

PRODUCTION TOOLS STATUS

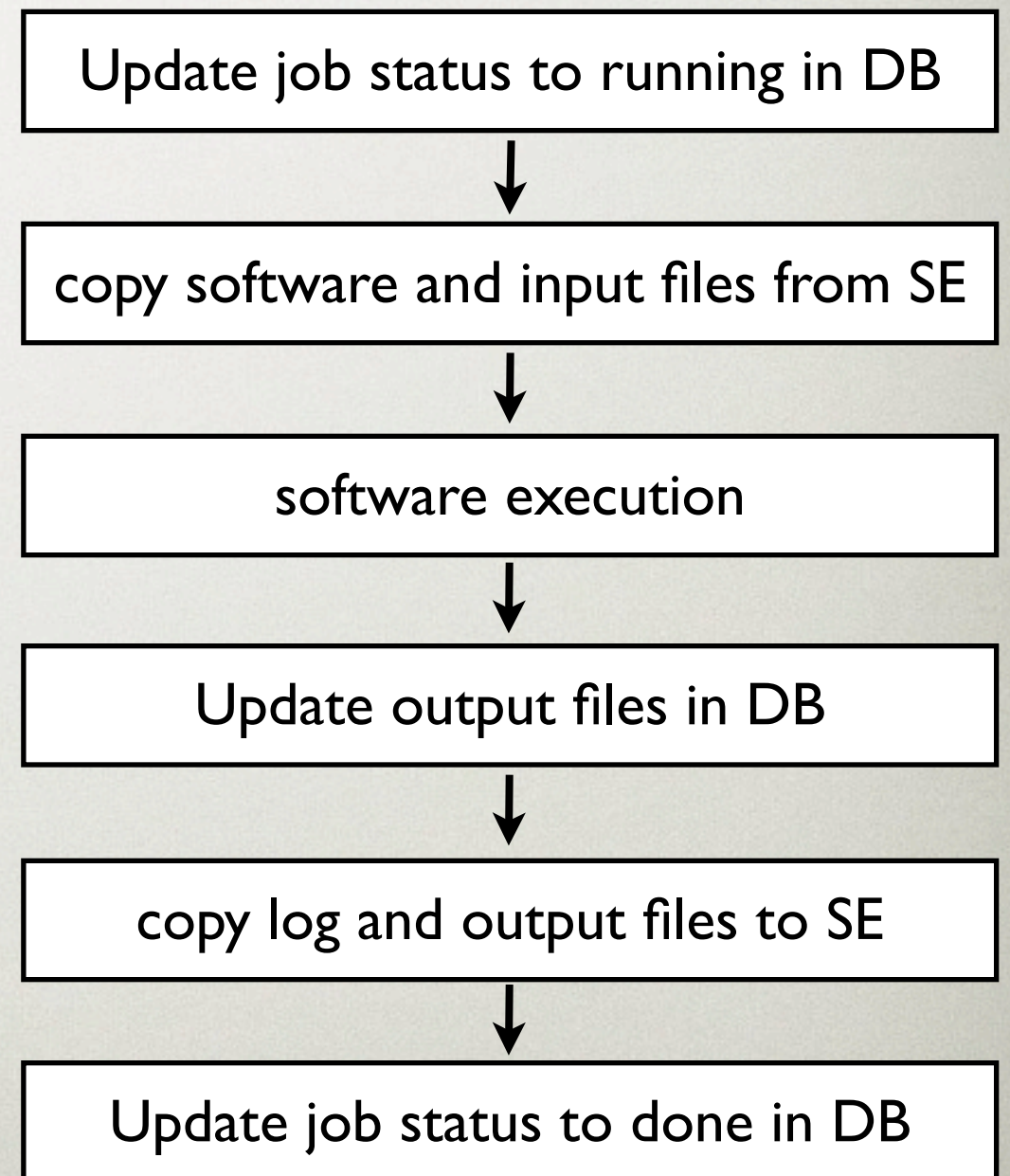
MATTEO MANZALI

SUMMARY

- Signal handling of critical status [DONE]
- Re-factoring of data handling procedures via LCG-Utills [DONE]
- Minor job optimizations [DONE]
- GANGA submission engine optimization [DONE]
- Web portal recoding using template php library [IN PROGRESS]
- Job proxy authentication with DB [IN PROGRESS]

SIGNAL HANDLING OF CRITICAL STATUS

- Job can fail for two main reasons:
 - a problem performing any of its internal tasks (schema on the right)
 - a worker node problem (e.g. proxy expiration)



SIGNAL HANDLING OF CRITICAL STATUS

- For each “critical step” the script tries to perform the task in different ways (failover chain)
- A special signal will be sent if script hasn't been able to complete the operation
- Each specific operation has its own error code that is handled by the function that traps signals
- Grid job wrapper signals is handled too

SIGNAL HANDLING OF CRITICAL STATUS

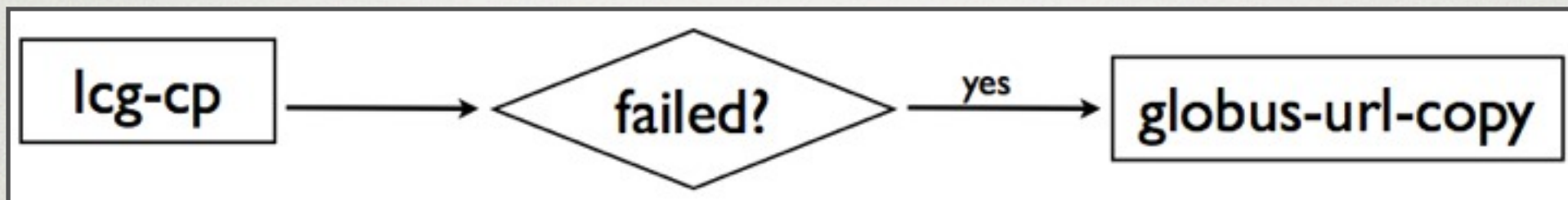
- These are script's main categories of error codes:
 - 3xx -> error updating job status
 - 4xx -> error copying input files or software
 - 5xx -> error running application
 - 6xx -> error copying log or output files, or updating output status

RE-FACTORING OF DATA HANDLING PROCEDURES VIA LCG-UTILS

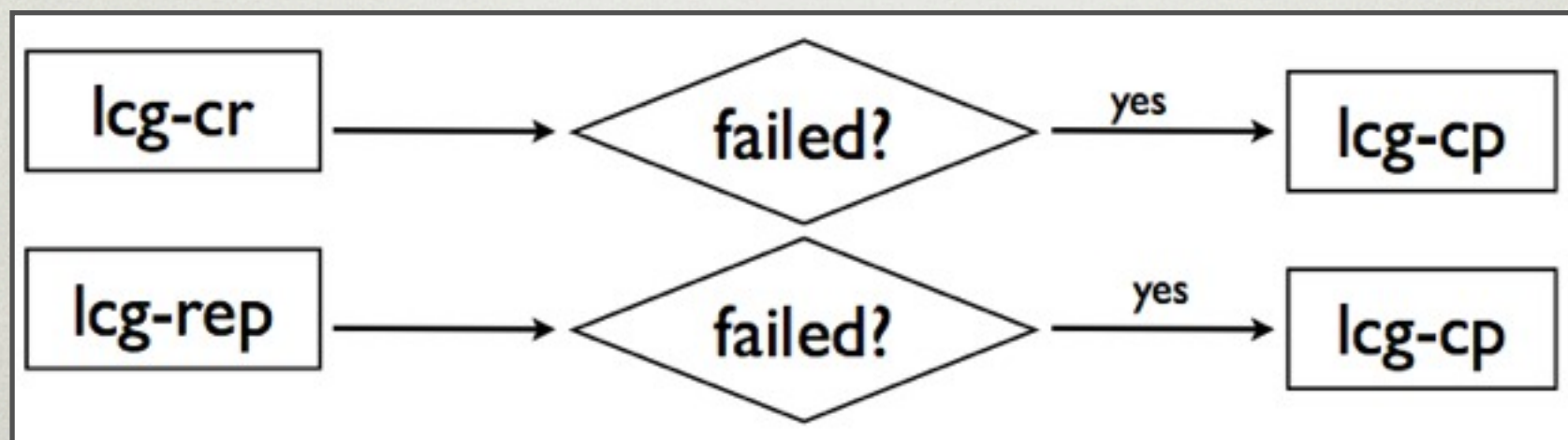
- LCG-Utills is a suite of client tools for data movement written for the LHC Computing Grid
- The tools allow users to
 - copy files between WN, UI and a SE
 - register entries in the file catalog (LFC)
 - replicate files between SEs

RE-FACTORIZING OF DATA HANDLING PROCEDURES VIA LCG-UTILS

- LCG script functions before refactoring:
 - for input files and tarball

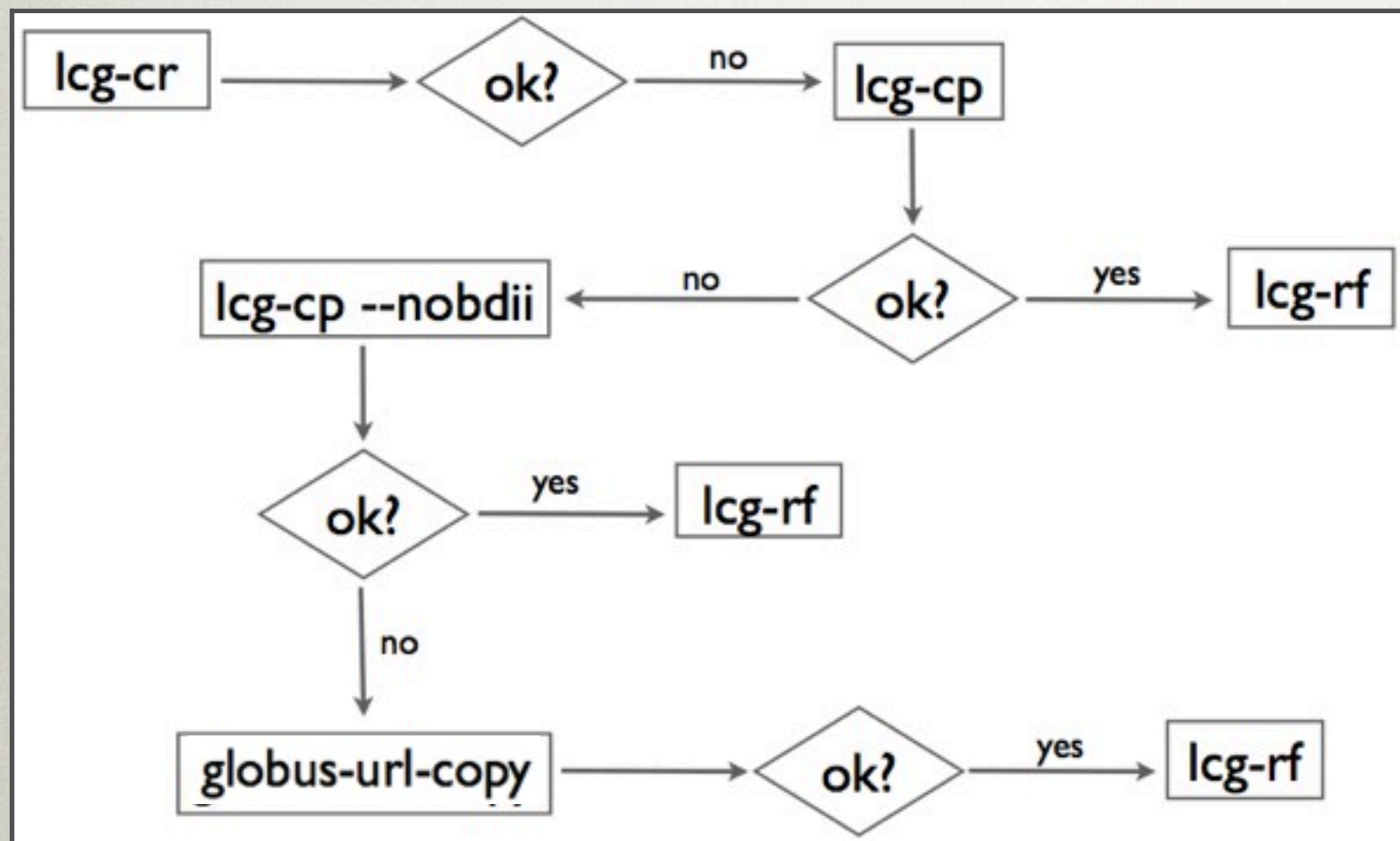


- for output files and log



RE-FACTORIZING OF DATA HANDLING PROCEDURES VIA LCG-UTILS

- New failover chain implemented:



Legend:

lcg-cr = *copy and register*

lcg-cp = *copy*

--nobdii = *grid information system disabled*

lcg-rf = *only register*

globus-url-copy = *copy (explicit GridFTP)*

MINOR JOB OPTIMIZATIONS

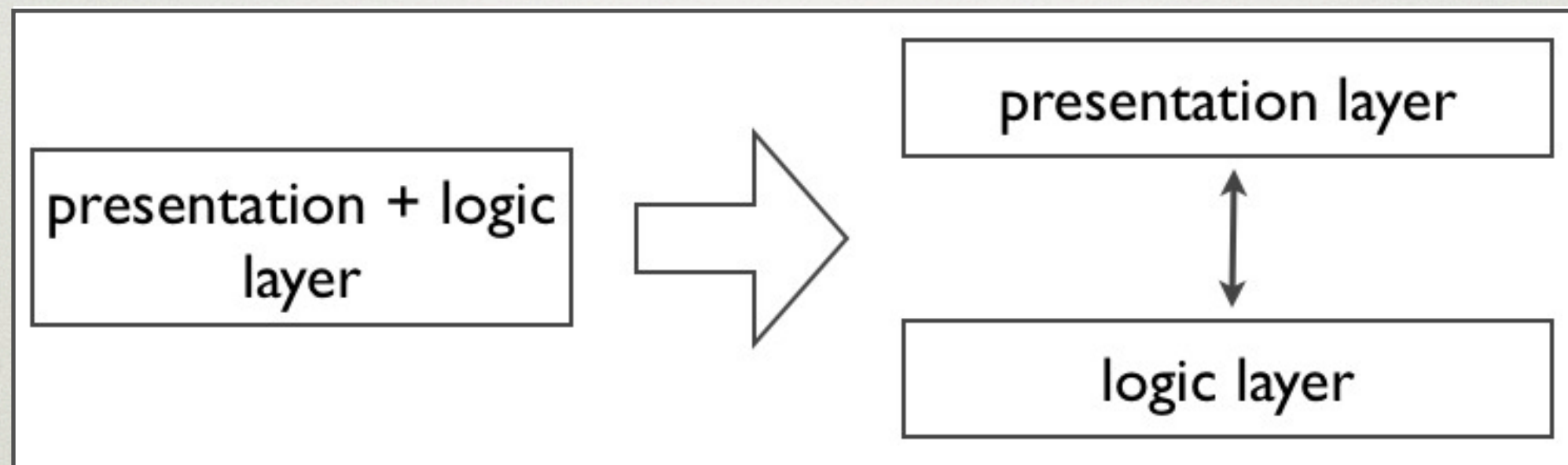
- Optimization of script's err / out log redirection management
- Site configuration file has been parametrized, in order to make it cleaner and easier to modify

GANGA SUBMISSION ENGINE OPTIMIZATION

- Setup of unique configuration management point for SuperB production managers
- Ganga script tuning, after submission:
 - script updates bookkeeping DB changing job status from prepared to submitted and setting grid job ID
 - ganga monitor has been inhibited permitting faster and more reliable submission operation

WEB PORTAL RECODING USING TEMPLATE PHP LIBRARY

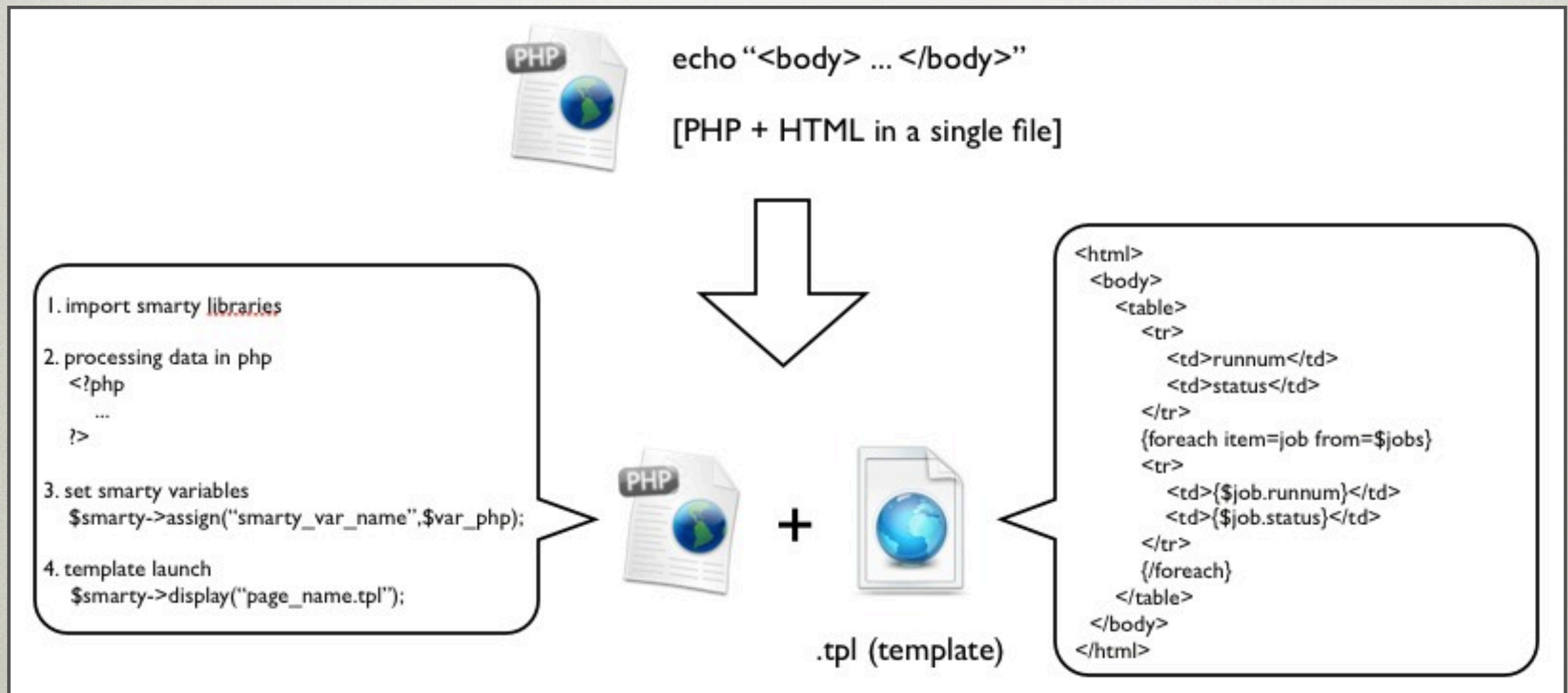
- Use a template library means separating presentation layer from logic layer



- Leading to a simplification in development and code analysis

WEB PORTAL RECODING USING TEMPLATE PHP LIBRARY

- Smarty toolkit is chosen as template engine



JOB PROXY AUTHENTICATION WITH DB

- Job proxy authentication and authorization for REST communication to the DB will improve the security layer
- Managed by mod_SSL and mod_gridsite httpd modules (production tool side)
- Authentication based on proxy certificate chain
- Authorization delegated to the VOMS by means of a specific “ProductionManager” role