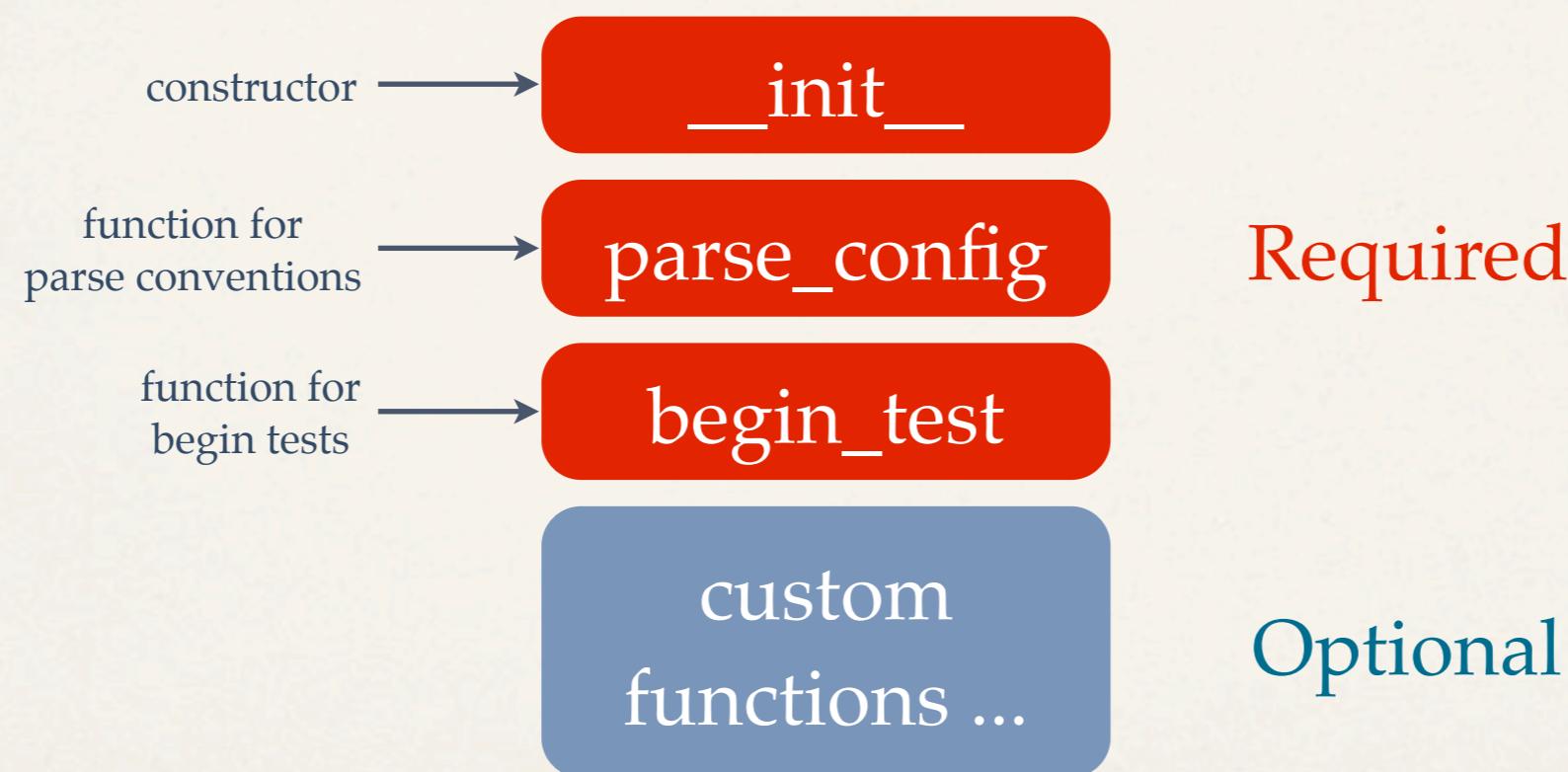
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- ❖ Gentlemen start your “engines”
- ❖ Three engines for now:
  - ❖ LDAP / SYSCTRL
  - ❖ ORACLE
  - ❖ SSH
- ❖ Retrieve informations only

# How does it work - Engine / 2

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- \* Structure of an engine



# How does it work - Logic

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- ❖ *logic.py*
- ❖ Compare dictionaries
- ❖ Crosschecks
- ❖ Extensible

# How does it work - Report

- ❖ *report.py*
- ❖ Email
- ❖ File
- ❖ Std output

```
Cern — oracle@dbvrts1035
dbvrts1035>-RDBMS>-RPMTSTDB:~/db_check_new$ ./main.py
No arguments passed.

Usage: main.py [OPTIONS]
      -ldap          Test the LDAP Directory
      -dbs           Test the Database
      -ssh            Test the Mountpoints
      -all            Test All

dbvrts1035>-RDBMS>-RPMTSTDB:~/db_check_new$ ./main.py -all
Getting The List of Databases and Hostnames to check
Testing LDAP...
Processing all 2 entities...

Done testing LDAP
Testing DBs...
Processing all 2 entities...

Done Testing DBs
Testing Muntpoints...
Processing all 2 hosts...

Done Testing Mountpoints
Reporting to stdout:

• report.py
ERRORS FOUND:
MOUNTS : ('test22-s.cern.ch': '', 'test21-s.cern.ch': '')
```

# The philosophy about make it open-source

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- ❖ Any advice or tips are welcome
- ❖ Looking for external contributors
- ❖ Abstraction of whole process
- ❖ SYSCtrl engine changed to open the project

# Conclusion and future developments

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- ❖ Documentation available on TWiki page
- ❖ Deploy on a small scale infrastructure
- ❖ Use to create a template file for VMs before production
- ❖ Multithreading

Thank You

