

Understanding WDL

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Understanding WDL Execution Options

WDL – script that describes the workflow

Cromwell – job scheduler, uses a backend

Run mode

Server mode

Local machine

Cloud VM

Public Cloud

HPC, other...

GCP – clusters of VMs
with Life Sciences API

AWS - clusters of VMs
with AWS Batch

Azure - clusters of
VMs with Azure
Batch

Terra.bio – managed
cromwell/GCP
environment

Understanding WDL Linting Options

WDL script

cromwell.jar

Run mode

Server mode

GCE VM

Terra.bio on GCP

womtool.jar

FC Methods

Understanding WDL Script Variables

WDL script + cromwell.jar

Run mode

Server mode

GCE VM / womtool.jar

Terra.bio Workflows on GCP

inputs.json

Understanding WDL Script File + Env Variables

WDL script + cromwell.jar

Run mode on GCE VM

Server mode on Terra

inputs.json

inputs.json

local path

remote
path

Workspace
bucket

Other
bucket

Env Var

WDL Script Input File Locations

WDL script + cromwell.jar

Run mode on GCE VM

Server mode on Terra

inputs.json

inputs.json

Local path

gs:// path

Workspace bucket

Other bucket

Data Table

WDL Script Task Aliasing

WDL script + cromwell.jar

Run mode on GCE VM

Alias Task

Import Task

Import & Alias Task

duplicate

run

run

duplicate

WDL Task Concepts

```
task task_A {
```

File ref
File in
String id

```
command {
```

```
do_stuff -R S{ref} -I S{in} -O S{id}.ext
```

```
}
```

```
runtime {
```

```
docker: "my_project/do_stuff:1.2.0"
```

```
}
```

```
output {
```

```
File out= "S{id}.ext"
```

```
}
```

```
}
```


WDL Task and Workflow Concepts

task task_A {

File ref
File in
String id

command {

do_stuff -R S{ref} -I S{in} -O S{id}.ext

}

runtime {

docker: "my_project/do_stuff:1.2.0"

}

output {

File out= "S{id}.ext"

}

}

workflow myWorkflowName {

File my_ref
File my_input
String name

call task_A {

input: ref= my_ref, in= my_input, id= name

}

call task_B {

input: ref= my_ref, in= task_A.out

}

}

task task_A {

...

}

task task_B {

...

}