

PROCEDURE FOR LAUNCHING COMMAND-LINE PROCESSING

Ortho-rectification and tiling of Sentinel-1 GRD products on the Sentinel-2 grid (MGRS) on multitemporal mode (Ortho - MT)

1. Submission of the process

For these inputs to be used for processing, they must be put into a file named *data.json*, which takes the following form:

```
{
  "inputs": {
    "mgrs_list": "TILE_LIST",
    "start_date": "YYYY-MM-DD",
    "end_date": "YYYY-MM-DD",
    "polarisation": "[VV VH OR VV OR HH OR HH HV]",
    "orbit_direction": "[ALL OR ASCENDING OR DESCENDING]",
    "sensor_mode": "[SM OR EW OR IW]",
    "relative_orbit_number": "X", (integer)
    "calibration": "[SIGMA OR BETA OR GAMMA]",
    "timeout": X, (integer)
    "notif-email": true
  }
}
```

The API-KEY can be found in GEODES platform, in the My informations page:

```
export APIKEY="YOUR_API_KEY"
```

On the same console, the process can be launched using the following command, in this example the curl command was executed where the file *data.json* is located:

```
curl -XPOST -k --data "@data.json" -H "Content-Type:application/json" "X-API-Key: $APIKEY" -H "Prefer:respond-async" "https://geodes-portal.cnes.fr/processing/processes/ortho-s1-grd-mt/execution"
```

Response:

The JobID is returned in case of a successful launch.

2. Launch follow-up

It is possible to view the status of a specific job using its ID or the status of all the launched jobs for a specific user using his email address.

i. **The case of visualizing the status of a specific job:**

The following command lists the status of a specific launched job:

```
curl -XGET -H "X-API-Key: $APIKEY" -k "https://geodes-portal.cnes.fr/processing/jobs/JOB_ID"
```

JOB_ID should be replaced by the ID of the job!

Response:

```
{
  "processID": "ortho-s1-grd-mt",
  "jobID": "857dc1c8-7f08-11ee-b4e2-0242ac140169",
  "status": "running",
  "message": "Job submitted to Scheduler",
  "progress": 50,
  "parameters": "S1A_IW_GRDH_1SDV_20230408T194947_20230408T195012_048009_05C53C_531A",
  "user": "email.address@email.com",
  "job_start_datetime": "2023-11-09T14:01:47",
  "job_end_datetime": null,
  "links": [
    {
      "href": "https://geodes-portal.cnes.fr/processing/jobs/857dc1c87f08-11ee-b4e2-0242ac140169/results?f=html",
      "rel": "about",
      "type": "text/html",
      "title": "results of job 857dc1c8-7f08-11ee-b4e2-0242ac140169 as HTML"
    },
    {
      "href": "https://geodes-portal.cnes.fr/processing/jobs/857dc1c8-7f08-11ee-b4e2-0242ac140169/results?f=json",
      "rel": "about",
      "type": "application/json",
      "title": "results of job 857dc1c8-7f08-11ee-b4e2-0242ac140169 as JSON"
    }
  ]
}
```

```

    "href":"https://geodes-portal.cnes.fr/processing/jobs/857dc1c8-7f08-11ee-b4e2-0242ac140169/results",
    "rel":"about",
    "type":null,
    "title":"results of job 857dc1c8-7f08-11ee-b4e2-0242ac140169 as None"
  }
]
}

```

ii. **The case of visualizing the status of all the jobs for a user:**

The following command lists the status of all the launched jobs for a specific user:

```
curl -XGET -H "X-API-Key: $APIKEY" -k "https://geodes-portal.cnes.fr/processing/jobs"
```

USER_EMAIL should be replaced!

Response:

```

{
  "jobs":[
    {
      "processID":"irgb-s2st",
      "jobID":"04335ccc-7fcb-11ee-bfa7-0242ac140152",
      "status":"successful",
      "message":"Job complete",
      "progress":100,
      "parameters":"S2B_MSIL1C_20211230T161339_N0500_R111_T01CDM_20221226T141602",
      "user":"email.address@email.com",
      "job_start_datetime":"2023-11-10T13:14:02",
      "job_end_datetime":"2023-11-10T13:17:13",
      "links":[
        {
          "href":"https://geodes-portal.cnes.fr/processing/jobs/04335ccc-7fcb-11ee-bfa7-0242ac140152/results?f=html",
          "rel":"about",
          "type":"text/html",
          "title":"results of job None as HTML"
        }
      ],
    }
  ]
}

```

```

        "href":"https://geodes-
portal.cnes.fr/processing/jobs/04335ccc-7fcb-11ee-bfa7-
0242ac140152/results?f=json",
        "rel":"about",
        "type":"application/json",
        "title":"results of job None as JSON"
    }
]
},
{
    "processID":"ortho-s1-grd-mt",
    "jobID":"857dc1c8-7f08-11ee-b4e2-0242ac140169",
    "status":"running",
    "message":"Job submitted to Scheduler",
    "progress":50,

"parameters":"S1A_IW_GRDH_1SDV_20230408T194947_20230408T195012_048009
_05C53C_531A",
    "user":"email.address@email.com",
    "job_start_datetime":"2023-11-09T14:01:47",
    "job_end_datetime":null,
    "links":[
        {
            "href":"https://geodes-
portal.cnes.fr/processing/jobs/857dc1c8-7f08-11ee-b4e2-
0242ac140169/results?f=html",
            "rel":"about",
            "type":"text/html",
            "title":"results of job None as HTML"
        },
        {
            "href":"https://geodes-
portal.cnes.fr/processing/jobs/857dc1c8-7f08-11ee-b4e2-
0242ac140169/results?f=json",
            "rel":"about",
            "type":"application/json",
            "title":"results of job None as JSON"
        },
        {
            "href":"https://geodes-
portal.cnes.fr/processing/jobs/857dc1c8-7f08-11ee-b4e2-0242ac140169/results",
            "rel":"about",
            "type":null,
            "title":"results of job None as None"
        }
    ]
} ] } ],

```

```
"links":[
  {
    "href":"https://geodes-portal.cnes.fr/processing/jobs?f=html",
    "rel":"alternate",
    "type":"text/html",
    "title":"Jobs list as HTML"
  },
  {
    "href":"https://geodes-portal.cnes.fr/processing/jobs?f=json"
    "rel":"self",
    "type":"application/json",
    "title":"Jobs list as JSON"
  }
]
```

3. Results retrieval

The command below will retrieve the results of a specific job:

```
curl -XGET -H "X-API-Key: $APIKEY" -k "https://geodes-portal.cnes.fr/processing/jobs/JOB_ID/results"
```

JOB_ID should be replaced!

Response:

```
{
  "execution_time": 12087,
  "product_path": "/nfs/GDH_DEV/ci/portal/data/processing/ortho-s1-grd-mt/78d357c2-247111ee-b721-0242ac10193c.zip",
  "product_url":"https://geodes-portal.cnes.fr/processing-access-data/ortho-s1-grd-mt/78d357c2-247111ee-b721-0242ac10193c.zip"
}
```

4. Description of the process

The command below provides a description of the process:

```
curl -XGET -H "X-API-Key: $APIKEY" -k "https://geodes-portal.cnes.fr/processing/processes/ortho-s1-grd-mt?f=json"
```

Response:

```
{
  "version": "0.1.0",
  "id": "ortho-s1-grd-mt",
  "title": "Ortho-rectification S1 sur la grille S2 multi-temporal (Ortho MT)",
  "description": "Ortho-rectification MT and tiling of Sentinel-1 GRD products on
the Sentinel-2 grid (MGRS).",
  "keywords": ["PEPS_S1_L1", "INTERNAL"],
  "links": [
    {
      "type": "text/html",
      "rel": "about",
      "title": "information",
      "href": "https://example.org/process",
      "hreflang": "fr-FR"
    },
    {
      "type": "application/json",
      "rel": "self",
      "href": "https://geodes-portal.cnes.fr/processing/processes/ortho-s1-grd-
mt?f=json",
      "title": "Process description as JSON",
      "hreflang": "en-US"
    },
    {
      "type": "text/html",
      "rel": "alternate",
      "href": "https://geodes-portal.cnes.fr/processing/processes/ortho-s1-grd-
mt?f=html",
      "title": "Process description as HTML",
      "hreflang": "en-US"
    },
    {
      "type": "text/html",
      "rel": "http://www.opengis.net/def/rel/ogc/1.0/job-list",
      "href": "https://geodes-portal.cnes.fr/processing/jobs?f=html",
      "title": "jobs for this process as HTML",
      "hreflang": "en-US"
    },
    {
      "type": "application/json",
      "rel": "http://www.opengis.net/def/rel/ogc/1.0/job-list",
      "href": "https://geodes-portal.cnes.fr/processing/jobs?f=json",
      "title": "jobs for this process as JSON",
      "hreflang": "en-US"
    }
  ]
}
```

```
    },
    {
      "type": "application/json",
      "rel": "http://www.opengis.net/def/rel/ogc/1.0/execute",
      "href": "https://geodes-portal.cnes.fr/processing/processes/ortho-s1-grd-
mt/execution?f=json",
      "title": "Execution for this process as JSON",
      "hreflang": "en-US"
    }
  ],
  "inputs": {
    "start_date": {
      "title": "Start Date",
      "description": "Start date of period",
      "schema": {
        "type": "string"
      },
      "minOccurs": 1,
      "maxOccurs": 1,
      "metadata": null,
      "keywords": ["start", "date"]
    },
    "end_date": {
      "title": "Stop Date",
      "description": "End date of period",
      "schema": {
        "type": "string"
      },
      "minOccurs": 1,
      "maxOccurs": 1,
      "metadata": null,
      "keywords": ["end", "date"]
    },
    "mgrs_list": {
      "title": "Mist of MGRS tiles",
      "description": "Tile identifier",
      "schema": {
        "type": "string"
      },
      "minOccurs": 1,
      "maxOccurs": 1,
      "metadata": null,
      "keywords": ["tile", "id"]
    }
  },
}
```

```
"relative_orbit_number": {
  "title": "Relative Orbit number",
  "description": "Relative Orbit number ",
  "schema": {
    "type": "int"
  },
  "minOccurs": 1,
  "maxOccurs": 1,
  "metadata": null,
  "keywords": ["relative_orbit_number"]
},
"product-title": {
  "title": "Titre produit",
  "description": "Sentinel-1 GRD product",
  "schema": {
    "type": "string"
  },
  "minOccurs": 1,
  "maxOccurs": 1,
  "metadata": null,
  "keywords": ["titre", "produit"]
},
"user": {
  "title": "User email",
  "description": "The email of user which requests process execution",
  "schema": {
    "type": "string"
  },
  "minOccurs": 1,
  "maxOccurs": 1,
  "metadata": null,
  "keywords": ["user", "email"]
},
"notif-email": {
  "title": "Email notification flag",
  "description": "Flag to indicate if an email notification must be sent after
processing termination",
  "schema": {
    "type": "bool"
  },
  "minOccurs": 1,
  "maxOccurs": 1,
  "metadata": null,
  "keywords": ["email", "notification"]
}
```



```

},
"timeout": {
  "title": "Processing timeout in mn",
  "description": "The process is canceled if timeout reached",
  "schema": {
    "type": "int"
  },
  "minOccurs": 0,
  "maxOccurs": 1,
  "metadata": null,
  "keywords": ["timeout", "processing"]
}
},
"outputs": {
  "result": {
    "title": "Produit de sortie",
    "description": "The result is a zip file containing all the tiles generated
in GeoTiff format.",
    "schema": {
      "type": "object",
      "contentMediaType": "application/json"
    }
  }
}
},
"example": {
  "inputs": {
    "mgrs_list": "30UUU",
    "start_date": "2020-01-01",
    "end_date": "2020-12-01",
    "relative_orbit_number": "-1",
    "polarisation": "VV VH",
    "orbit_direction": "ALL",
    "sensor_mode": "IW",
    "calibration": "gamma",
    "user": "user@mail.com",
    "product-title":
"S1A_EW_GRDM_1SDH_20200101T024913_20200101T025017_030601_038174_4E78",
    "email-notif": true
  }
}
},
"jobControlOptions": ["sync-execute", "async-execute"],
"outputTransmission": ["value"] }

```