

# INSTRUCTIONS FOR EXERCISE ON 19<sup>TH</sup> JULY 2005

## (ISSGC05)

→ Lines like this are suggested activities

### 1 Getting started

The client code is in the file *UnicoreWSRF\_Client.java*. You will need to compile this before running the exercise. A sample compile command is provided in the file *compile*.

A sample run command is provided in the file *run*.

Execute these commands. If they are successful, then you will get some output detailing the created EPR and a prompt:

```
wsrf services>
```

→ Experiment with the simple commands (man, quit)

*Note:*

The following line can be ignored:

```
WARNING: Unable to find required classes (javax.activation.DataHandler and  
javax.mail.internet.MimeMultipart). Attachment support is disabled.
```

### 2 Examine wsrf resource

When the client starts it automatically contacts the wsrf endpoint factory to create an instance of the wsrf resource for this run. This resource has properties that can be examined and changed e.g. look at the resource properties document, termination time.

The wsrf resource is referenced in the commands by using the string *wsrf* as the first argument.

→ What is the wsrf resource's termination time?

→ What other properties does it have?

### 3 Submit a job

A job is submitted by inserting its JSDL description (an XML file) as a Resource Property on the wsrf resource.

→ Submit a job based on the ProbeSurface XML document.

The client maintains a handle to a single job at a time. This handle is referred to by using the string *job* as the first argument of each operation. The handle must be set to the required job before invoking any operations on the job. This can be done as follows:

```
job Simple-ProbeSurface-Invocation
```

Where *Simple-ProbeSurface-Invocation* is the name of the job as specified in the JSDL document.

→ See how the main wsrf resource properties have changed.

### 3.1 Job description

The file ProbeSurface.xml is a JSDL template for a job to submit to the wsrfl resource that will return the surface heights. There are two places that you should change the values, the Job name and the list of points to test.

The name of the job is set in the following line:

```
<JobName>Simple-ProbeSurface-Invocation</JobName>
```

You should change this for every job that you submit. This is your handle on the job resource and if you use the same name twice in a session you will not be able to access one of these jobs.

The points to test are set in the lines:

```
<Argument> 99 </Argument> <!-- this is x1 -->
```

```
<Argument> 88 </Argument> <!-- this is y1 -->
```

```
<Argument> -27 </Argument> <!-- x2 -->
```

```
<Argument> 9 </Argument> <!-- y2 -->
```

The (x,y) pairs are on alternate lines. There must be an even number of values.

## 4 Examine job

The job has resource properties.

- ➔ Fetch the resource properties document for the job.
- ➔ Fetch an individual Resource property.
- ➔ Do this several times and see how the properties change (watch for the status and the output in particular).
- ➔ How do you know when a job is done?
- ➔ Where are the results?
- ➔ Create and submit other jobs (remember to change the job names).
- ➔ Switch between jobs and poll their properties.

## 5 Manage lifetime

Once you are done with a job, how can you delete it from the system? There are two ways.

- ➔ Leave a job on the system for a while (say 5 minutes). What happens? Can you change this?
- ➔ Can you do similar things to the *wsrfl* resource?
- ➔ What happens if you don't?
- ➔ Can you destroy a resource explicitly?

## 6 Programming exercise

The interface to this instance of a Probe Surface application only allows a small number of points to be interrogated at a time. You could probe more of the area by running several jobs.

- ➔ Create an operation for the client that takes a list of files names and runs each of these as a separate job How can you manage these jobs?

## 7 List of valid Resource Property QNames

jsdl:JSDL The QName for a JSDL job description e.g. to submit

unicore:Status The job's status from the Job resource

unicore:JobStatus The job's status from the wsrf resource (this is a structure with three elements: EPR, Job Name and Status)

wsrf:TerminationTime A resource's termination time

wsrf:CurrentTime: The current time as seen by the Web Service

unicore:OutPut The result of the job (stdout)

## 8 Examples of commands

### 8.1 Get the Resource Property Document of the wsrf resource:

```
wsrf services> grpd wsrf
```

Get Resource property Document

```
<CurrentTime> 2005-07-19T10:38:30.555Z
```

```
<TerminationTime> 2005-07-19T10:52:32.969Z
```

### 8.2 Insert a Resource Property on the wsrf resource (this example inserts a JSDL document and so submits a job)

```
wsrf services> insertrp wsrf jsdl:JSDL  
ProbeSurface.xml
```

Insert ResourceProperties JSDL:

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<JobDefinition
```

```
  xmlns="http://schemas.ggf.org/jsdl/2005/06/jsdl"
```

```
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-  
instance" >
```

```
  <JobDescription>
```

```
    <JobIdentification>
```

```
      <JobName>Job1</JobName>
```

```
      <Description>
```

### 8.3 Set the client job reference to the job just submitted (using the job name)

```
wsrf services> gjob Job1
```

```
EPR:Address =
```

```
http://server4.gs.unina.it:7000/axis/services/JobService
```

```
EPR:Ref Prop ResourceId = <ns2:ResourceDisambiguator  
xmlns:ns2="http://com.fujitsu.arcon.addressing">60A05D  
80-F843-11D9-BB1E-  
92DFB711F43D</ns2:ResourceDisambiguator>
```

### 8.4 Get job output

```
wsrf services> grp job uncore:OutPut
```

Get resource property <unicore:OutPut>

<OutPut> This script was created and executed by  
Unicore

UNICORE - start of user output on stdout

99.0 88.0 41.2

-27.0 9.0 41.2

UNICORE - end of user output on stdout

#### 8.5 Get wsrfl termination time

```
wsrfl services> grp wsrfl wsrl:TerminationTime
```

```
Get resource property <wsrl:TerminationTime>
```

```
<TerminationTime> 2005-07-19T11:08:23.787Z
```

#### 8.6 Set termination time

```
wsrfl services> settt wsrfl 5
```

```
Set termination time. Offset <5>
```

```
Successful
```

```
New Termination Time = Tue Jul 19 13:03:07 CEST 2005
```

```
Current Time          = Tue Jul 19 12:58:07 CEST 2005
```