# monitoring-server v1.0.0

RESTful services for the ATOM monitoring framework

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# Deployment\_Plans

## Return available deployment plans

GET /deployments/:workflowID/:taskID/:platformID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| workflowID | String | identifier for a workflow, e.g. ‘ms2’ |
| taskID | String | identifier for a task, e.g. ‘t2.1’ |
| platformID | String | identifier for a platform, e.g. ‘excesscluster’ |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/deployments/ms2/t2.1/excesscluster

### Success Response

HTTP/1.1 200 OK  
{  
 "cf8ba177b43e4a837c4c213f6a149ead4f1ec9ef2e976306a07711e88bf6c60c": {  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/deployments/ms2/t2.1/excesscluster/cf8ba177b43e4a837c4c213f6a149ead4f1ec9ef2e976306a07711e88bf6c60c"  
 },  
 "e57d089e2cc396f04d277aa35c399b4a5af5b56f65682b4f4952dd7f334a2c15": {  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/deployments/ms2/t2.1/excesscluster/e57d089e2cc396f04d277aa35c399b4a5af5b56f65682b4f4952dd7f334a2c15"  
 },  
 "d6d33f5097e23e55659aba9004dbeb257970926e3927a01c10ff431fe48555e9": {  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/deployments/ms2/t2.1/excesscluster/d6d33f5097e23e55659aba9004dbeb257970926e3927a01c10ff431fe48555e9"  
 },  
 "79f2e72501da8a8bcff9d6cd711b44a0fe8174a751e897c51ef7a7d110b925d8": {  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/deployments/ms2/t2.1/excesscluster/79f2e72501da8a8bcff9d6cd711b44a0fe8174a751e897c51ef7a7d110b925d8"  
 },  
 ..  
}

### Error Response

HTTP/1.1 404 Not Found  
{  
 "error": "No deployment plans found for the given worklow, task, and platform."  
}

## Return a given deployment plan

GET /deployments/:workflowID/:taskID/:platformID/:deploymentPlanID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| workflowID | String | identifier for a workflow, e.g. ‘ms2’ |
| taskID | String | identifier for a task, e.g. ‘t2.1’ |
| platformID | String | identifier for a platform, e.g. ‘excesscluster’ |
| deploymentPlanID | String | identifier for a deployment plan, e.g. ‘cf8ba177b43e4a837c4c213f6a149ead4f1ec9ef2e976306a07711e88bf6c60c’ |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/deployments/ms2/t2.1/excesscluster/cf8ba177b43e4a837c4c213f6a149ead4f1ec9ef2e976306a07711e88bf6c60c

### Success Response

HTTP/1.1 200 OK  
{  
 "estimatedTime": 0,  
 "node": {  
 "id": "node02",  
 "cpus": [  
 {  
 "id": "cpu0",  
 "cores": [  
 {  
 "id": "core0",  
 "pwMode": 100  
 },  
 {  
 "id": "core1",  
 "pwMode": 100  
 }  
 ]  
 }  
 ]  
 },  
 "experiments": {  
 "AVXQa1RU0GMPeuCn4\_2S": 1  
 }  
}

### Error Response

HTTP/1.1 404 Not Found  
{  
 "error": "Deployment plan unavailable."  
}

## Add a new deployment plan

PUT /deployments/:workflowID/:taskID/:platformID/:experimentID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| workflowID | String | identifier for a workflow, e.g. ‘ms2’ |
| taskID | String | identifier for a task, e.g. ‘t2.1’ |
| platformID | String | identifier for a platform, e.g. ‘excesscluster’ |
| experimentID | String | identifier of an experiment, e.g. ‘AVX123A3asd\_S’ |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/deployments/ms2/t2.1/excesscluster/AVX123A3asd\_S

### Success Response

HTTP/1.1 200 OK  
{  
 "deployment\_id": "da117e8171ae58b935a02a9768c21ce96ffd5f6e"  
 "predicted\_time": 2017  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/deployments/ms2/t2.1/test\_cluster/da117e8171ae58b935a02a9768c21ce96ffd5f6e"  
 }

### Error Response

HTTP/1.1 500 Internal Server Error  
{  
 "error": "Could not store given deployment plan."  
}

# Energy

## Return energy data for the given experiment ID

GET /energy/:workflowID/:experimentID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| workflowID | String | identifier for a workflow, e.g. ‘ms2’ |
| experimentID | String | identifier for an experiment, e.g. ‘AVQa1RU0GMPeuCn4\_2S\_’ |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/energy/ms2/AVQa1RU0GMPeuCn4\_2S\_

### Success Response

HTTP/1.1 200 OK  
{  
 "T2.1": [  
 {  
 "@timestamp": "2016-04-15T18:51:07.4292211",  
 "type": "pwm",  
 "ATX12V\_node01": 19,  
 "CPU1\_node01": 111,  
 "CPU2\_node01": 113,  
 "GPU\_node01": 15  
 },  
 {  
 "@timestamp": "2016-04-15T18:51:07.4292611",  
 "type": "pwm",  
 "ATX12V\_node01": 19,  
 "CPU2\_node01": 110,  
 "CPU1\_node01": 115,  
 "GPU\_node01": 15  
 },  
 {  
 "@timestamp": "2016-04-15T18:51:07.4292111",  
 "type": "pwm",  
 "GPU\_node01": 15,  
 "CPU1\_node01": 110,  
 "ATX12V\_node01": 19,  
 "CPU2\_node01": 113  
 },  
 ...  
 ],  
 "T2.2": [  
 {  
 "@timestamp": "2016-04-15T18:52:08.4293011",  
 "type": "pwm",  
 "CPU1\_node01": 118,  
 "GPU\_node01": 15,  
 "CPU2\_node01": 112,  
 "ATX12V\_node01": 19  
 },  
 ...  
 ]  
}

### Error Response

HTTP/1.1 404 Not Found  
{  
 "error": "Given workflow ID does not exist."  
}

## Return energy data filtered by task ID

GET /energy/:workflowID/:taskID/:experimentID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| workflowID | String | identifier for a workflow, e.g. ‘ms2’ |
| taskID | String | identifier for a task, e.g. ‘t2.1’ |
| experimentID | String | identifier for an experiment, e.g. ‘AVX’ |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/energy/ms2/t2.1/AVQa1RU0GMPeuCn4\_2S\_

### Success Response

HTTP/1.1 200 OK  
{  
 "t2.1": [  
 {  
 "@timestamp": "2016-04-15T18:51:07.4292211",  
 "type": "pwm",  
 "ATX12V\_node01": 19,  
 "CPU1\_node01": 111,  
 "CPU2\_node01": 113,  
 "GPU\_node01": 15  
 },  
 {  
 "@timestamp": "2016-04-15T18:51:07.4292611",  
 "type": "pwm",  
 "ATX12V\_node01": 19,  
 "CPU2\_node01": 110,  
 "CPU1\_node01": 115,  
 "GPU\_node01": 15  
 },  
 {  
 "@timestamp": "2016-04-15T18:51:07.4292111",  
 "type": "pwm",  
 "GPU\_node01": 15,  
 "CPU1\_node01": 110,  
 "ATX12V\_node01": 19,  
 "CPU2\_node01": 113  
 },  
 ...  
 ]  
}

### Error Response

HTTP/1.1 404 Not Found  
{  
 "error": "Data unavailable."  
}

# Experiments

## Returns a list of all experiment IDs

GET /experiments

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| details | Boolean | **optional** if set, more detailed information for each experiment is given |
| workflows | String | **optional** filters results by the given workflow, e.g. ‘ms2’ |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/experiments

### Success Response

HTTP/1.1 200 OK  
{  
 "AVZ-ll9FGYwmTvCuSnjW": {  
 "href": "http://mf.excess-project.eu:3030/v1/mf/experiments/AVZ-ll9FGYwmTvCuSnjW?workflow=ms2"  
 },  
 "AVZ-kZTjGYwmTvCuSnZV": {  
 "href": "http://mf.excess-project.eu:3030/v1/mf/experiments/AVZ-kZTjGYwmTvCuSnZV?workflow=ms2"  
 },  
 "AVZ-j2hEGYwmTvCuSnVE": {  
 "href": "http://mf.excess-project.eu:3030/v1/mf/experiments/AVZ-j2hEGYwmTvCuSnVE?workflow=ms2"  
 },  
 ...  
}

## Request a registered experiment with given experiment ID

GET /experiments/:experimentID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| experimentID | String | identifier of an experiment |
| workflow | String | the name of the workflow the given experiment is associated with, e.g. ‘ms2’ |
| extends | Boolean | **optional** returns detailed information about tasks, if present |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/experiments/AVZ-ll9FGYwmTvCuSnjW?workflow=ms2

### Success Response

HTTP/1.1 200 OK  
{  
 "wf\_id": "MS2",  
 "author": "Me",  
 "optimization": "Time",  
 "valueCurve": "[1000:100,2000:50,3000:10]",  
 "tasks": [  
 {  
 "name": "T1",  
 "exec": "/nas\_home/hpcochep/DreamCloud/WFM/Apps/TestEmpty/T1.sh",  
 "cores\_nr": "1-40"  
 },  
 {  
 "name": "T2.1",  
 "exec": "/nas\_home/hpcochep/DreamCloud/WFM/Apps/TestEmpty/T2.1.sh",  
 "previous": "T1",  
 "cores\_nr": "1-40"  
 },  
 {  
 "name": "T2.2",  
 "exec": "/nas\_home/hpcochep/DreamCloud/WFM/Apps/TestEmpty/T2.2.sh",  
 "previous": "T1",  
 "cores\_nr": "1-40"  
 },  
 {  
 "name": "T2.3",  
 "exec": "/nas\_home/hpcochep/DreamCloud/WFM/Apps/TestEmpty/T2.3.sh",  
 "previous": "T1",  
 "cores\_nr": "1-40"  
 },  
 {  
 "name": "T3",  
 "exec": "/nas\_home/hpcochep/DreamCloud/WFM/Apps/TestEmpty/T3.sh",  
 "previous": "T2.1&&T2.2&&T2.3",  
 "cores\_nr": "1-40"  
 }  
 ],  
 "application": "ms2",  
 "task": "ms2",  
 "user": "me",  
 "@timestamp": "2016-08-12T13:49:59",  
 "job\_id": "AVZ-ll9FGYwmTvCuSnjW"  
}

## Create a new experiment with given workflow ID

POST /experiments/:workflowID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| workflowID | String | identifier for the workflow for which the experiment shall be created, e.g. ‘ms2’ |
| application | String | **optional** application name, provided while registering a new experiment |
| host | String | **optional** hostname of the system |
| user | String | **optional** username, like who is registering the experiment |
| timestamp | String | timestamp, when the experiment is registered |
| job\_id | String | **optional** job identifier, provided while registering a new experiment |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/mf/experiments/ms2

### Success Response

HTTP/1.1 200 OK  
{  
 "AVXt3coOz5chEwIt8\_Ma": {  
 "href": "http://mf.excess-project.eu:3030/v1/mf/experiments/AVXt3coOz5chEwIt8\_Ma?workflow=ms2"  
 }  
}

# Metrics

## Update multiple metrics at once (bulk query)

POST /metrics

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/metrics

### Success Response

HTTP/1.1 200 OK  
[  
 "http://mf.excess-project.eu:3030/v1/mf/profiles/ms2\_t2.1/AVUWnydqGMPeuCn4l-cj",  
 "http://mf.excess-project.eu:3030/v1/mf/profiles/ms2\_t2.2/AVNXMXcvGMPeuCn4bMe0"  
]

## Update a single metric

POST /metrics/:workflowID/:experimentID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| workflowID | String | identifier of a workflow |
| experimentID | String | identifier of an experiment |
| taskID | String | **optional** identifier for a given task; equals ’\_all’ if not set | |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/metrics/ms2/AVNXMXcvGMPeuCn4bMe0?task=t2.1

### Success Response

HTTP/1.1 200 OK  
{  
 "AVXt3coOz5chEwIt8\_Ma": {  
 "href": "http://mf.excess-project.eu:3030/v1/mf/profiles/hpcfapix/vector\_scal01/AVNXMXcvGMPeuCn4bMe0"  
 }  
}

# Profiles

## Get profiles by workflow, task and experiment ID

GET /profiles/:workflowID/:taskID/:experimentID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| workflowID | String | identifer of a workflow |
| taskID | String | identifier of a registered task |
| experimentID | String | identifier of an experiment |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/profiles/ms2/t2.1/AVQ-MczMGMPeuCn4FHqi

### Success Response

HTTP/1.1 200 OK  
[  
 {  
 "@timestamp": "2016-04-22T15:43:19.614",  
 "host": "node02.excess-project.eu",  
 "task": "t2.1",  
 "type": "progress",  
 "value": "68"  
 },  
 {  
 "@timestamp": "2016-04-22T15:41:28.732",  
 "host": "node02.excess-project.eu",  
 "task": "t2.1",  
 "type": "progress",  
 "value": "2"  
 },  
 {  
 "@timestamp": "2016-04-22T15:41:36.406",  
 "host": "node02.excess-project.eu",  
 "task": "t2.1",  
 "type": "progress",  
 "value": "6"  
 },  
 ...  
]

### Error Response

HTTP/1.1 404 NotFound  
{  
 "error": "No results found."  
}

## Get a list of experiments by workflow and task ID

GET /profiles/:workflowID/:taskID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| workflowID | String | identifer of a workflow |
| taskID | String | identifier of a registered task |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/profiles/ms2/t2.1

### Success Response

HTTP/1.1 200 OK  
{  
 "2016-06-17": {  
 "AVVe9xN-LeaeU4rxxTaT": {  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/profiles/ms2/t2.1/AVVe9xN-LeaeU4rxxTaT"  
 },  
 "AVVejDH1LeaeU4rxwuw-": {  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/profiles/ms2/t2.1/AVVejDH1LeaeU4rxwuw-"  
 },  
 "AVVeiND0LeaeU4rxwtIV": {  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/profiles/ms2/t2.1/AVVeiND0LeaeU4rxwtIV"  
 },  
 "AVVeQmcUenoRsEhyFlHu": {  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/profiles/ms2/t2.1/AVVeQmcUenoRsEhyFlHu"  
 },  
 "AVVeQANeenoRsEhyFjlu": {  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/profiles/ms2/t2.1/AVVeQANeenoRsEhyFjlu"  
 },  
 "AVVeX5NRenoRsEhyF4We": {  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/profiles/ms2/t2.1/AVVeX5NRenoRsEhyF4We"  
 }  
 },  
 "2016-04-14": {  
 "AVQUiW67GMPeuCn47XpS": {  
 "href": "http://mf.excess-project.eu:3030/v1/v1/dreamcloud/mf/profiles/ms2/t2.1/AVQUiW67GMPeuCn47XpS"  
 }  
 },  
 ...  
}

### Error Response

HTTP/1.1 500 Internal Sever Error  
{  
 "error": "no such index."  
}

## Get a list of profiled tasks associated with the given workflow ID

GET /profiles/:workflowID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| workflowID | String | identifer of a workflow |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/profiles/ms2

### Success Response

HTTP/1.1 200 OK  
{  
 "t2.5": {  
 "AVYoZ31mLeaeU4rxUm0O": {  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/profiles/ms2/t2.5/AVYoZ31mLeaeU4rxUm0O"  
 },  
 "AVVuCj1kLeaeU4rxxT4d": {  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/profiles/ms2/t2.5/AVVuCj1kLeaeU4rxxT4d"  
 }  
 },  
 "t2.4": {  
 "AVQtI20EGMPeuCn4A\_V3": {  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/profiles/ms2/t2.4/AVQtI20EGMPeuCn4A\_V3"  
 },  
 "AVQ-HJxhGMPeuCn4E\_u6": {  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/profiles/ms2/t2.4/AVQ-HJxhGMPeuCn4E\_u6"  
 }  
 },  
 ...  
}

### Error Response

HTTP/1.1 500 Internal Sever Error  
{  
 "error": "No results found."  
}

# Progress

## Get progress information for a given experiment

GET /progress/:workflowID/:taskID/:experimentID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| workflowID | String | identifer of a workflow |
| taskID | String | identifier of a registered task |
| experimentID | String | identifier of an experiment |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/progress/ms2/t2.1/AVQ-MczMGMPeuCn4FHqi  
curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/progress/ms2/t2.1/AVQ-MczMGMPeuCn4FHqi?latest

### Success Response

HTTP/1.1 200 OK  
[  
 {  
 "@timestamp": "2016-04-22T15:41:20.409",  
 "host": "node02.excess-project.eu",  
 "task": "t2.1",  
 "type": "progress",  
 "value": "0"  
 },  
 {  
 "@timestamp": "2016-04-22T15:41:28.732",  
 "host": "node02.excess-project.eu",  
 "task": "t2.1",  
 "type": "progress",  
 "value": "2"  
 },  
 {  
 "@timestamp": "2016-04-22T15:41:36.406",  
 "host": "node02.excess-project.eu",  
 "task": "t2.1",  
 "type": "progress",  
 "value": "6"  
 },  
  
 ...  
  
 {  
 "@timestamp": "2016-04-22T15:44:13.668",  
 "host": "node02.excess-project.eu",  
 "task": "t2.1",  
 "type": "progress",  
 "value": "100"  
 }  
]

### Error Response

HTTP/1.1 404 NotFound  
{  
 "error": "No data found in the database."  
}

# Reports

## Get experiment report

GET /report/:workflowID/:experimentID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| workflowID | String | identifer of a workflow |
| experimentID | String | identifier of an experiment |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/report/ms2/AVQ-MczMGMPeuCn4FHqi

### Success Response

HTTP/1.1 200 OK  
{  
 "workflow": {  
 "id": "ms2",  
 "runtime": {  
 "start": "2016-04-22T15:39:48.496",  
 "end": "2016-04-22T16:10:34.883",  
 "seconds": 1846.387  
 },  
 "energy": {  
 "NODE01": {  
 "avg\_watt\_consumption": 358.6157820189599,  
 "total\_energy\_consumption": 662143.5179146413  
 },  
 "NODE02": {  
 "avg\_watt\_consumption": 250.0514119089924,  
 "total\_energy\_consumption": 461691.67628040875  
 },  
 "NODE03": {  
 "avg\_watt\_consumption": 267.59218242524383,  
 "total\_energy\_consumption": 494078.7269315987  
 }  
 }  
 },  
 "tasks": {  
 "ms2\_t2.4": {  
 "host": "node02.excess-project.eu",  
 "runtime": {  
 "start": "2016-04-22T15:41:55.661",  
 "end": "2016-04-22T15:46:29.116",  
 "seconds": 273.455  
 },  
 "energy": {  
 "NODE01": {  
 "avg\_watt\_consumption": 363.7616224652014,  
 "total\_energy\_consumption": 99472.43447122164  
 },  
 "NODE02": {  
 "avg\_watt\_consumption": 445.1300451245421,  
 "total\_energy\_consumption": 121723.03648953166  
 },  
 "NODE03": {  
 "avg\_watt\_consumption": 336.11323218681315,  
 "total\_energy\_consumption": 91911.84390764499  
 }  
 }  
 },  
 ...  
 }  
}

### Error Response

HTTP/1.1 404 NotFound  
{  
 "error": "No data found in the database."  
}

## Get summary including statistics

GET /summary/:workflowID/:taskID/:platformID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| workflowID | String | identifer of a workflow |
| taskID | String | identifier of a task |
| platformID | String | identifier for a given platform, e.g. ‘excesscluster’ or ‘laptop’ |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/summary/ms2/t2.1/excesscluster

### Success Response

HTTP/1.1 200 OK  
[  
 {  
 "experiment\_id": "AVZVoX2SGYwmTvCu75Mo",  
 "workflow\_id": "ms2",  
 "task\_id": "t2.1",  
 "deployment\_id": "79f2e72501da8a8bcff9d6cd711b44a0fe8174a751e897c51ef7a7d110b925d8",  
 "runtime": {  
 "start\_time": "2016-08-04T14:59:38.755",  
 "end\_time": "2016-08-04T15:38:23.667",  
 "actual\_time": 2324.912,  
 "predicted\_time": 0  
 },  
 "energy": {  
 "NODE01": {  
 "avg\_watt\_consumption": 153.34391120137695,  
 "total\_energy\_consumption": 356511.0992790157  
 },  
 "NODE02": {  
 "avg\_watt\_consumption": 140.82331453872632,  
 "total\_energy\_consumption": 327401.81385085924  
 },  
 "NODE03": {  
 "avg\_watt\_consumption": 123.82224931497417,  
 "total\_energy\_consumption": 287875.8332993752  
 }  
 },  
 "metrics": {  
 "PP0\_ENERGY:PACKAGE1": {  
 "count": 25,  
 "min": 2.9063,  
 "max": 71.1607,  
 "avg": 45.523972,  
 "sum": 1138.0993  
 },  
 "CPU0::PAPI\_FP\_INS": {  
 "count": 24,  
 "min": 869,  
 "max": 565864880,  
 "avg": 219248143.20833334,  
 "sum": 5261955437  
 },  
 ...  
 }  
]

### Error Response

HTTP/1.1 404 NotFound  
{  
 "error": "No data found in the database."  
}

## Get summary filtered by deployment ID

GET /summary/:workflowID/:taskID/:platformID/:deploymentID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| workflowID | String | identifer of a workflow |
| taskID | String | identifier of a task |
| platformID | String | identifier for a given platform, e.g. ‘excesscluster’ or ‘laptop’ |
| deploymentID | String | identifier (= hashvalue) of a given deployment plan |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/summary/ms2/t2.1/test\_cluster/4e165a82309000fd5a6ab20c097b2e9f2ba5216d

### Success Response

HTTP/1.1 200 OK  
[  
 {  
 "experiment\_id": "AVRMbxnvGMPeuCn4HOiA",  
 "workflow\_id": "ms2",  
 "task\_id": "t2.1",  
 "deployment\_id": "4e165a82309000fd5a6ab20c097b2e9f2ba5216d",  
 "runtime": {  
 "start\_time": "2016-04-25T10:02:07.103",  
 "end\_time": "2016-04-25T10:04:55.274",  
 "actual\_time": 168.171,  
 "predicted\_time": 2015  
 },  
 "energy": [ .. ],  
 "metrics": { .. }  
 },  
 {  
 "experiment\_id": "AVS\_GvCNGMPeuCn4T-pC",  
 "workflow\_id": "ms2",  
 "task\_id": "t2.1",  
 "deployment\_id": "4e165a82309000fd5a6ab20c097b2e9f2ba5216d",  
 "runtime": {  
 "start\_time": "2016-05-17T16:25:47.122",  
 "end\_time": "2016-05-17T16:26:22.296",  
 "actual\_time": 35.174,  
 "predicted\_time": 2015  
 },  
 "energy": [ .. ],  
 "metrics": { .. }  
 }  
]

### Error Response

HTTP/1.1 404 NotFound  
{  
 "error": "No data found in the database."  
}

# Resources

## Get resource information for a given platform

GET /resources/:platformID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| platformID | String | platform-specific identifier, e.g., ‘excesscluster’ |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/resources/excesscluster

### Success Response

{  
 "nodes": [  
 {  
 "id": "node01",  
 "cpus": [  
 {  
 "id": "cpu0",  
 "cores": [  
 {  
 "id": "core0",  
 "pwMode": 0,  
 "status": "allocated",  
 "availTime": "null"  
 },  
 {  
 "id": "core1",  
 "pwMode": 0,  
 "status": "allocated",  
 "availTime": "null"  
 },  
 ...  
 ]  
 }  
 ]  
 }  
 ]  
}

### Error Response

HTTP/1.1 500 Internal Server Error  
{  
 "error": "Elasticsearch-specific error message."  
}

## Get a list of available resources by target platform

GET /resources

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| none | String | none parameters required |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/resources

### Success Response

HTTP/1.1 200 OK  
{  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/resources"  
}

### Error Response

HTTP/1.1 500 Internal Sever Error  
{  
 "error": "No results found."  
}

## 3. Add resource information for a given platform

PUT /resources/:platformID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| none | String | no parameters required |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/resources/excesscluster

### Success Response

HTTP 200/OK  
{  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/resources/excesscluster"  
  
}

### Error Response

HTTP/1.1 500 Internal Server Error  
{  
 "error": "Elasticsearch-specific error message."  
}

# Runtime

## Get the runtime of a specific task

GET /runtime/:workflowID/:taskID/:experimentID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| workflowID | String | identifer of a workflow |
| taskID | String | identifier of a task |
| experimentID | String | Experiment identifer of an experiment |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/runtime/ms2/t2.1/AVZ-5cqVGYwmTvCuSqZC

### Success Response

HTTP/1.1 200 OK  
{  
 "start": "2016-08-12T15:20:40.631",  
 "end": "2016-08-12T15:21:22.205",  
 "runtime": 41.573999881744385,  
 "host": "node02.excess-project.eu"  
}

### Error Response

HTTP/1.1 500 Internal Server Error  
{  
 "error": "No results found."  
}

## 2. Get runtime information of an entire experiment

GET /runtime/:workflowID/:experimentID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| workflowID | String | identifer of a workflow |
| experimentID | String | Experiment identifer of an experiment |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/runtime/ms2/AVZ-5cqVGYwmTvCuSqZC

### Success Response

HTTP/1.1 200 OK  
{  
 "workflow": "ms2",  
 "tasks": [  
 ...  
 {  
 "task": "T2.1",  
 "data": {  
 "start": "2016-08-12T15:20:40.631",  
 "end": "2016-08-12T15:21:22.205",  
 "runtime": 41.574  
 }  
 },  
 {  
 "task": "T2.2",  
 "data": {  
 "start": "2016-08-12T15:21:46.975",  
 "end": "2016-08-12T15:22:25.983",  
 "runtime": 39.008  
 }  
 },  
 ...  
 ],  
 "start": "2016-08-12T15:17:46.731",  
 "end": "2016-08-12T15:25:30.452",  
 "total\_runtime": 463.721  
}

### Error Response

HTTP/1.1 500 Internal Server Error  
{  
 "error": "No results found."  
}

# Statistics

## Get statistics on a metric across all tasks

GET /statistics/:workflowID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| workflowID | String | identifer of a workflow |
| metric | String | name of a metric, e.g., metric=CPU0::PAPI\_TOT\_CYC |
| host | String | **optional** hostname of the system, e.g., host=node01 |
| from | String | **optional** start time of the statistics, e.g., from=2016-05-10T17:35:57.610 |
| to | String | **optional** end time of the statistics, e.g., to=2016-05-10T17:35:57.610 |

### Examples

curl -i 'http://mf.excess-project.eu:3030/v1/mf/statistics/ms2?metric=CPU0::PAPI\_TOT\_CYC'

### Success Response

HTTP/1.1 200 OK  
{  
 "workflow": {  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/workflows/ms2"  
 },  
 "metric": "CPU0::PAPI\_TOT\_CYC",  
 "statistics": {  
 "count": 314,  
 "min": 2188289,  
 "max": 140712658075784,  
 "avg": 27784198121927.688,  
 "sum": 8724238210285294,  
 "sum\_of\_squares": 1.2276032329935587e+30,  
 "variance": 3.1376027710066886e+27,  
 "std\_deviation": 56014308627409.555,  
 "std\_deviation\_bounds": {  
 "upper": 139812815376746.8,  
 "lower": -84244419132891.42  
 }  
 },  
 "min": {  
 "@timestamp": "2016-05-17T16:25:48.123",  
 "host": "node01.excess-project.eu",  
 "task": "t2.1",  
 "type": "performance",  
 "CPU0::PAPI\_FP\_INS": 869,  
 "CPU0::PAPI\_TOT\_CYC": 2188289,  
 "CPU1::PAPI\_FP\_INS": 891,  
 "CPU1::PAPI\_TOT\_CYC": 1214959,  
 "CPU2::PAPI\_FP\_INS": 8126,  
 ...  
 },  
 "max": {  
 ...  
 }  
}

### Error Response

HTTP/1.1 200 OK  
{  
 "error": "response is empty for the metric."  
}

## Get statistics on a metric filtered by task ID

GET /statistics/:workflowID/:taskID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| workflowID | String | identifer of a workflow |
| taskID | String | identifier of a task |
| metric | String | name of a metric, e.g., metric=CPU0::PAPI\_TOT\_CYC |
| host | String | **optional** hostname of the system, e.g., host=node01 |
| from | String | **optional** start time of the statistics, e.g., from=2016-05-10T17:35:57.610 |
| to | String | **optional** end time of the statistics, e.g., to=2016-05-10T17:35:57.610 |

### Examples

curl -i 'http://mf.excess-project.eu:3030/v1/mf/statistics/ms2/t2.1?metric=CPU0::PAPI\_TOT\_CYC'

### Success Response

HTTP/1.1 200 OK  
{  
 "workflow": {  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/workflows/ms2"  
 },  
 "metric": "CPU0::PAPI\_TOT\_CYC",  
 "statistics": {  
 "count": 314,  
 "min": 2188289,  
 "max": 140712658075784,  
 "avg": 27784198121927.688,  
 "sum": 8724238210285294,  
 "sum\_of\_squares": 1.2276032329935587e+30,  
 "variance": 3.1376027710066886e+27,  
 "std\_deviation": 56014308627409.555,  
 "std\_deviation\_bounds": {  
 "upper": 139812815376746.8,  
 "lower": -84244419132891.42  
 }  
 },  
 "min": {  
 "@timestamp": "2016-05-17T16:25:48.123",  
 "host": "node01.excess-project.eu",  
 "task": "t2.1",  
 "type": "performance",  
 "CPU0::PAPI\_FP\_INS": 869,  
 "CPU0::PAPI\_TOT\_CYC": 2188289,  
 "CPU1::PAPI\_FP\_INS": 891,  
 "CPU1::PAPI\_TOT\_CYC": 1214959,  
 "CPU2::PAPI\_FP\_INS": 8126,  
 ...  
 },  
 "max": {  
 ...  
 }  
}

### Error Response

HTTP/1.1 200 OK  
{  
 "error": "response is empty for the metric."  
}

# Status

## Get status report

Returns available data that was previously stored in the database. The body of the response is user-specific, and can represent any valid JSON document.

GET /runtime/:workflowID/:experimentID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| workflowID | String | identifer of a workflow |
| experimentID | String | Experiment identifer of an experiment |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/ms2/AVZ\_VlqVGYwmTvCuTZLX

### Success Response

HTTP/1.1 200 OK  
{  
 "Status": "completed",  
 "tasks": [  
 {  
 "name": "T1",  
 "status": "completed",  
 "startTime": "2016-08-12T17:20:01.844",  
 "endTime": "2016-08-12T17:21:28.46",  
 "nr\_cores": 40,  
 "progress": 100,  
 "deploymentPlan": {  
 "estimatedTime": 1111,  
 "node": {  
 "id": "node01",  
 "cpus": [  
 {  
 "id": "cpu0",  
 "cores": [  
 {  
 "id": "core0",  
 "pwMode": 0  
 },  
 ...  
 ]  
 }  
 ]  
 }  
 }  
 },  
 {  
 "name": "t2.1",  
 ...  
 },  
 ...  
 ]  
}

### Error Response

HTTP/1.1 404 NotFund  
{  
 "error": "No status report available."  
}

## Create/Update status report

Create or update a status report for the given workflow and experiment. The body of the request is user-specific, and can include any valid JSON document.

PUT /runtime/:workflowID/:experimentID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| workflowID | String | identifer of a workflow |
| experimentID | String | Experiment identifer of an experiment |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/status/ms2/AVZ\_VlqVGYwmTvCuTZLX

### Success Response

HTTP/1.1 200 OK  
{  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/ms2/AVZ\_VlqVGYwmTvCuTZLX"  
}

### Error Response

HTTP/1.1 500 InternalServerError  
{  
 "error": "Elasticsearch-specific error message"  
}

# Workflows

## Get information about a specific workflow

GET /workflows/:workflowID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| workflowID | String | Unique workflow identifier |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/workflows/ms2

### Success Response

HTTP/1.1 200 OK  
{  
 "wf\_id": "ms2",  
 "author": "Random Guy",  
 "optimization": "Time",  
 "tasks": [  
 {  
 "name": "T1",  
 "exec": "/home/ubuntu/ms2/t1.sh",  
 "cores\_nr": "1-2"  
 },  
 {  
 "name": "T2.1",  
 "exec": "/home/ubuntu/ms2/t21.sh",  
 "previous": "T1",  
 "cores\_nr": "1-2"  
 }  
 ]  
}

### Error Response

HTTP/1.1 404 Not Found  
{  
 "error": "Workflow with the ID ':workflowID' not found."  
}

## Request a list of registered workflows

GET /workflows

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/workflows

### Success Response

HTTP/1.1 200 OK  
{  
 "hpcdhopp": {  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/workflows/hpcdhopp"  
 },  
 "hpcdkhab": {  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/workflows/hpcdkhab"  
 },  
 "hpcfapix": {  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/workflows/hpcfapix"  
 }  
}

### Error Response

HTTP/1.1 404 Not Found  
{  
 "error": "No workflows found."  
}

## Register a new workflow and create a new experiment

PUT /workflows

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| wf\_id | String | References a registered workflow by its ID |
| author | String | **optional** Author name if provided while registering a new workflow |
| optimization | String | **optional** Optimization criterium: time, energy, balanced |
| tasks | Array | **optional** List of individual tasks the workflow is composed of |
| tasks.name | String | **optional** ID of the given task (:taskID) |
| tasks.exec | String | **optional** Executable for the given task |
| tasks.cores\_nr | String | **optional** Range of CPU cores used for executing the task on |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/workflows

### Success Response

HTTP/1.1 200 OK  
{  
 "workflow": {  
 "id": "ms2",  
 "href": "http://mf.excess-project.eu:3030/v1/workflows/ms2"  
 },  
 "experiment": {  
 "id": "AVXotMWFA9kSggr\_MSq2",  
 "href": "http://mf.excess-project.eu:3030/v1/experiments/AVXotMWFA9kSggr\_MSq2?workflow=ms2"  
 }  
}

### Error Response

HTTP/1.1 500 Internal Server Error  
{  
 "error": "Resource could not be stored"  
}

HTTP/1.1 400 Bad Request  
{  
 "error": "The parameter 'wf\_id' to reference a workflow ID is missing."  
}

## Register a new workflow with a custom ID

PUT /workflows/:workflowID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| workflowID | String | Unique workflow identifier |
| wf\_id | String | **optional** References a registered workflow by its ID |
| author | String | **optional** Author name if provided while registering a new workflow |
| optimization | String | **optional** Optimization criterium: time, energy, balanced |
| tasks | Array | **optional** List of individual tasks the workflow is composed of |
| tasks.name | String | **optional** ID of the given task (:taskID) |
| tasks.exec | String | **optional** Executable for the given task |
| tasks.cores\_nr | String | **optional** Range of CPU cores used for executing the task on |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/workflows/ms2

### Success Response

HTTP/1.1 200 OK  
{  
 "href": "http://mf.excess-project.eu:3030/v1/dreamcloud/mf/workflows/ms2",  
}

### Error Response

HTTP/1.1 500 Internal Server Error  
{  
 "error": "Resource could not be stored"  
}

## Register a new workflow and experiment using custom IDs

PUT /workflows/:workflowID/:experimentID

### Parameters

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| workflowID | String | Unique workflow identifier |
| experimentID | String | Unique experiment identifier |
| wf\_id | String | **optional** References a registered workflow by its ID |
| author | String | **optional** Author name if provided while registering a new workflow |
| optimization | String | **optional** Optimization criterium: time, energy, balanced |
| tasks | Array | **optional** List of individual tasks the workflow is composed of |
| tasks.name | String | **optional** ID of the given task (:taskID) |
| tasks.exec | String | **optional** Executable for the given task |
| tasks.cores\_nr | String | **optional** Range of CPU cores used for executing the task on |

### Examples

curl -i http://mf.excess-project.eu:3030/v1/dreamcloud/mf/workflows/ms2/myUniqueID

### Success Response

HTTP/1.1 200 OK  
{  
 "workflow": {  
 "id": "ms2",  
 "href": "http://mf.excess-project.eu:3030/v1/workflows/ms2"  
 },  
 "experiment": {  
 "id": "myUniqueID",  
 "href": "http://mf.excess-project.eu:3030/v1/experiments/myUniqueID?workflow=ms2"  
 }  
}

### Error Response

HTTP/1.1 500 Internal Server Error  
{  
 "error": "Resource could not be stored"  
}