Analytics API Specifications

Introduction..... 2
Valid Actions:..... 2
Login..... 4
Logout..... 5
listProject..... 6
listJob..... 7
listNode..... 9
listSensor..... 11
listSensorData..... 13
getProjectStatus..... 15
listAlarmInstances..... 16

Introduction

All API calls begin with:

```
None
https://analytics2.smtresearch.ca/api/?action=
```

Valid Actions:

Action	Required Parameter(s)	Description
login	user_username user_password	Create a session
logout		Destroys a session
listProject		List all accessible projects
listJob	projectID	List all jobs for a project
listNode	jobID	Lists all nodes in a job
listSensor	nodeID	Lists all sensors attached to a node
listSensorData	sensorID	Lists all sensor data for a sensor
getProjectStatus	projectID	Status of the project-wide alarm trigger
listAlarmInstances	projectID jobID	Status of currently triggered alarms

Parameters are separated in the URL with an "&" sign.
Data is sent back in XML format with the HTTP Header: Content-Type: text/xml
In the examples for each action, the value for each parameter is represented by a variable listed in the table below.
The variable describes the value and format expected.

Example URL Replacement Values:

Variable	Description
NNNN	Represents an integer value
SSSS	Represents text/string
DDDD	Represents a date format (YYYY-MM-DD)

TTTT	Represents a time format

Login

Request:

```
None
https://analytics2.smtresearch.ca/api/?action=login&user_username=SSSS&user_password=SSSS
```

Parameter	Description
user_username	String value. Username for login.
user_password	String value. Password for the username.

Result:

Success

```
XML
<result>
 <login>success</login>
 <PHPSESSID>cookie would appear here</PHPSESSID>
</result>
```

The login session is maintained with the provided PHPSESSID cookie. Future requests will require this cookie.

Failure

```
XML
<result>
 <error id="1">fail</error>
</result>
```

Logout

A logout request can only be performed with a valid session. This requeset clears the cookie and session variables on the server.

Request:

None

```
https://analytics2.smtresearch.ca/api/?action=logout
```

Result:

XML

```
<result>
 <logout>success</logout>
</result>
```

listProject

Get a list of all projects that the logged-in user has access to.

Request:

None

```
https://analytics2.smtresearch.ca/api/?action=listProject
```

Result:

XML

```
<result>
 <projects>
  <project>
   <projectID>440</projectID>
   <name>
    <![CDATA[ Project Name ]]>
   </name>
  </project>
 </projects>
</result>
```

Name	Description
projectID	Internal database identifier for a project
name	Name of the project is in the brackets of <![CDATA] [name-of-project]]>

listJob

Get a list of all jobs associated with a given project.

Request:

None

```
https://analytics2.smtresearch.ca/api/?action=listJob&projectID=NNNN
```

Result:

XML

```
<result>
 <jobs>
  <job>
   <gwID>1945</gwID>
   <jobID>4431</jobID>
   <BiGJobID>1</BiGJobID>
   <name>
    <![CDATA[ Lvl 22 ST W Side - TiG1285 ]]>
   </name>
   <lastModified>2023-05-15 21:01:54</lastModified>
   <created>2023-05-15 21:01:54</created>
   <address>
    <![CDATA[ ]]>
   </address>
   <contactPerson>
    <![CDATA[ ]]>
   </contactPerson>
   <contactPhone>
    <![CDATA[ ]]>
   </contactPhone>
   <archived>0</archived>
   <ts>2023-05-15 21:02:07.057201</ts>
   <jobState>2</jobState>
  </job>
 <jobs>
<result>
```

Name	Description
gwID	Internal database identifier for gateway
jobID	Internal database identifier for a job

<table>
<tr><td>name</td><td colspan="2">Name of the job is in the brackets of <![CDATA[name-of-job]]></td></tr>
<tr><td>ts</td><td colspan="2">Timestamp</td></tr>
<tr><td rowspan="8">jobState</td><td>Job state ID</td><td>name</td></tr>
<tr><td>1</td><td>New</td></tr>
<tr><td>2</td><td>Active</td></tr>
<tr><td>3</td><td>Active (Partial Data)</td></tr>
<tr><td>4</td><td>Idle</td></tr>
<tr><td>5</td><td>Done</td></tr>
<tr><td>6</td><td>Payment Processed</td></tr>
<tr><td>7</td><td>Closed</td></tr>
</table>

listNode

The listNode action returns all of the nodes for a given job.

Request:

```
None
https://analytics2.smtresearch.ca/api/?action=listNode&jobID=NNNN
```

Parameter	Description
jobID	Integer value. Internal database identifier for a job

Result:

```
XML
<result>
 <nodes>
  <node>
   <nodeID>NNNN</nodeID>
   <phyID>NNNN</phyID>
   <name>
    <![CDATA[ SSSS ]]>
   </name>
   <created>2015-10-29 20:02:30</created>
   <modified>2015-10-30 17:04:28</modified>
   <nodeTypeID>-1</nodeTypeID>
  </node>
 </nodes>
</result>
```

Name	Description	
nodeID	Internal database identifier for a node	
phyID	Physical device ID. This number is printed on the WIDAQ.	
name	Descriptive name given to WIDAQ	
nodeTypeID	Node type ID	name

	-1	Unknown
	1	Multiscan/30CH
	2	48CH
	3	WiDAQ
	4	Weather Underground
	5	TED MTU

listSensor

Get a list of all the sensors associated with a given node.

Request:

None

```
https://analytics2.smtresearch.ca/api/?action=listSensor&nodeID=NNNN
```

Parameter	Description
nodeID	Integer value. Internal database identifier for node.

Result:

XML

```
<result>
 <sensors>
  <sensor>
   <sensorID>NNNN</sensorID>
    <input>NNNN</input>
    <name>
     <![CDATA[ SSSS ]]>
    </name>
    <sensorTypeID>NNNN</sensorTypeID>
    <sensorTypeName>SSSS</sensorTypeName>
    <wsID>NNNN</wsID>
    <type>NNNN</type>
    <created>2015-10-29 20:02:30</created>
    <modified>2016-03-29 19:19:22</modified>
    <offset>NNNN</offset>
    <custom1>NNNN</custom1>
    <custom2>NNNN<custom2>
    <custom3>NNNN</custom3>
    <comments>
     <![CDATA[ ]]>
    </comments>
    <tempCompSensorID>NNNN</tempCompSensorID>
   </sensor>
 </sensors>
</result>
```

Name	Description
sensorID	Internal database identifier for a sensor
Input	Input channel on the node
Name	Name of the sensor
sensorTypeID	Internal database identifier for a sensor type
sensorTypeName	Name for sensor type

listSensorData

Get all of the sensor data for a given sensor within the specified start and end dates.

Request:

None

```
https://analytics2.smtresearch.ca/api/?action=listSensorData&sensorID=NNNN&startDate=DDDD&endDate=DDDD
```

Parameter	Description
sensorID	Integer value. Internal database identifier for a sensor.
startDate	Start date for the data set (YYYY-MM-DD)
endDate	End date for the data set (YYYY-MM-DD)

Optional:

None

```
https://analytics2.smtresearch.ca/api/?action=listSensorData&sensorID=NNNN&startDate=DDDD&endDate=DDDD&startTime=hh:mm:SS.ssss&endTime=hh:mm:SS.ssss
```

NOTE - uses the project's timezone

Parameter	Description
startTime	Start time (hh:mm:SS.ssss)
endTime	End time for the data set (hh:mm:SS.ssss)

Result:

```xml
<result>
 <readings>
  <reading>
   <dataID>1679694986</dataID>
   <sensorID/>
   <raw>99883</raw>
   <engUnit>99883</engUnit>
   <timestamp>2016-07-20 11:08:04</timestamp>
  </reading>
  <reading>
   <dataID>1679695008</dataID>
   <sensorID/>
   <raw>99739</raw>
   <engUnit>99739</engUnit>
   <timestamp>2016-07-20 11:08:24</timestamp>
  </reading>
 </readings>
</result>
```

Name	Description
dataID	Internal database identifier for a reading
sensorID	Internal database identifier for a sensor
Raw	Original ohms or uV reading value
engUnit	Reading value after application of engineering unit conversion. Eg: ohms -> moisture content
Timestamp	Timestamp value of reading

getProjectStatus

Get the status of the project's SMT alarm.

Request:

```
None
https://analytics2.smtresearch.ca/api/?action=getProjectStatus&projectID=NNN
```

Parameter	Description
projectID	Project's unique ID

Result:

```
XML
<result>
  <project>
  <name>
   <![CDATA[ Project Name ]]>
  </name>
  <alarmTriggered>f</alarmTriggered>
 </project>
</result>
```

Name	Description
name	Name of the project is in the brackets of <![CDATA] [name-of-project]]>
alarmTriggered	Boolean value (true-t) if the alarm is triggered, (false-f or empty) if not triggered

listAlarmInstances

Get a list of the currently triggered and/or cleared alarms for a given project or job.

Request:

Project-wide

```
None
https://analytics2.smtresearch.ca/api/?action=listAlarmInstances&projectID=NNN
```

Job-wide

```
None
https://analytics2.smtresearch.ca/api/?action=listAlarmInstances&jobID=NNN
```

Parameter	Description
projectID	A project's unique ID
jobID	A job's unique ID

Optional:

```
None
https://analytics2.smtresearch.ca/api/?action=listAlarmInstances&jobID=NNN&alarmCleared=f
```

Parameter	Description
alarmCleared	alarmCleared=t (true) for the list of cleared alarm instances alarmCleared=f (false) for the list of alarm instances that are not cleared

Result:

```xml
<result>
 <tms>
  <tm>
   <sensorID>416993</sensorID>
   <sensorName>
    <![CDATA[ 04-BATTERY ]]>
   </sensorName>
   <input>7</input>
   <phyID>9299</phyID>
   <alarmName>
    <![CDATA[ Battery ]]>
   </alarmName>
   <alarmCleared>t</alarmCleared>
   <TriggeredUTC>2023-12-20 06:31:12+00</TriggeredUTC>
   <ClearedUTC>2024-02-29 08:05:13+00</ClearedUTC>
   </tm>
   <tm>
   <sensorID>416993</sensorID>
   <sensorName>
    <![CDATA[ 04-BATTERY ]]>
   </sensorName>
   <input>7</input>
   <phyID>9299</phyID>
   <alarmName>
    <![CDATA[ Battery ]]>
   </alarmName>
   <alarmCleared>t</alarmCleared>
   <TriggeredUTC>2023-12-16 06:04:12+00</TriggeredUTC>
   <ClearedUTC>2024-02-26 08:05:13+00</ClearedUTC>
   </tm>
   ...
 </tms>
</result>
```

Name	Description
sensorID	Internal database identifier for a sensor
sensorName	Name of the sensor is in the brackets of <![CDATA] [name-of-sensor]]>
input	Input channel on the node
phyID	Physical device ID. This number is printed on the WIDAQ.

alarmName	Name of the alarm is in the brackets of <![CDATA] [name-of-alarm]]>
alarmCleared	Status of whether the alarm is cleared or not - t for cleared, f for not cleared
TriggeredUTC	Timestamp (UTC) when alarm is triggered
ClearedUTC	Timestamp (UTC) when alarm is cleared