

mc2 PMES/BES/COMPSS APPLICATION CONFIGURATION

Introduction

The following manual describes how to write the application configuration file (AppConfig.xml) that describes the configuration of an application to run on the PMES/BES/COMPSS under the SINAPAD façade.

Configuring the Application

The table below shows the elements of the AppConfig.xml file. In this manual the element occurrence is described by adding something after its name as the following:

- {0,1} if it is not required but can appear only once.
- * If it is unbounded.
- Empty if it is required.

This file starts with the **app-config** tag, as following:

app-config

Contains the application configuration elements:

- wallclocktime {0,1}
- classpath {0,1}
- executable
- compss {0,1}
- vm-parameters
- group*

```
<tns:app-config  
  xmlns:tns="http://lncc.br/sinapad/adapters/bes/application/xml/element/"  
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"  
  xsi:schemaLocation="http://lncc.br/sinapad/adapters/bes/application/xml/element/ bes-app.xsd"  
></tns:app-config>
```

Each element that may appear on the XML is described below.

BES/PMES/COMPSS Configuration

wallclocktime{0,1}

Maximum Amount of time the execution should take (minutes).

Value: Integer

```
<wallclocktime>12</wallclocktime>
```

classpath{0,1}

Classpath of a COMPSS application.

Value: String

```
<classpath>/usr/bin/application.jar</classpath>
```

executable

The executable file

Value: String

```
<executable>application.jar</executable>
```

compss

If it is a COMPSS application or not

Value: Boolean

```
<compss>>true</compss>
```

app-location

Location of the application in a CDMI server.

Value: String

```
<app-location>/foo/bar/app.jar</app-location>
```

pmes-deploy-path

Location where the files will be deployed in the virtual machine.

Value: String

```
<pmes-deploy-path>/foo/bar</pmes-deploy-path>
```

pmes-app-deploy-path	<p>Location where the application will be deployed in the virtual machine.</p> <p>Value: String</p> <pre><pmes-app-deploy-path>/opt/pmes/users</pmes-app-deploy-path></pre>
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Application Parameters Configuration

group	<p>Contains the application parameters:</p> <ul style="list-style-type: none"> integer{0,1} double{0,1} string{0,1} file{0,1} <p>Attributes:</p> <ul style="list-style-type: none"> label: String <pre><group label="data"> <string .../> <file .../> <Double .../> <integer .../> </group></pre>
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integer{0,1}	<p>A integer parameter.</p> <p>Attributes:</p> <ul style="list-style-type: none"> value: Integer label: String name: String tip: String <pre><integer label="number" name="number" tip="a number" value="22"/></pre>
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double{0,1}	<p>A double parameter.</p> <p>Attributes:</p> <ul style="list-style-type: none"> value: Double label: String
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	<ul style="list-style-type: none"> • name: String • tip: String <pre><double label="number" name="number" tip="a number" value="6.6"/></pre>
string{0,1}	<p>A string parameter.</p> <p>Attributes:</p> <ul style="list-style-type: none"> • value: Double • label: String • name: String • tip: String <pre><string label="string" name="string" tip="A string" value="foo"/></pre>
file{0,1}	<p>A file parameter.</p> <p>Attributes:</p> <ul style="list-style-type: none"> • value: Double • label: String • name: String • tip: String • stage: String (Values: IN or OUT) • category: String (Values: directory or file) <pre><file category="file" label="file" name="file" stage="IN" tip="text file" value="/foo/bar/text.txt"/></pre>
Virtual Machine Configuration	
vm-parameters	<p>Contains the virtual machine parameters:</p> <ul style="list-style-type: none"> • vm • memory{0,1} • cores{0,1} • size{0,1}

	<pre> <vm-parameters> <vm>vm</vm> <memory>0.0</memory> <cores>0</cores> <size>0.0</size> </vm-parameters> </pre>
vm	<p>The virtual machine name that is installed at the PMES endpoint.</p> <p>Value: String</p> <pre> <vm>ubuntu.14.04</vm> </pre>
memory{0,1}	<p>How much memory the virtual machine will have (gigabytes).</p> <p>Value: Double</p> <pre> <memory>2.0</memory> </pre>
cores{0,1}	<p>How many cores the virtual machine will have.</p> <p>Value: Integer</p> <pre> <cores>8</cores> </pre>
size{0,1}	<p>How much disk space the virtual machine will have (gigabytes).</p> <p>Value: Double</p> <pre> <size>10.0</size> </pre>

XML Example

```
<tns:app-config xmlns:tns="" xmlns:xsi="" xsi:schemaLocation="bes-app.xsd">
  <wallclocktime>0</wallclocktime>
  <classpath>etc/application.jar</classpath>
  <executable>application.jar</executable>
  <compss>true</compss>
  <app-location>/applications/application</app-location>
  <pmes-deploy-path>/home/user</pmes-deploy-path>
  <pmes-app-deploy-path>pmes-app-deploy-path</pmes-app-deploy-path>
  <group label="group">
    <string label="string" name="string" tip="a string" value="foo" />
    <file category="directory" label="2" name="file" stage="IN" tip="a file" value="" />
    <double label="double" name="double" tip="a double" value="2.0" />
    <integer label="integer" name="integer" tip="an integer" value="2" />
  </group>
  <vm-parameters>
    <vm>ubuntu</vm>
    <memory>1.0</memory>
    <cores>5</cores>
    <size>6.0</size>
  </vm-parameters>
</tns:app-config>
```

Figure 1 - AppConfig.xml Example