

Production Tools

L. Tomassetti

Refactoring

- Framework moved to template technology (✓)
- New Bookkeeping database schema adopted (✓)
- Grid authentication adopted in job / database communications (✓)
- Job script ported to python (✓)
- FullSim production on the Grid is under development
- Setup and integration of new Grid monitor services
- Production data distribution: via job or via Grid service

New WebUI

E. Vianello, et al.

CS master degree's student

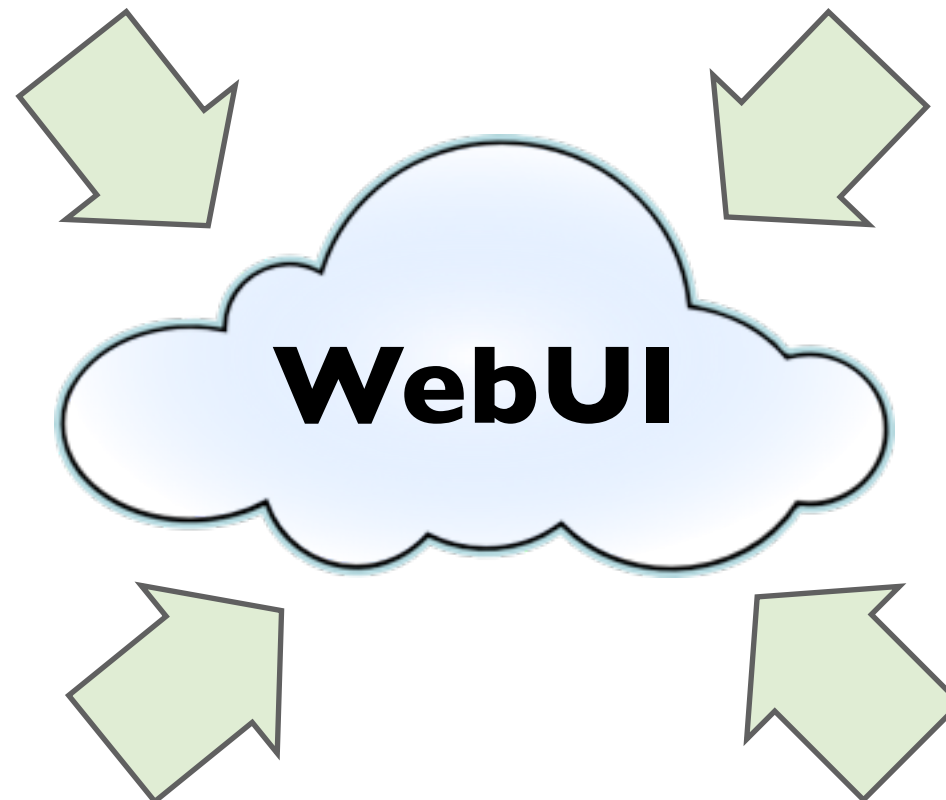
Structure



PHP:
version 5.3.6

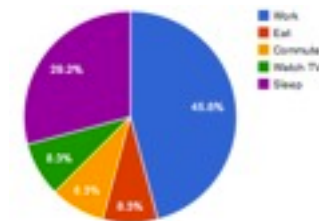
jQuery:

in order to obtain the greater accessibility,
performances



Smarty template engine:
to separate Presentation Logic Layer (HTML)
from Business Logic Layer (PHP)

Google Chart Tools:
to design charts



<http://code.google.com/intl/it-IT/apis/chart/index.html>

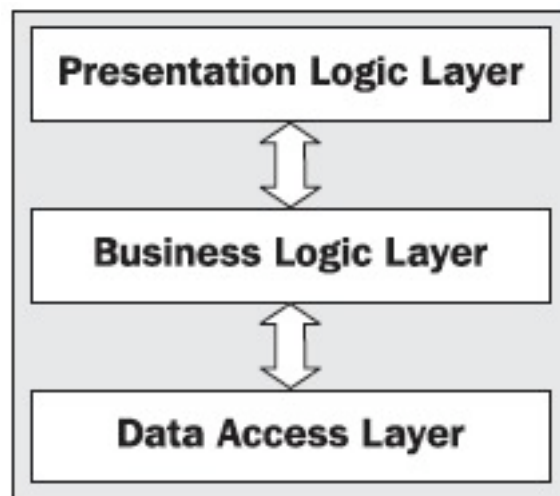
WebUI



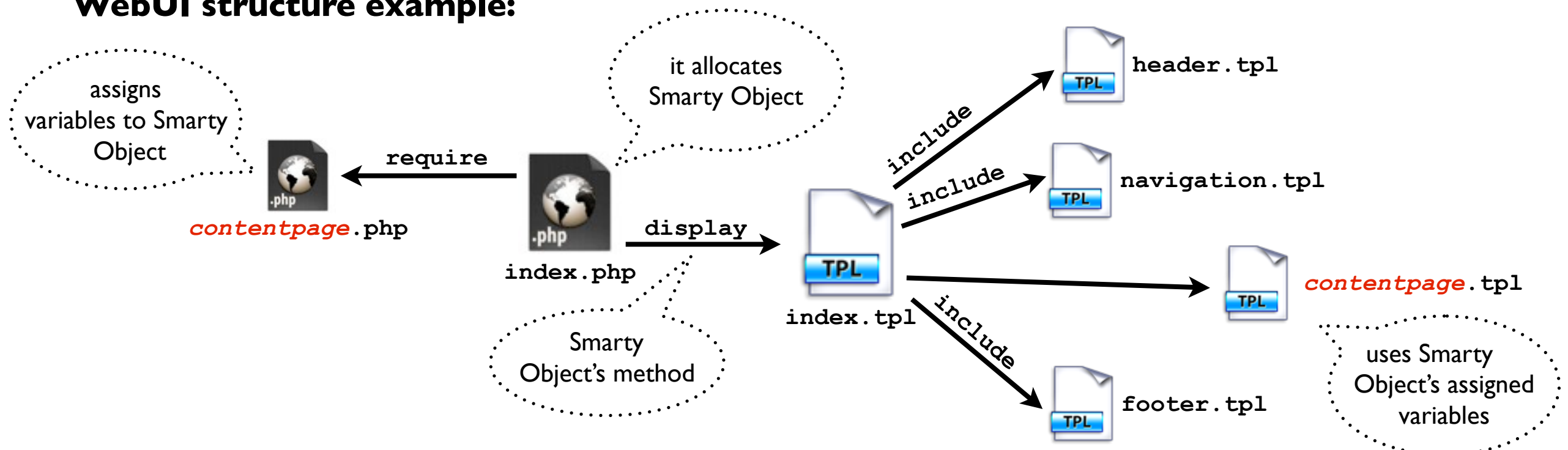
Smarty template engine (version 3):

The Smarty design was largely driven by these goals:

- clean separation of presentation from application code
- PHP backend, Smarty template frontend
- complement PHP, not replace it
- fast development/deployment for programmers and designers
- quick and easy to maintain
- syntax easy to understand, no PHP knowledge required
- flexibility for custom development
- security: insulation from PHP
- free, open source



WebUI structure example:



WebUI



Available pages:

- PRODUCTIONS: to manages and create prod series
- PRODUCTION REQUESTS: to manage, create, modify, validate and delete production's requests
- EXPERT INIT: to submit jobs through expert interface
- JOB MONITOR: to monitor the status of user's submitted jobs, by several research filters, and to access output and log files
- HOME: user can view his last n activities (like job submissions, with shortcut to job monitor)

“Work in progress” pages:

- SHIFT INIT: to submit jobs' bulk through shifter interface, reset sites

Future developments:

- SESSION MANAGEMENT pages: to manipulate sessions, software versions and revisions, environment vars and job parameters

WebUI

FASTSIM PRODUCTION LIST

☒ show test productions

Show entries

Search:

Prod Series	Status	Soft Release	Created on	Job Stats	uid	actions	note
2010_July	open	V0.2.5 311	2011-08-18 00:00:00		evianello	<button>close</button>	
2010_July_test	test	V0.2.5 311	2011-08-18 00:00:00	<div><div></div></div>	evianello		
2010_September_311	closed	V0.2.5 311	2010-09-15 00:00:00	<div><div></div></div>	LTomassetti	<button>open</button>	
2010_September_311_test	test	V0.2.5 311	2010-09-15 00:00:00	<div><div></div></div>	LTomassetti		
2010_September_307	closed	V0.2.5 307	2010-09-01 00:00:00	<div><div></div></div>	LTomassetti	<button>open</button>	
2010_September_307_test	test	V0.2.5 307	2010-09-01 00:00:00	<div><div></div></div>	LTomassetti		

Showing 1 to 6 of 6 entries

First Previous **1** Next Last

FASTSIM CREATE PRODUCTION:

All form fields are required.

Production Series:

Production ROOT:

Software Release:

Create Test prod_series? ☒

Create New Production

1. specify name

2. select software release

3. create

Checking prod_series value ['2011_September'] ... OK

Retrieving svn info ... ['/storage/gpfs_superb/prod/FastSim_test_releases/SuperB/FastSim/V0.2.5/'] ... OK

production name: 2011_September

production root: /storage/gpfs_superb/prod/

software release: V0.2.5 311

release work dir: /storage/gpfs_superb/prod/FastSim_test_releases/SuperB/FastSim/V0.2.5/

svn info: Path: /storage/gpfs_superb/prod/FastSim_test_releases/SuperB/FastSim/V0.2.5 /ReleaseFiles URL: https://sbrepo.pd.infn.it:8910/Releases/FastSim/V0.2.5 Repository Root: https://sbrepo.pd.infn.it:8910/Releases Repository UUID: a4350e25-c451-0410-a7f4-b41d6e663f70 Revision: 307 Node Kind: directory Schedule: normal Last Changed Author: brownd Last Changed Rev: 307 Last Changed Date: 2010-09-13 11:51:48 +0200 (Mon, 13 Sep 2010)

The Production ['2011_September'] was created successfully!

The Production ['2011_September_test'] was created successfully!

WebUI

Production Requests

[FastSim]

FASTSIM PRODUCTION

Select a production from list: 2010_September_311

Production Series:	2010_September_311
Production root:	/storage/gpfs_superb/prod/
Software Release:	V0.2.5 311
Release Work Dir:	/storage/gpfs_superb/prod/FastSim_test_releases/SuperB/FastSim/V0.2.5/
Status:	closed
Note:	

Total Jobs per Status:



Total Events per Status:



production selector

productions' request list

FASTSIM PRODUCTION REQUESTS

List of [43] 2010_September_311 requests:

Show 10 entries

hide/show columns

Search: Generics

Analysis	Generator	Geometry	Background	req.events	evt/job	#jobs	minrunnum	status	uid	operations
Generics	B+B+_generic	DG_4	MixSuperbBkg_NoPair.tcl	1000000000	50000	2000	1007207100	closed	LTomassetti	
progress: above										
events: 92350000/1000000000										
Jobs' status per site:										
Last submission: on 2010-10-01 08:37:00 by tomassetti										
total jobs: 100 total events: 5000000 total wct: 3922583.16										
+	Generics	B0B0bar_generic	DG_4	MixSuperbBkg_NoPair.tcl	1000000000	50000	2000	1007207000	closed	LTomassetti
+	Generics	B+B+_generic	DG_4	MixSuperbBkg.tcl	1000000000	50000	2000	1007205700	closed	LTomassetti
+	Generics	B0B0bar_generic	DG_4	MixSuperbBkg.tcl	1000000000	50000	2000	1007205000	closed	LTomassetti

Showing 1 to 4 of 4 entries (filtered from 43 total entries)

First Previous 1 Next Last

open details

base info

WebUI

FASTSIM CREATE NEW REQUEST

Select custom request and job parameters' values or import them from another production request:

import from...

production: 2010_September_311 request: [BtoKNuNu, B+B-_K+nunu, DG_4, MixSuperbBkg.tcl] import

Job Parameters:

Analysis: BtoKstarNuNu Generator: 8080bar_Btag-HD_Cocktail Geometry: DG_4 Background: All Bkg, No Pair (MixSuperb)

A Prod Request with the selected parameters doesn't exists and will be created

Request settings:

priority: 10 minrunnum: 10000000 required events: 10 evt/job: 1 number of jobs: 10 expected event time: 9.00 max wct: 57600

outputs' sites:

<input type="checkbox"/> CIT_CMS_T2B	<input type="checkbox"/> CIT_HEP_CE	<input type="checkbox"/> GRIF	<input type="checkbox"/> GRISU_UNINA	<input type="checkbox"/> IN2P3-CC	<input type="checkbox"/> INFN-BARI	<input type="checkbox"/> INFN-CAGLIARI
<input type="checkbox"/> INFN-FERRARA	<input type="checkbox"/> INFN-LNL-2	<input type="checkbox"/> INFN-MILANO	<input type="checkbox"/> INFN-NAPOLI-ATLAS	<input type="checkbox"/> INFN-PERUGIA	<input type="checkbox"/> INFN-PISA	<input checked="" type="checkbox"/> INFN-T1
<input type="checkbox"/> INFN-TORINO	<input type="checkbox"/> RAL-LCG2	<input type="checkbox"/> SLAC	<input type="checkbox"/> UKI-LT2-QMUL	<input type="checkbox"/> UKI-SOUTHGRID-OX-HEP	<input type="checkbox"/> UKI-SOUTHGRID-RALPP	<input type="checkbox"/> UNINA-EGEE
<input type="checkbox"/> VICTORIA-LCG2	<input type="checkbox"/> VICTORIA-LCG2-SL4					

note: (max. 255 characters)

CREATE REQUEST

create-request form

Request Creation Summary

- Checking request name value ... ['eda75aac8e217826d92ccb2fe961949d'] ... OK
- Request exists - it is no necessary to create it ... OK
- Checking production request value ... ['2010_July', 'eda75aac8e217826d92ccb2fe961949d'] ... OK
- Production Request doesn't exist - it is necessary to create it ... OK
- Creating Production Request ['2010_July', 'eda75aac8e217826d92ccb2fe961949d'] ... OK

priority: 20

minrunnum: 10000000

req events: 100000000

events/job: 50000

num. jobs: 2000

event time: 1

max wct: 57600

- The Production Request was created successfully!
- site: INFN-T1
- The Site/Sites' Request were created successfully!
- Associated Test Production Request created successfully!

- 1 it's possible to IMPORT the settings of an existent request, from one of all the production requests saved on the db
- 2 otherwise user can directly specify the values for every job parameter
- 3 request settings:
 - priority, minrunnum, required events, events per job, number of jobs, expected event time, max wct
 - list of sites where the jobs will store the output files
 - note

WebUI

Production:

Select a production from list:

1. select production

Production Series:	2010_July
Production root:	/storage/gpfs_superb/prod/
Software Release:	V0.2.5 311
Release Work Dir:	/storage/gpfs_superb/prod/FastSim_test_releases/SuperB/FastSim/V0.2.5/
Status:	open
Note:	

Total Jobs per Status: No jobs

Total Events per Status: No jobs

Submission Sites:

<input type="checkbox"/> CIT_CMS_T2B	<input type="checkbox"/> CIT_HEP_CE	<input type="checkbox"/> GRIF	<input type="checkbox"/> GRISU_UNINA	<input type="checkbox"/> IN2P3-CC	<input type="checkbox"/> INFN-BARI
<input type="checkbox"/> INFN-CAGLIARI	<input type="checkbox"/> INFN-FERRARA	<input type="checkbox"/> INFN-LNL-2	<input type="checkbox"/> INFN-MILANO	<input type="checkbox"/> INFN-NAPOLI-ATLAS	<input type="checkbox"/> INFN-PERUGIA
<input type="checkbox"/> INFN-PISA	<input type="checkbox"/> INFN-T1	<input type="checkbox"/> INFN-TORINO	<input type="checkbox"/> RAL-LCG2	<input type="checkbox"/> SLAC	<input type="checkbox"/> UKI-LT2-QMUL
<input type="checkbox"/> UKI-SOUTHGRID-OX-HEP	<input type="checkbox"/> UKI-SOUTHGRID-RALPP	<input type="checkbox"/> UNINA-EGEE	<input checked="" type="checkbox"/> VICTORIA-LCG2	<input type="checkbox"/> VICTORIA-LCG2-SL4	

Select all | none

2. select submission sites

Job Details:

is a test?

Test Job? ☐ Number of runs: Number of events:

Request:

☐ Log files to be stored in the bookkeeping database

first bulk

second bulk

Test Job? ☒ Number of runs: Number of events:

Request:

Analysis: Generator: Geometry: Background:

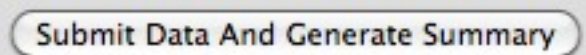
☒ Log files to be stored in the bookkeeping database

Production Request exists!

add/remove bulk

- User can submit jobs on different requests on the same production, or jobs on both main production and associated test production (as shown in the picture)
- In case of a test job, if the values of the job parameters does not exist in any of the request on the db, the request will be created before submit

WebUI

When all is ready to submit, press  and check the summary before confirm to submit jobs:

Summary

The UI will launch 2 set(s) of normal jobs (a total of 11 jobs, 11 events) for the Production 2010_July with the following parameters:

PRODUCTION DATA - SUMMARY					
Production Series:	2010_July				
Production root:	/storage/gpfs_superb/prod/				
Version:	V0.2.5				
Release working Directory:	/storage/gpfs_superb/prod/FastSim_test_releases/SuperB/FastSim/V0.2.5/				
Revision:	311				

JOBS DATA - SUMMARY										
Set	Number of Jobs	Site	First RUNNUM	Last RUNNUM	Number of Events	Analysis	Generator	Geometry	Background	Log in DB
1	10	VICTORIA-LCG2	10000000	10000009	10 (1 ea.)	BtoKNuNu	B+B-_Btag-HD_Cocktail	DG_0	MixSuperbBkg.tcl	0
2	1	VICTORIA-LCG2	10000065	10000065	1 (1 ea.)	HadRecoilCocktail				2010_July
2	11				11					

Production Initialization and Script Generation

Automatic Submission is performed by confirming the summary. If a valid proxy for the user can be created, all will go fine. The output of the bash command launched is shown on a dialog window:

```
Automatic submission output
Submission in Progress...Submission Done! (11.657 s)

Submit general file... 1/1
Executing... /data1/script_webui/FastSim/gangascripts/sbk4/2010_July_test/VICTORIA-
LCG2_10000065_10000065.sh

Launching Jobs
/tmp/tmp.IGerB28567

Executing command [/opt/exp_software/superb/ganga/install/5.5.26/bin/ganga --config-
path=/data1/script_webui/FastSim/gangascripts//superB.ini
-o[Configuration]user=evianello -o[Configuration]gangadir=/tmp/tmp.IGerB28567
/gangadir /data1/script_webui/FastSim/gangascripts//severus_ganga.gpi /data1
/script_webui/FastSim/confscripts/2010_July_test/ VICTORIA-
LCG2_10000065_10000065.conf 10000065 10000065 VICTORIA-LCG2 2010_July_test FastSim]

*** Welcome to Ganga ***
Version: Ganga-5-5-26
Documentation and support: http://cern.ch/ganga
Type help() or help('index') for online help.

This is free software (GPL), and you are welcome to redistribute it
under certain conditions; type license() for details.

[0;0mGanga.GPIDev.Lib.Job      : INFO    submitting job 0[0;0m
[0;0mGanga.GPIDev.Lib.Job      : INFO    job 0 status changed to
"submitting"[0;0m
```

WebUI

Monitoring the job:

Show 25 entries hide/show columns Search:

66 jobs found matching the search criteria.

runnum	events	Analysis	Generator	Geometry	Background	Status	wct (s)
10000065	1	HadRecoII_Cocktail	B0B0bar_Btag-HD_Cocktail	DG_4	PacProduction.tcl	running	
evianello							

more details of running status - improvement from Severus

Status	RUNNING-02 Coping software...	
running	gjid	VICTORIA-LCG2

Status	RUNNGEN01 the script is started Rest is OK logger is OK sounds good!	
running	gjid	VICTORIA-LCG2

Filter dialog for a job monitor research:

Job Monitor Filters

Filter Jobs by selecting:

User: evianello

Production: 2011_September

Requests: - all -

Runnums: from to

Status: ☒ prepared ☒ submitted ☒ running ☒ done ☒ failed ☒ sys-failed ☒ timeout
Select all | none | pending | notdone

Error code: - all -

Other: ☐ last 50 jobs
☐ submitted from more than 24 hours
☐ prepared from to

Sites:

☒ CIT_CMS_T2B ☒ CIT_HEP_CE
☒ GRIF ☒ GRISU_UNINA
☒ IN2P3-CC ☒ INFN-BARI
☒ INFN-CAGLIARI ☒ INFN-FERRARA
☒ INFN-LNL-2 ☒ INFN-MILANO
☒ INFN-NAPOLI-ATLAS ☒ INFN-PERUGIA
☒ INFN-PISA ☒ INFN-T1
☒ INFN-TORINO ☒ RAL-LCG2
☒ SLAC ☒ UKI-LT2-QMUL
☒ UKI-SOUTHGRID-OX-HEP ☒ UKI-SOUTHGRID-RALPP
☒ UNINA-EGEE ☒ VICTORIA-LCG2
☒ VICTORIA-LCG2-SL4

Select all | none

search jobs

WebUI

Job Monitor Filters

Filter Jobs by selecting:

User:

Production:

Requests:

Runnums: from to

Status: ☒ prepared ☒ submitted ☒ running ☒ done ☒ failed ☒ sys-failed ☒ timeout
Select all | none | pending | notdone

Error code:

Other: ☐ last jobs
☐ submitted from more than hours
☐ prepared from to

Sites:

<input checked="" type="checkbox"/> CIT_CMS_T2B	<input checked="" type="checkbox"/> GRIF
<input checked="" type="checkbox"/> IN2P3-CC	<input checked="" type="checkbox"/> INFN-BARI
<input checked="" type="checkbox"/> INFN-CAGLIARI	<input checked="" type="checkbox"/> INFN-LNL-2
<input checked="" type="checkbox"/> INFN-NAPOLI-ATLAS	<input checked="" type="checkbox"/> INFN-PISA
<input checked="" type="checkbox"/> INFN-T1	<input checked="" type="checkbox"/> INFN-TORINO
<input checked="" type="checkbox"/> RAL-LCG2	<input checked="" type="checkbox"/> SLAC
<input checked="" type="checkbox"/> UKI-LT2-QMUL	<input checked="" type="checkbox"/> UKI-SOUTHGRID-RALPP
<input checked="" type="checkbox"/> VICTORIA-LCG2	<input checked="" type="checkbox"/> VICTORIA-LCG2-SL4

Select all | none

multiple status selection

multiple site selection

selection of a particular request or from one to all job parameters' values

☒ prepared
prepared
submitted
running
terminated

Sep 2010

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

Time 15:23

Hour

Minute

Requests:

Analysis:

Generator:

Geometry:

Background:

WebUI

Job Monitor [FastSim]

FASTSIM JOB LIST

show filter dialog refresh last search error codes

Show 10 entries hide/show columns

1350 jobs found matching the search

runnum	events	Analysis	Generator	Geometry	Background	Status	GJid	Site	wct (s)
1007212524 manzali	50000	Generics	B0B0bar_generic	DG_4	MixSuperb	done	gjid	INFN-T1	38309.87
1007212523 manzali	50000	Generics	B0B0bar_generic	DG_4	MixSuperb	done	gjid	INFN-T1	38023.19
1007212522 manzali	50000	Generics	B0B0bar_generic	DG_4	MixSuperb	done	gjid	INFN-T1	85779.33
1007212521 manzali	50000	Generics	B0B0bar_generic	DG_4	MixSuperb	done	gjid	INFN-T1	39098.15
1007212520 manzali	50000	Generics	B0B0bar_generic	DG_4	MixSuperb	done	gjid	INFN-T1	39002.56
1007212519 manzali	50000	Generics	B0B0bar_generic	DG_4	MixSuperbBkg_NoPair.tcl	done	gjid	INFN-T1	39129.67
1007212518 manzali	50000	Generics	B0B0bar_generic	DG_4	MixSuperbBkg_NoPair.tcl	done	gjid	INFN-T1	97592.22
1007212517 manzali	50000	Generics	B0B0bar_generic	DG_4	MixSuperbBkg_NoPair.tcl	sys-failed 007	gjid	INFN-T1	39653.42
1007212516 manzali	50000	Generics	B0B0bar_generic	DG_4	MixSuperbBkg_NoPair.tcl	done	gjid	INFN-T1	38992.40
1007212515 manzali	50000	Generics	B0B0bar_generic	DG_4	MixSuperbBkg_NoPair.tcl	done	gjid	INFN-T1	85653.79

Showing 1 to 10 of 1,350 entries

First Previous 1 2 3 4 5 Next Last

Annotations:

- open filters (points to 'show filter dialog')
- refresh last research (points to 'refresh last search')
- hide/show columns (points to 'hide/show columns' and the column selection menu)
- string search filter (points to the search input field)
- open job details, list of output files and log (points to the 'manzali' link in the first row)

- use datatables to format the query results (www.datatables.net) via jQuery, perform string filter, sorting, pagination
- to prevent reaching php limit on output dimension, the query results is sent on sequential pages
- to prevent reaching browser script time limit every page is asked after a timeout from previous page download
- the query results are sent json encoded

WebUI

Home Page

USER INFO:



Hi Enrico Vianello!

user-id: evianello

auto-sub: ● enabled

you are member of 5

group(s):

- webui
- webuiFastProdMgr
- webuiFullProdMgr
- webuiShift
- WebUiDeveloper

user privileges:

- create productions
- create requests
- shifter ui
- expert ui
- monitoring jobs

GUIDE

Use the Horizontal Menu to access the various section of the WebUI.

See the 'Guide' boxes in the appropriate section...

RESOURCES

- Shifter Guide

user info, ldap groups and webui privileges

user statistics by session

last N activities

YOUR SESSIONS' STATISTICS:

session	job launched	job graph	events generated	total wct (s)
FastSim	51	<div><div></div></div>	51	2092.20

YOUR LAST 10 ACTIVITIES:

Show 10 entries

Search:

time	type	session	info
2011-09-07 15:12:52	JOBSUBMISSION	FastSim	job status: <div><div></div></div> Job submitted: 1 (events: 1) on 2010_July_test view details
2011-09-05 18:45:19	JOBSUBMISSION	FastSim	job status: <div><div></div></div> Job submitted: 1 (events: 1) on 2010_July_test view details
2011-09-05 18:37:21	JOBSUBMISSION	FastSim	job status: <div><div></div></div> Job submitted: 1 (events: 1) on 2010_July_test view details
2011-09-05 11:33:59	JOBSUBMISSION	FastSim	job status: <div><div></div></div> Job submitted: 4 (events: 4) on 2010_July_test view details
2011-09-05 11:33:06	JOBSUBMISSION	FastSim	job status: <div><div></div></div> Job submitted: 4 (events: 4) on 2010_July_test view details
2011-09-05 11:30:16	JOBSUBMISSION	FastSim	job status: <div><div></div></div> Job submitted: 2 (events: 2) on 2010_July_test view details
2011-09-05 11:26:34	JOBSUBMISSION	FastSim	job status: <div><div></div></div> Job submitted: 2 (events: 2) on 2010_July_test view details
2011-09-05 11:25:25	JOBSUBMISSION	FastSim	job status: <div><div></div></div> Job submitted: 2 (events: 2) on 2010_July_test view details
2011-09-05 11:24:13	JOBSUBMISSION	FastSim	job status: <div><div></div></div> Job submitted: 2 (events: 2) on 2010_July_test view details
2011-09-05 10:48:46	JOBSUBMISSION	FastSim	job status: <div><div></div></div> Job submitted: 4 (events: 4) on 2010_July_test view details

Showing 1 to 10 of 10 entries

First Previous 1 Next Last

3 kinds of activity type:
- job submission
- production created
- request created

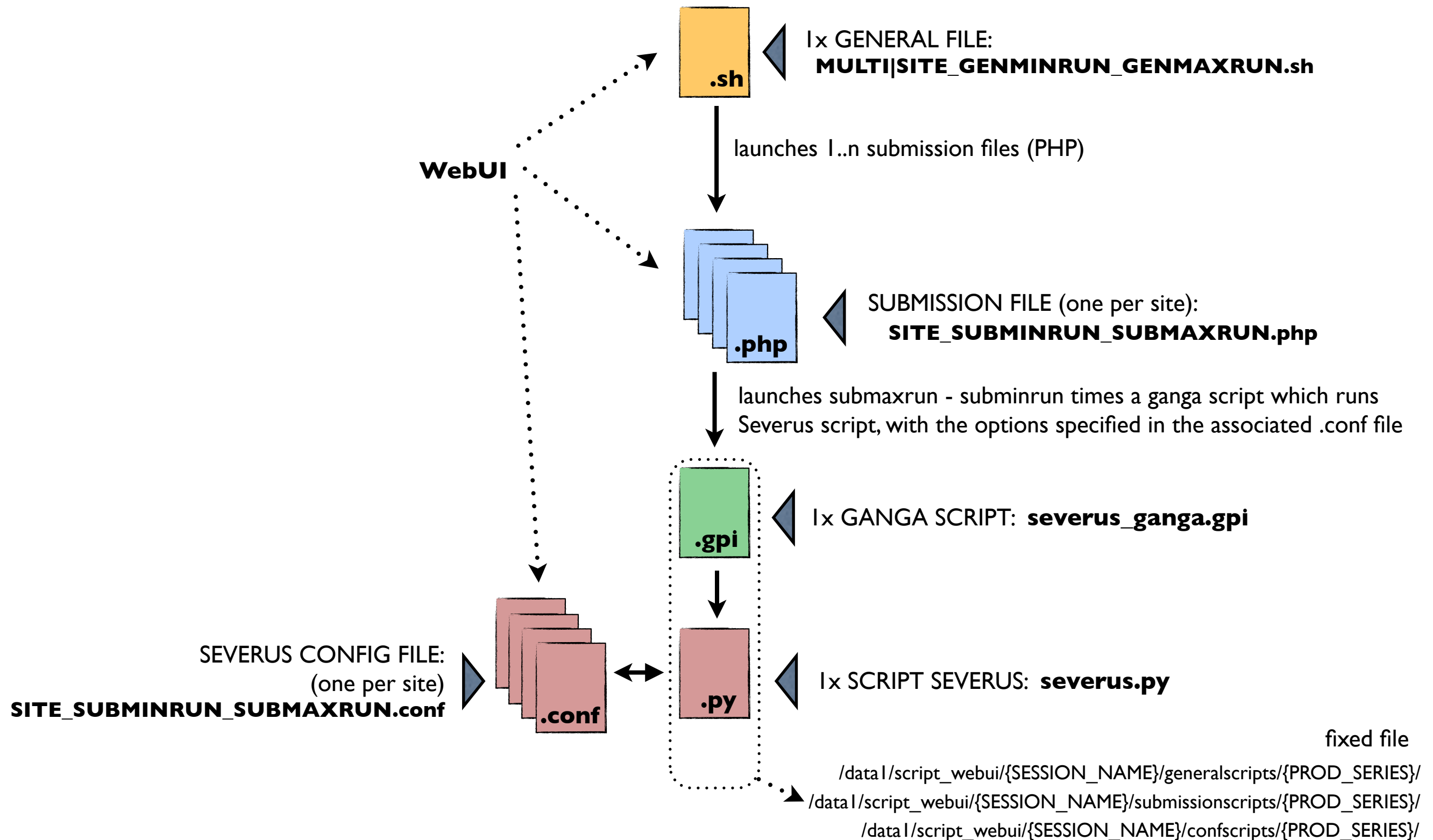
link to the submission status on job monitor page

FASTSIM JOB LIST									
<div>show filter dialog refresh last search error codes</div>									
Show 25 entries hide/show columns									
4 jobs found matching the search criteria.									
runnum	events	Analysis	Generator	Geometry	Background	Status	Grid	Site	wct (s)
10000038 evianello	1	HadRecoCocktail	8080bar_Btag-HD_Cocktail	DG_4	PacProduction.tcl	done	ggd	VICTORIA-LCG2	79.80
10000037 evianello	1	HadRecoCocktail	8080bar_Btag-HD_Cocktail	DG_4	PacProduction.tcl	done	ggd	GRIF	52.10
10000036 evianello	1	HadRecoCocktail	8080bar_Btag-HD_Cocktail	DG_4	PacProduction.tcl	done	ggd	VICTORIA-LCG2	83.60
10000035 evianello	1	HadRecoCocktail	8080bar_Btag-HD_Cocktail	DG_4	PacProduction.tcl	failed null	ggd	GRIF	13.60
Showing 1 to 4 of 4 entries									
First Previous 1 Next Last									

15

table generated in '0000:00:01.17' (destroyed in: 0000:00:00.00)

WebUI



New Job Script

M. Manzali, M. Favaro, et al.

CS master degree's students

JOB SCHEMA

- Job launch a bash script (exe.sh) with two parameters: the configuration file name and the run number
- exe.sh is a simple script that unzip severus and launch it passing configuration file name and run number
- file.conf is the configuration file of the job (contains all the informations needed by the simulation software, the rest and Severus)



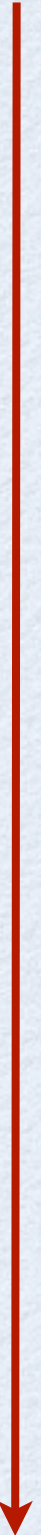
SEVERUS OBJECTS

- **SeverusWrapper:**
 - checks the version of python in the worker node and launches the correct object (if there is one for that version)
- **GeneralScript:**
 - is independent from the simulation, it prepares the environment and handles the output files
- **FastSim:**
 - this object is customized for a specific simulation, it copies input files and software and executes the simulation software
- **ScriptObj:**
 - contains utility classes like rest, parser, logger, etc.

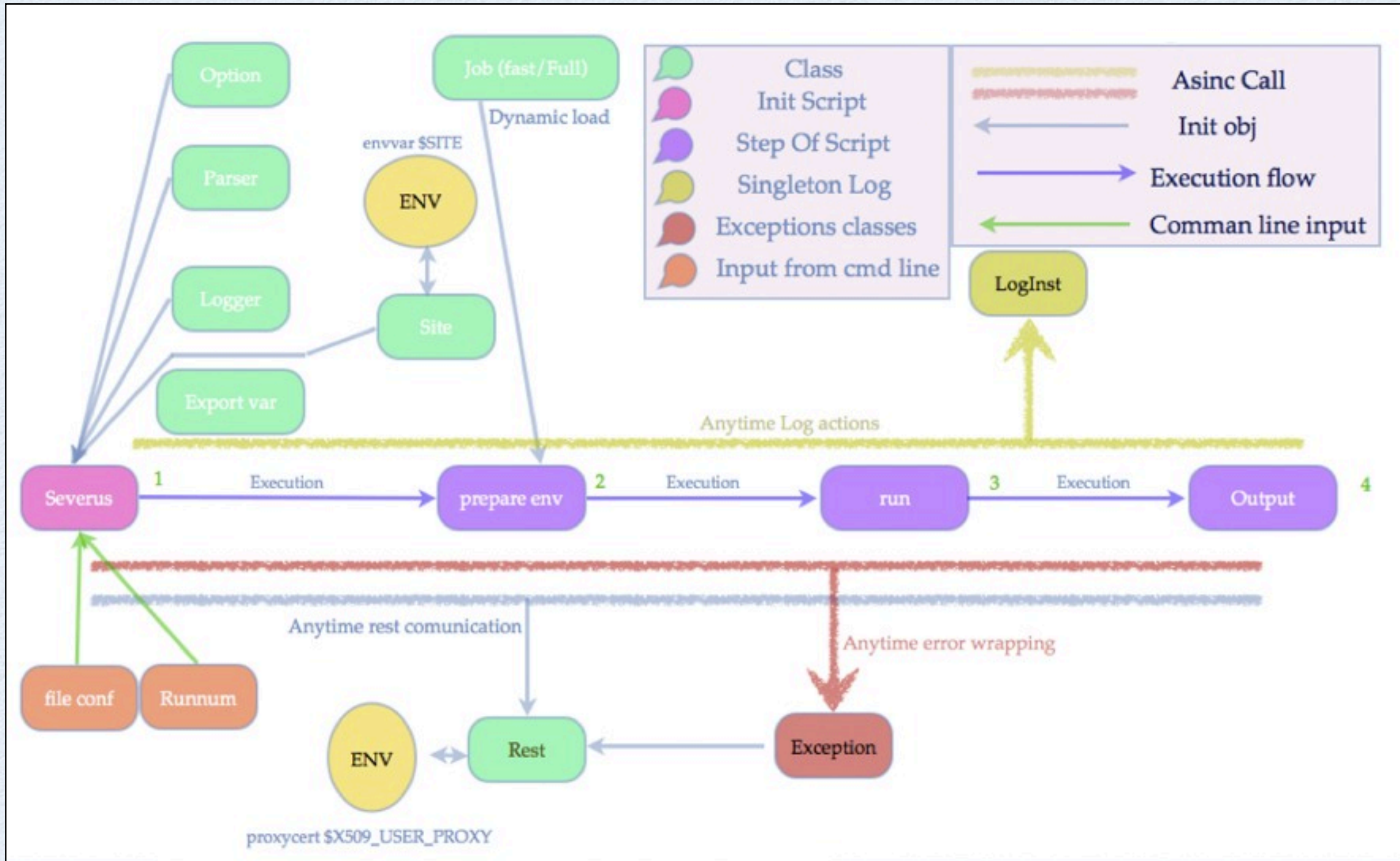
SEVERUS SCHEMA 1

- **Python's version check (SeverusWrapper):**
 - launches the correct object for a specific python's version
- **Environment setting (GeneralScript):**
 - parsing of the configuration file
 - creation of the utility classes (Rest, Logger, Parser, Option)
- **Simulation's execution (FastSim):**
 - copies input files and simulation software from the storage element to the worker node
 - executes the simulation software
- **Final operations (GeneralScript):**
 - copies output files and log from the worker node to the destination storage element

TIMELINE



SEVERUS SCHEMA 2



FullSim into the Grid

- We are working on it!
- The new python job structure makes the process easier:
 - Addition of proper configuration file
 - Development of proper FullSim object (not so different from FastSim one)
- by the end of September...

Grid Monitor

- Possibility to retrieve the job status from the infrastructure
- Automatic and / or manual update of Bookkeeping database
- Useful for problematic jobs (hanging / crashed / frozen at any stage)

Thanks