API Documentation

API Documentation

May 9, 2017

Contents

Contents 1

1 Module ES 2
- 1.1 Functions . . . 2
- 1.2 Variables . . . 2

2 Module QCG_script_generator 3
- 2.1 Functions . . . 3
- 2.2 Variables . . . 3

3 Module RC 4
- 3.1 Functions . . . 4
- 3.2 Variables . . . 4

4 Module cost_functions 5
- 4.1 Functions . . . 5
- 4.2 Variables . . . 5

5 Module models 6
- 5.1 Functions . . . 6
- 5.2 Variables . . . 6

6 Module patterns 7
- 6.1 Variables . . . 7

7 Module scenarios 8
- 7.1 Functions . . . 8
- 7.2 Variables . . . 8
- 7.3 Class scenario . . . 8
  - 7.3.1 Methods . . . 8

Index 10

1 Module ES

1.1 Functions

ES(*output_filename*, *multiscaleDoc*, *matrixDoc*, *args*)

1.2 Variables

Name	Description
___package___	**Value:** `None`

2 Module QCG_script_generator

2.1 Functions

QCG_script_ES(*output_filename*, *multiscaleDoc*, *args*, *kernelNames*, *helpers*, *kernel_helpers*, *Plans*)

QCG_script_RC(*output_filename*, *multiscaleDoc*, *args*, *kernelNames*, *helpers*, *kernel_helpers*, *Plans*)

remove_blanks(*node*)

2.2 Variables

Name	Description
___package___	**Value:** `None`

3 Module RC

3.1 Functions

RC(*output_filename*, *multiscaleDoc*, *matrixDoc*, *args*)

3.2 Variables

Name	Description
___package___	**Value:** `None`

4 Module cost_functions

4.1 Functions

shortestTime(*scenarios*, *number*)

maximumEfficiency(*scenarios*, *number*)

efficiencyBetween(*scenarios*, *number_e1*, *number_e2*, *number*)

findClassName(*best_node_name*, *best_node_type*, *classNames*)

4.2 Variables

Name	Description
___package___	**Value:** `None`

5 Module models

5.1 Functions

getElements(*matrixDoc*, *multiscaleDoc*)

getModelTime(*multiscaleDoc*, *helpers*)

getAuxModelTime(*multiscaleDoc*, *kernelNames*, *primary_idx*, *helpers*)

getInstances(*multiscale_topology*, *submodels_all*)

getPerformanceInstances(*submodels_all_perf*, *kernelNames*)

getCoresES(*multiscaleDoc*, *matrixDoc*, *kernelNames*)

getCoresRC(*multiscaleDoc*, *matrixDoc*, *kernelNames*)

getPrimary(*submodels_performance*)

getHostNamesPerSubmodel(*submodels_all*, *kernelNames*)

getNodeTypesPerSubmodel(*submodels_all*, *kernelNames*)

5.2 Variables

Name	Description
___package___	**Value:** `None`

6 Module patterns

6.1 Variables

Name	Description
argp	**Value:** `argparse.ArgumentParser(prog= "patterns", description= "P...`
args	**Value:** `argp.parse_args()`
matrixFile	**Value:** `sys.argv [1]`
matrixDoc	**Value:** `minidom.parse(matrixFile)`
multiscaleFile	**Value:** `sys.argv [2]`
multiscaleDoc	**Value:** `minidom.parse(multiscaleFile)`
dir_name	**Value:** `os.path.dirname(os.path.abspath(matrixFile))`
output_filename	**Value:** `dir_name+ "/out.xml"`

7 Module scenarios

7.1 Functions

getPerformance(*sm*)

defineScenarios(*submodels*, *kernelNames*, *idx*, *model_time*, *auxmodel_time*)

sortScenarios(*ss*, *i*)

i 0 -> Time 1 -> Efficiency

sameHostScenarios(*ss*, *host*)

sameTypeScenarios(*ss*, *t*)

filterScenariosByHostsPerSubmodel(*ss*, *hosts*)

filterScenariosByTypesPerSubmodel(*ss*, *types*)

getBestPlansCombination(*kernelNames*, *fastest_scenarios*, *numberOfPlans*)

7.2 Variables

Name	Description
___package___	**Value:** `None`

7.3 Class scenario

7.3.1 Methods

___init___(*self*, *cores*, *hostName*, *nodeType*, *time*, *TotalTime*, *numberOfNodes*, *Efficiency*)

getCores(*self*)

getNumberOfCores(*self*)

getTotalTime(*self*)

getSubmodelsTimes(*self*)

getEfficiency(*self*)

getTotalNumberOfNodes(*self*)

getNumberOfNodes(*self*)

getHostName(*self*)

getNodeType(*self*)

hasSameHost(*self*)

hasSameType(*self*)

getRealResourceUsagePerSubmodel(*self*)

getRealResourceUsage(*self*)

getTheoreticalResourceUsagePerSubmodel(*self*)

getTheoreticalResourceUsage(*self*)

Index

cost_functions *(module)*, 5
  cost_functions.efficiencyBetween *(function)*, 5
  cost_functions.findClassName *(function)*, 5
  cost_functions.maximumEfficiency *(function)*, 5
  cost_functions.shortestTime *(function)*, 5

ES *(module)*, 2
  ES.ES *(function)*, 2

models *(module)*, 6
  models.getAuxModelTime *(function)*, 6
  models.getCoresES *(function)*, 6
  models.getCoresRC *(function)*, 6
  models.getElements *(function)*, 6
  models.getHostNamesPerSubmodel *(function)*, 6
  models.getInstances *(function)*, 6
  models.getModelTime *(function)*, 6
  models.getNodeTypesPerSubmodel *(function)*, 6
  models.getPerformanceInstances *(function)*, 6
  models.getPrimary *(function)*, 6

patterns *(module)*, 7

QCG_script_generator *(module)*, 3
  QCG_script_generator.QCG_script_ES *(function)*, 3
  QCG_script_generator.QCG_script_RC *(function)*, 3
  QCG_script_generator.remove_blanks *(function)*, 3

RC *(module)*, 4
  RC.RC *(function)*, 4

scenarios *(module)*, 8–9
  scenarios.defineScenarios *(function)*, 8
  scenarios.filterScenariosByHostsPerSubmodel *(function)*, 8
  scenarios.filterScenariosByTypesPerSubmodel *(function)*, 8
  scenarios.getBestPlansCombination *(function)*, 8
  scenarios.getPerformance *(function)*, 8
  scenarios.sameHostScenarios *(function)*, 8
  scenarios.sameTypeScenarios *(function)*, 8
  scenarios.scenario *(class)*, 8–9
    scenarios.scenario.___init___ *(method)*, 8
    scenarios.scenario.getCores *(method)*, 8
    scenarios.scenario.getEfficiency *(method)*, 8
    scenarios.scenario.getHostName *(method)*, 9
    scenarios.scenario.getNodeType *(method)*, 9
    scenarios.scenario.getNumberOfCores *(method)*, 8
    scenarios.scenario.getNumberOfNodes *(method)*, 9
    scenarios.scenario.getRealResourceUsage *(method)*, 9
    scenarios.scenario.getRealResourceUsagePerSubmodel *(method)*, 9
    scenarios.scenario.getSubmodelsTimes *(method)*, 8
    scenarios.scenario.getTheoreticalResourceUsage *(method)*, 9
    scenarios.scenario.getTheoreticalResourceUsagePerSubmodel *(method)*, 9
    scenarios.scenario.getTotalNumberOfNodes *(method)*, 8
    scenarios.scenario.getTotalTime *(method)*, 8
    scenarios.scenario.hasSameHost *(method)*, 9
    scenarios.scenario.hasSameType *(method)*, 9
  scenarios.sortScenarios *(function)*, 8