

XML Definitions

In order to describe complex processing steps associated with a job to be deployed to a remote resource, a set of XML tags have been defined that the HPC web service will parse into meaningful commands to be run on the resource.

Element names have further qualifiers:

- (r) = required element
- (o) = optional element
- (1) = element can appear only once
- (1..n) = element can appear multiple times

Key XML Elements

<App> (r) (1)
The root element of the XML file.

Nested element:

<ClusterApp> (r) (1..n)
To describe an HPC application
attribute "name" (r) - name of the application
attribute "type" (o) - one of "SUBMIT", "SAVE", "STATUS" (used only in standalone mode)

Nested element:

<local-resource> (r) (1)
This element defines the resource containing the HPC web service
<server> (r) (1)
<port> (r) (1)

Nested element:

<remote-resource> (r) (1)
This element defines the remote resource to be run the application
<server> (r) (1)
<port> (r) (1)

Nested element:

<property> (o) (1..n)
attribute "name" (r) - name of property
attribute "value" (r) - value

Nested element:

<preprocess> (o) (1)
<concat> (o) (1)
<command> (o) (1..n)

Nested element:

<ftp> (o) (1)
attribute "action" (r) - either put or get
attribute "remotedir" (r) - destination directory on remote machine
<fileset> (o) (1..n)
attribute "dir" (r) - source directory
<include> (o) (1..n)
attribute "name" - filename, wildcard allowed
attribute "strip-cr" - to strip carriage returns on file, either true or false

Nested element:

```
<text> (o ) (1..n)
attribute "type" (o ) - if used, set to "upload" to allow data to pass into the HPC
cell from another hive cell
attribute "enabled" (o ) - true or false, setting whether the field can be edited
in the HPC gui by the user
attribute "name" (o ) - the name of the parameter
attribute "label" (o ) - label name to be used in HPC gui
```

Nested element:

```
<resource> (o ) (1)
attribute "name" (r ) - name of the resource file
  <set> (r )
    attribute "name" (r ) - name of the resource to assign a value
```

Nested element:

```
<submit> (o ) (1)
attribute "type" - queuing system on the remote machine; must be set to "bsub"
  <app> (r ) (1)
    attribute "name" - the name of the application to run
      <param> (o ) (1..n)
```

An application example:

```
<!-- a definition for an application to run remotely -->
<ClusterApp name="HelloWorld">

  <!-- local tomcat web service data -->
  <local-resource>
    <server>localhost</server>
    <port>8080</port>
  </local-resource>

  <!-- remote resource, specifying server name and valid user -->
  <remote-resource>
    <server>hpres</server>
    <user>jnl6</user>
  </remote-resource>

  <!-- tasks to execute before running the application -->
  <preprocess>
  <!-- a series of remote commands to run -->
    <concat>
      <command>mkdir pl</command>
    </concat>
  <!-- ftp the source file over -->
    <ftp action="put" remotedir="pl">
      <fileset dir="c:\joe\perl">
        <include name="hello.pl" strip-cr="true"/>
      </fileset>
    </ftp>
  </preprocess>

  <!-- application parameters, which will appear in the GUI -->
  <text label="iterations">10</text>
```

```
<!-- submit the job to the remote machine, using LSF queue -->  
<submit type="bsub">  
  <app name="pl/hello.pl">  
  </app>  
</submit>  
</ClusterApp>
```