API Documentation

ver 1.13

Table of Contents

Change Log

Date	Version	Changes Made	Changes By
20/05/13	1	Initial version	Sean O'Reilly, Lukasz Jajesnica, Gabor Zelei
08/07/13	1.1	New API functionality for Employees and Jobs	Gabor Zelei
17/09/13	1.2	New API's for reassigning Jobs, updating Job Statuses and listing Shifts	Gabor Zelei
25/09/13	1.3	Extended Job creation API, added new API for retrieving S3 files	Gabor Zelei
25/09/13	1.4	Updating code examples section.	Lukasz Jajesnica
25/09/13	1.5	Put params in the correct case	Sean OReilly
26/09/13	1.6	Added in version number 1.6 added in Job Fields section, updated php section	Sean OReilly
30/09/13	1.7	Updates to titles and s3file details, formatting	Sean OReilly
15/10/13	1.8	Added pages for employee status logs API	Gabor Zelei
16/10/13	1.9	Minor fixes to list of parameters for employee/create and employee/update	Gabor Zelei
30/10/13	1.10	Minor fixes to URLs	Gabor Zelei
08/11/13	1.11	Added section for assigning jobs	Gabor Zelei
08/11/13	1.12	Added just create api for jobs	Sean OReilly
12/11/13	1.13	Added asset management api's + minor changes to document structure	Gabor Zelei

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Introduction

GeoPal API provides you with the powerful ability to send and receive data from our system. Currently it supports two types of requests: Pull and Push. In this document you will find a general description of the API, along with code samples for the following programming languages:

- C#
- Java
- PHP
- Python
- Visual Basic .NET

Syntax
The markdown syntax used in this document is as follows:

Important information
API Method Name
A **mandatory field_name** in the request you send or receive
An optional field_name in the request you send or receive

Sections
This document has been organized into two main sections:

- **General API Description**: This section contains all the information about the GeoPal API in a language independent fashion. This includes the descriptions of the URLs and common request parameters used. Generic GET and PUT style calls will also be also discussed in this section.
- **API Examples**: This sections contains commented API examples in all supported programming languages.

General API Description

Common Request Parameters

When making calls to GeoPal's API, you will typically need to specify the following parameters in your call: Signature, Verb, URI, Timestamp, API key and Operation. A description of these parameters can be found below.

Signature

The Signature is a specially constructed token, converted to the lowercase and then signed with SHA256. Once constructed, it must be encoded with BASE64. You can find more information about the building block parameters of the token below.

PseudoCode:

```
VAR Signature = BASE64(
        SHA256(
                LOWER_CASE(
                        <VERB>+<URI>+<EMPLOYEEID>+<TIMESTAMP>
                )
        )
);
```

Verb

A Verb is a specific type of request. The GeoPal API currently accepts "GET" and "PUT" values for a Verb, depending on the actual method you want to call. You can find more information about the Verb you have to use for each method in their API description tables, later in this chapter.

URI

The URI parameter is the target URL you want to send your request to. Again, you can find the actual value to set for the URI parameter in the API method description tables.

Timestamp

The current timestamp. Please refer to the [RFC 2822](#), in case you need more information.

GeoPal expects the timestamp to be provided in the following format:
Thu, 25 Oct 2012 13:06:50 +0100

API Key

The API key is a randomly generated 128-byte string, assigned to your company by Geopal and used for the authentication of incoming API calls.

Operation

This parameter specifies the operation type, and is only used in Push requests. Valid values for this parameter are: `job`, `job_workflow`, `job_workflow_file` or `job_field`.

Pull API

The Pull API functions allow you to retrieve data from or submit data to GeoPal by calling a URL via HTTPS, with the correct parameters and headers.

Some calls allow you to access data identified by either an "ID" or an "Identifier".

Here, the ID represents the way GeoPal identifies the resource internally. This is always a read-only integer value.

The Identifier, on the other hand, is a string of numbers and/or characters, and can freely be assigned and changed by the user. This may be identical to the primary key in your system.

Jobs API

Creating a Job

Allows creating a job in GeoPal

Parameters	Method specific value
URI	api/jobs/create
URI	api/jobs/createandassign creates and assigns the job
Verb	POST
Data Type	JSON

Headers	Method specific value
GEOPAL-SIGNATURE	[reference]
GEOPAL-TIMESTAMP	[reference]
GEOPAL-EMPLOYEEID	A unique ID assigned to the requestor employee by GeoPal

Get Parameter	Description
template_id	The ID of the job template to create the job from
job_identifier	A unique identifier for the job
person_id	The ID of the contact person for the job
person_identifier	The identifier of the contact person for the job
person_title	The title of the contact person for the job
person_first_name	The first name of the contact person for the job
person_last_name	The last name of the contact person for the job
person_phone_number	The phone number of the contact person for the job
person_fax_number	The fax number of the contact person for the job
person_mobile_number	The mobile phone number of the contact person for the job
person_email	The e-mail address of the contact person for the job
person_address_line_1	Address (line 1) of the contact person for the job
person_address_line_2	Address (line 2) of the contact person for the job
person_address_line_3	Address (line 3) of the contact person for the job
person_city	Address (city) of the contact person for the job
person_postal_code	Address (postal code) of the contact person for the job
address_id	ID of the address where the job should be done at
address_identifier	Identifier of the address where the job should be done at
address_line_1	The address (line 1) where the job should be done at

Get Parameter	Description
`address_line_2`	The address (line 2) where the job should be done at
`address_line_3`	The address (line 3) where the job should be done at
`city`	The address (city) where the job should be done at
`postal_code`	The address (postal code) where the job should be done at
`country_id`	The address (country ID) where the job should be done at
`customer_id`	The ID of the customer to do the job for
`customer_identifier`	The identifier of the customer to do the job for
`customer_name`	The name of the customer to do the job for
`customer_phone_number`	The phone number of the customer to do the job for
`customer_fax_number`	The fax number of the customer to do the job for
`customer_web_site`	The web site address of the customer to do the job for
`customer_mobile_number`	The mobile number of the customer to do the job for
`customer_email`	The e-mail address of the customer to do the job for
`customer_address_line_1`	The address (line 1) of the customer to do the job for
`customer_address_line_2`	The address (line 2) of the customer to do the job for
`customer_address_line_3`	The address (line 3) of the customer to do the job for
`customer_city`	The address (city) of the customer to do the job for
`customer_postal_code`	The address (postal code) of the customer to do the job for
`estimated_duration`	The estimated time (HH:MI) the job will take to complete
`rate_per_hour`	The cost of the job per hour
`prefered_start_date_time`	The date and time to start the job at
`prefered_stop_date_time`	The date and time to finish the job by
`priority_text`	The textual representation of the job priority
`priority_color`	The color label for the job. Accepted values are "green", "yellow", "orange", "red", "purple", "white", and "blue". Defaults to "white".
`job_notes`	Submitter's notes for the job

Response	Description
status	[true/false] Indicates if there was an error on the server or not
tag	An URI to which the call was made to
employee	A JSON array with the account details of the requestor user who made the call.

Response	Description
	```{ id: integer, title: string, first_name: string, last_name: string }```
company	Details of the current company. ```{ id: integer, name: string, mobile_main_logo_url: string }```
job	An object containing details of the new job. ```{ id: integer, identifier: string, priority_text: string, start_date_time: dateTime / string, prefered_start_date_time: dateTime / string, created_on: dateTime / string, updated_on: dateTime / string duration: integer, priority_color: string, rate_per_hour: integer, prefered_stop_date_time: dateTime / string, job_status_id: integer, schedule_log_id: integer, start_date: dateTime / string, end_time: dateTime / string, first_to_accept: bool, assigned_at: dateTime / string, estimated_duration: integer, ob_assigned_to: string, url: string, notes: string, job_status_change_messages: string, address: { id: integer, identifier: string, is_billing: bool, is_user: bool, is_deleted: bool, created_on: dateTime / string, updated_by: string, updated_on: dateTime / string, city: string, is_primary: bool, company_id: integer, country_id: integer, created_by: string, address_line_1: string, address_line_2: string, address_line_3: string, postal_code: string, lat: float, lng: float }, prefered_start_date_time: dateTime / string, priority_text: string, job_template: { id: integer, name: string, is_deleted: bool, default_rate_per_hour: integer, updated_on: dateTime / string,```

Response	Description
| | ```
        priority_list: string,
        created_by: string,
        created_on: dateTime / string,
        review_job: bool,
        company_id: integer,
        description: string,
        estimate_job_duration: integer
    },
    created_by: {
        id: integer,
        title: string,
        first_name: string,
        last_name: string
    },
    employee: {
        id: integer,
        title: string,
        first_name: string,
        last_name: string
    },
    company: {
        id: integer,
        name: string
    },
    job_field_files: [],
    job_workflow_files: [],
    customer: {
        id: integer,
        company_id: integer,
        name: string,
        customer_type_id: integer,
        created_by: string,
        created_on: dateTime / string,
        identifier: string,
        industry: string,
        updated_on: dateTime / string,
        annual_revenue: integer,
        employees: string,
        ownership: string,
        phone_office: string,
        phone_alternate: string,
        phone_fax: string,
        updated_by: string,
        website: string,
        email: string,
        email_alternate: string,
        notes: string,
        assigned_user_id: integer,
        rating: integer
    },
    person: {
        id: integer,
        identifier: string,
        first_name: string,
        last_name: string,
        person_type_id: integer,
        title: string,
        person_department_id: integer,
        created_on: dateTime / string,
        updated_on: dateTime / string,
        person_job_title_id: integer,
        company_id: integer,
        created_by: string,
        department: string,
        email: string,
        is_billing: bool,
        phone_number: string,
        updated_by: string,
        fax_number: string,
        home_number: string,
        phone_number_alternate: string,
``` |

Response	Description
| | ```
        mobile_number: string,
        email_alternate: string,
        is_user: bool,
        is_deleted: bool,
        is_primary: bool,
        notes: string
    },
    assigned_to: {
        id: integer,
        title: string,
        first_name: string,
        last_name: string
    }
}
``` |

Getting Job Details

Returns a list with all existing job templates.

Parameters	Method specific value
URI	api/jobs/get
Verb	GET
Data Type	JSON

Headers	Method specific value
GEOPAL-SIGNATURE	[reference]
GEOPAL-TIMESTAMP	[reference]
GEOPAL-EMPLOYEEID	A unique ID assigned to the requestor employee by GeoPal

Get Parameter	Description
job_id	The ID of the target job

Response	Description
status	[true/false] Indicates if there was an error on the server or not
tag	An URI to which the call was made to

employee	A JSON array with the account details of the requestor user who made the call.
	
	`{`
	`    id: integer,`
	`    title: string,`
	`    first_name: string,`
	`    last_name: string`
	`}`

company	Details of the current company.
	
	`{`
	`    id: integer,`
	`    name: string`
	`}`

job	An object containing the job details.
	
	`{`
	`    id: integer,`
	`    identifier: string,`
	`    priority_text: string,`
	`    start_date_time: dateTime / string,`
	`    prefered_start_date_time: dateTime / string,`
	`    created_on: dateTime / string,`
	`    updated_on: dateTime / string`
	`    duration: integer,`
	`    priority_color: string,`
	`    rate_per_hour: integer,`

Response	Description
| | ```
prefered_stop_date_time: dateTime / string,
job_status_id: integer,
schedule_log_id: integer,
start_date: dateTime / string,
end_time: dateTime / string,
first_to_accept: bool,
assigned_at: dateTime / string,
estimated_duration: integer,
ob_assigned_to: string,
url: string,
notes: string,
job_status_change_messages: string,
address: {
    id: integer,
    identifier: string,
    is_billing: bool,
    is_user: bool,
    is_deleted: bool,
    created_on: dateTime / string,
    updated_by: string,
    updated_on: dateTime / string,
    city: string,
    is_primary: bool,
    company_id: integer,
    country_id: integer,
    created_by: string,
    address_line_1: string,
    address_line_2: string,
    address_line_3: string,
    postal_code: string,
    lat: float,
    lng: float
},
prefered_start_date_time: dateTime / string,
priority_text: string,
job_template: {
    id: integer,
    name: string,
    is_deleted: bool,
    default_rate_per_hour: integer,
    updated_on: dateTime / string,
    priority_list: string,
    created_by: string,
    created_on: dateTime / string,
    review_job: bool,
    company_id: integer,
    description: string,
    estimate_job_duration: integer
},
created_by: {
    id: integer,
    title: string,
    first_name: string,
    last_name: string
},
employee: {
    id: integer,
    title: string,
    first_name: string,
    last_name: string
},
company: {
    id: integer,
    name: string
},
job_field_files: [],
job_workflow_files: [],
customer: {
    id: integer,
    company_id: integer,
    name: string,
``` |

Response	Description
| | ```
        customer_type_id: integer,
        created_by: string,
        created_on: dateTime / string,
        identifier: string,
        industry: string,
        updated_on: dateTime / string,
        annual_revenue: integer,
        employees: string,
        ownership: string,
        phone_office: string,
        phone_alternate: string,
        phone_fax: string,
        updated_by: string,
        website: string,
        email: string,
        email_alternate: string,
        notes: string,
        assigned_user_id: integer,
        rating: integer
    },
    person: {
        id: integer,
        identifier: string,
        first_name: string,
        last_name: string,
        person_type_id: integer,
        title: string,
        person_department_id: integer,
        created_on: dateTime / string,
        updated_on: dateTime / string,
        person_job_title_id: integer,
        company_id: integer,
        created_by: string,
        department: string,
        email: string,
        is_billing: bool,
        phone_number: string,
        updated_by: string,
        fax_number: string,
        home_number: string,
        phone_number_alternate: string,
        mobile_number: string,
        email_alternate: string,
        is_user: bool,
        is_deleted: bool,
        is_primary: bool,
        notes: string
    },
    assigned_to: {
        id: integer,
        title: string,
        first_name: string,
        last_name: string
    }
}
``` |

Changing Job Status

Allows for changing the current status of a job.

Parameters	Method specific value
URI	api/jobs/status
Verb	POST
Data Type	JSON

Headers	Method specific value
GEOPAL-SIGNATURE	[reference]
GEOPAL-TIMESTAMP	[reference]
GEOPAL-EMPLOYEEID	A unique ID assigned to the requestor employee by GeoPal

Post Parameters	Description
job_id	The ID of the target job
job_status_id	The ID of the job status to set the job to. Valid values are: - **1** for "Accepted" - **2** for "Rejected" - **3** for "Completed" - **5** for "In Progress" - **7** for "Incomplete" Note: Values not listed above will cause the request to fail.
updated_on	A Unix Timestamp to mark the time of the update
message	An optional message to include in the job notes

Response	Description
status	[true/false] Indicates if there was an error on the server or not
tag	An URI to which the call was made to

employee	A JSON array with the account details of the requestor user who made the call.
	
	`{`
	`    id: integer,`
	`    title: string,`
	`    first_name: string,`
	`    last_name: string`
	`}`

company	Details of the current company.

Response	Description
| | ```
{
    id: integer,
    name: string
}
``` |
| job | An object containing the job details.<br><br>```
{
    id: integer,
    identifier: string,
    priority_text: string,
    start_date_time: dateTime / string,
    prefered_start_date_time: dateTime / string,
    created_on: dateTime / string,
    updated_on: dateTime / string
    duration: integer,
    priority_color: string,
    rate_per_hour: integer,
    prefered_stop_date_time: dateTime / string,
    job_status_id: integer,
    schedule_log_id: integer,
    start_date: dateTime / string,
    end_time: dateTime / string,
    first_to_accept: bool,
    assigned_at: dateTime / string,
    estimated_duration: integer,
    ob_assigned_to: string,
    url: string,
    notes: string,
    job_status_change_messages: string,
    address: {
        id: integer,
        identifier: string,
        is_billing: bool,
        is_user: bool,
        is_deleted: bool,
        created_on: dateTime / string,
        updated_by: string,
        updated_on: dateTime / string,
        city: string,
        is_primary: bool,
        company_id: integer,
        country_id: integer,
        created_by: string,
        address_line_1: string,
        address_line_2: string,
        address_line_3: string,
        postal_code: string,
        lat: float,
        lng: float
    },
    prefered_start_date_time: dateTime / string,
    priority_text: string,
    job_template: {
        id: integer,
        name: string,
        is_deleted: bool,
        default_rate_per_hour: integer,
        updated_on: dateTime / string,
        priority_list: string,
        created_by: string,
        created_on: dateTime / string,
        review_job: bool,
        company_id: integer,
        description: string,
        estimate_job_duration: integer
    },
    created_by: {
        id: integer,
``` |

Response	Description
| | ```
        title: string,
        first_name: string,
        last_name: string
    },
    employee: {
        id: integer,
        title: string,
        first_name: string,
        last_name: string
    },
    company: {
        id: integer,
        name: string
    },
    job_field_files: [],
    job_workflow_files: [],
    customer: {
        id: integer,
        company_id: integer,
        name: string,
        customer_type_id: integer,
        created_by: string,
        created_on: dateTime / string,
        identifier: string,
        industry: string,
        updated_on: dateTime / string,
        annual_revenue: integer,
        employees: string,
        ownership: string,
        phone_office: string,
        phone_alternate: string,
        phone_fax: string,
        updated_by: string,
        website: string,
        email: string,
        email_alternate: string,
        notes: string,
        assigned_user_id: integer,
        rating: integer
    },
    person: {
        id: integer,
        identifier: string,
        first_name: string,
        last_name: string,
        person_type_id: integer,
        title: string,
        person_department_id: integer,
        created_on: dateTime / string,
        updated_on: dateTime / string,
        person_job_title_id: integer,
        company_id: integer,
        created_by: string,
        department: string,
        email: string,
        is_billing: bool,
        phone_number: string,
        updated_by: string,
        fax_number: string,
        home_number: string,
        phone_number_alternate: string,
        mobile_number: string,
        email_alternate: string,
        is_user: bool,
        is_deleted: bool,
        is_primary: bool,
        notes: string
    },
    assigned_to: {
        id: integer,
        title: string,
``` |

Response	Description
| | ```
        first_name: string,
        last_name: string
    }
}
``` |

Assigning A Job

Allows for assigning a job to an employee.

Parameters	Method specific value
URI	api/jobs/assign
Verb	POST
Data Type	JSON

Headers	Method specific value
GEOPAL-SIGNATURE	[reference]
GEOPAL-TIMESTAMP	[reference]
GEOPAL-EMPLOYEEID	A unique ID assigned to the requestor employee by GeoPal

Post Parameter	Description
job_id	The ID of the target job
employee_id	The ID of the employee to assign the job to
start_date_time	Start date and time for the job (YYYY-MM-DD HH:MI:SS)

Response	Description
status	[true/false] Indicates if there was an error on the server or not
tag	An URI to which the call was made to
employee	A JSON array with the account details of the requestor user who made the call. ```\n{\n id: integer,\n title: string,\n first_name: string,\n last_name: string\n}\n```
company	Details of the current company. ```\n{\n id: integer,\n name: string\n}\n```
job	An object containing the job details. (Output is the same as described for "Creating a Job")

Reassigning A Job

Allows for reassigning a job to another employee.

Parameters	Method specific value
URI	api/jobs/reassign
Verb	POST
Data Type	JSON

Headers	Method specific value
GEOPAL-SIGNATURE	[reference]
GEOPAL-TIMESTAMP	[reference]
GEOPAL-EMPLOYEEID	A unique ID assigned to the requestor employee by GeoPal

Post Parameter	Description
job_id	The ID of the target job
employee_reassigned_to_id	The ID of the employee to assign the job to
start_date_time	Start date and time for the job (YYYY-MM-DD HH:MI:SS)

Response	Description
status	[true/false] Indicates if there was an error on the server or not
tag	An URI to which the call was made to

employee	A JSON array with the account details of the requestor user who made the call.
	
	``
	{
	    id: integer,
	    title: string,
	    first_name: string,
	    last_name: string
	}
	``

company	Details of the current company.
	
	``
	{
	    id: integer,
	    name: string
	}
	``

job	An object containing the job details.
	
	``
	{
	    id: integer,
	    identifier: string,
	    priority_text: string,
	    start_date_time: dateTime / string,
	    prefered_start_date_time: dateTime / string,
	    created_on: dateTime / string,
	    updated_on: dateTime / string
	``

Response	Description
| | ```
duration: integer,
priority_color: string,
rate_per_hour: integer,
prefered_stop_date_time: dateTime / string,
job_status_id: integer,
schedule_log_id: integer,
start_date: dateTime / string,
end_time: dateTime / string,
first_to_accept: bool,
assigned_at: dateTime / string,
estimated_duration: integer,
ob_assigned_to: string,
url: string,
notes: string,
job_status_change_messages: string,
address: {
    id: integer,
    identifier: string,
    is_billing: bool,
    is_user: bool,
    is_deleted: bool,
    created_on: dateTime / string,
    updated_by: string,
    updated_on: dateTime / string,
    city: string,
    is_primary: bool,
    company_id: integer,
    country_id: integer,
    created_by: string,
    address_line_1: string,
    address_line_2: string,
    address_line_3: string,
    postal_code: string,
    lat: float,
    lng: float
},
prefered_start_date_time: dateTime / string,
priority_text: string,
job_template: {
    id: integer,
    name: string,
    is_deleted: bool,
    default_rate_per_hour: integer,
    updated_on: dateTime / string,
    priority_list: string,
    created_by: string,
    created_on: dateTime / string,
    review_job: bool,
    company_id: integer,
    description: string,
    estimate_job_duration: integer
},
created_by: {
    id: integer,
    title: string,
    first_name: string,
    last_name: string
},
employee: {
    id: integer,
    title: string,
    first_name: string,
    last_name: string
},
company: {
    id: integer,
    name: string
},
job_field_files: [],
job_workflow_files: [],
customer: {
``` |

Response	Description
| | ```
        id: integer,
        company_id: integer,
        name: string,
        customer_type_id: integer,
        created_by: string,
        created_on: dateTime / string,
        identifier: string,
        industry: string,
        updated_on: dateTime / string,
        annual_revenue: integer,
        employees: string,
        ownership: string,
        phone_office: string,
        phone_alternate: string,
        phone_fax: string,
        updated_by: string,
        website: string,
        email: string,
        email_alternate: string,
        notes: string,
        assigned_user_id: integer,
        rating: integer
    },
    person: {
        id: integer,
        identifier: string,
        first_name: string,
        last_name: string,
        person_type_id: integer,
        title: string,
        person_department_id: integer,
        created_on: dateTime / string,
        updated_on: dateTime / string,
        person_job_title_id: integer,
        company_id: integer,
        created_by: string,
        department: string,
        email: string,
        is_billing: bool,
        phone_number: string,
        updated_by: string,
        fax_number: string,
        home_number: string,
        phone_number_alternate: string,
        mobile_number: string,
        email_alternate: string,
        is_user: bool,
        is_deleted: bool,
        is_primary: bool,
        notes: string
    },
    assigned_to: {
        id: integer,
        title: string,
        first_name: string,
        last_name: string
    }
}
``` |

Reading a Job Template

Returns a Job Template.

Parameters	Method specific value
URI	api/jobtemplate/get
Verb	GET
Data Type	JSON

Headers	Method specific value
GEOPAL-SIGNATURE	[reference]
GEOPAL-TIMESTAMP	[reference]
GEOPAL-EMPLOYEEID	A unique ID assigned to the requestor employee by GeoPal

Get Parameter	Description
job_template_id	The ID of the target job template

Response	Description
status	[true/false] Indicates if there was an error on the server or not
tag	An URI to which the call was made to
employee	A JSON array with the account details of the requestor user who made the call. ```{ id: integer, title: string, first_name: string, last_name: string}```
company	Details of the current company. ```{ id: integer, name: string}```
template	An object containing the job template details. ```{ id: integer, name: string, company_id: integer, description: string, created_on: dateTime / string, created_by: string, updated_on: dateTime / string, updated_by: string, review_job: bool, priority_list: string,```

Response	Description
| | ```
default_rate_per_hour: integer,
is_deleted: bool,
job_template_runbooks: [],
estimate_job_duration: integer,
job_template_fields: [{
    id: integer,
    perm_portal: bool,
    is_deleted: bool,
    name: string,
    include_in_reports: bool,
    perm_mobile: bool,
    updated_at: dateTime / string,
    template_id: integer,
    created_on: dateTime / string,
    action: string,
    action_values: string,
    order_number: integer
}],
job_template_workflows: [{
    id: integer,
    name: string,
    template_id: integer,
    created_on: dateTime / string,
    action_value_entered: string,
    is_deleted: bool,
    order_number: integer,
    optional: bool,
    updated_on: dateTime / string,
    action: string,
    nested_workflow_id: integer,
    level_number: integer,
    updated_at: dateTime / string,
    include_in_reports: bool
}]
}
``` |

Getting Jobs by a Specific Date Range

Returns a detailed list of Jobs created within the target date range.

Parameters	Method specific value
URI	api/jobsearch/ids
Verb	GET
Data Type	JSON

Headers	Method specific value
GEOPAL-SIGNATURE	[reference]
GEOPAL-TIMESTAMP	[reference]
GEOPAL-EMPLOYEEID	A unique ID assigned to the requestor employee by GeoPal

Get Parameter	Description
date_time_from	Date and time to list entries from.
date_time_to	Date and time to list entries to.

Response	Description
status	[true/false] Indicates if there was an error on the server or not
tag	An URI to which the call was made to

employee	A JSON array with the account details of the requestor user who made the call.
	
	 `{`
	`    id: integer,`
	`    title: string,`
	`    first_name: string,`
	`    last_name: string`
	`}`

company	Details of the current company.
	
	 `{`
	`    id: integer,`
	`    name: string`
	`}`

jobs	An array containing the details for all the job templates.
	
	 Each object has:
	
	 `{`
	`    id: integer`
	`}`

Employee API

Listing Employees and Getting Employee Locations and Statuses

Returns a detailed list with all employees of the company.

Parameters	Method specific value
URI	api/employees/all
Verb	GET
Data Type	JSON

Headers	Method specific value
GEOPAL-SIGNATURE	[reference]
GEOPAL-TIMESTAMP	[reference]
GEOPAL-EMPLOYEEID	A unique ID assigned to the requestor employee by GeoPal

Response	Description
status	[true/false] Indicates if there was an error on the server or not
tag	An URI to which the call was made to

employee	A JSON array with the account details of the requestor user who made the call.
	
	``
	{
	    id: integer,
	    identifier: string,
	    title: string,
	    first_name: string,
	    last_name: string
	}
	``

company	Details of the current company.
	
	``
	{
	    id: integer,
	    name: string
	}
	``

employees	An array containing the details for all the employees of the current company.
	
	Each object has:
	
	``
	{
	    id: integer,
	    identifier: string,
	    title: string,
	    first_name: string,
	    last_name: string,
	    mobile_number: string,
	    status: integer [0, 1, 2],
	    lat: float,
	    lng: float,
	``

Response	Description
| | ```
    address: string,
    last_updated_on: string
}
```<br><br>Statuses:<br>- **0** for "Ready"<br>- **1** for "Busy"<br>- **2** for "Offline" |

Create an Employee

Creates a new employee entry in the system.

Parameters	Method specific value
URI	api/employee/create
Verb	POST
Data Type	JSON

Headers	Method specific value
GEOPAL-SIGNATURE	[reference]
GEOPAL-TIMESTAMP	[reference]
GEOPAL-EMPLOYEEID	A unique ID assigned to the requestor employee by GeoPal

Post Parameters	Description
username	A unique username that will allow the employee to log in to GeoPal.
password	A password to allow the employee to log in to GeoPal.
email	The new employee's e-mail address.
first_name	The new employee's first name.
last_name	The new employee's last name.
mobile_number	The new employee's mobile phone number.
identifier	A unique identifier for the new employee.
administrator	A boolean value (true/false, 1/0) to indicate if a user is an administrator.
guest_user	A boolean value (true/false, 1/0) to indicate if a user is a guest user.
mobile_user	A boolean value (true/false, 1/0) to indicate if a user is a mobile app user.
portal_user	A boolean value (true/false, 1/0) to indicate if a user is a portal user.
web_user	A boolean value (true/false, 1/0) to indicate if a user is a web user.
timezone	The new employee's time zone. It may be provided in either of the following formats: 1.) Area/City – e. g.: Europe/Isle_of_Man (Preferred) 2.) Area/Zone – e.g.: US/Central 3.) Difference from GMT – e. g.: GMT+2 4.) Special formats – e. g.: CET, Zulu, etc.

Post Parameters	Description
	If not provided, the employer's time zone will be applied.

Response	Description
status	[true/false] Indicates if there was an error on the server or not
tag	An URI to which the call was made to

employee	A JSON array with the account details of the requestor user who made the call.
	
	`{`
	`    id: integer,`
	`    identifier: string,`
	`    title: string,`
	`    first_name: string,`
	`    last_name: string`
	`}`

company	Details of the current company.
	
	`{`
	`    id: integer,`
	`    name: string`
	`}`

employee_data	An object with data on the newly created user.
	
	`{`
	`    id: integer,`
	`    identifier: string,`
	`    first_name: string,`
	`    last_name: string,`
	`    email: string,`
	`    mobile_number: string,`
	`    username: string,`
	`    timezone: string`
	`}`

Update an Employee

Updates data on an existing employee, based on the employee's GeoPal ID.

Parameters	Method specific value
URI	api/employee/update
Verb	PUT
Data Type	JSON

Headers	Method specific value
GEOPAL-SIGNATURE	[reference]
GEOPAL-TIMESTAMP	[reference]
GEOPAL-EMPLOYEEID	A unique ID assigned to the requestor employee by GeoPal

Post Parameters	Description
id	The target employee's GeoPal ID.
username	The employee's unique username for logging in to GeoPal.
password	The employee's password for logging in to GeoPal.
first_name	The employee's first name.
last_name	The employee's last name.
email	The employee's e-mail address.
identifier	The employee's unique identifier.
mobile_number	The employee's mobile phone number.
administrator	A boolean value (true/false, 1/0) to indicate if a user is an administrator.
guest_user	A boolean value (true/false, 1/0) to indicate if a user is a guest user.
mobile_user	A boolean value (true/false, 1/0) to indicate if a user is a mobile app user.
portal_user	A boolean value (true/false, 1/0) to indicate if a user is a portal user.
web_user	A boolean value (true/false, 1/0) to indicate if a user is a web user.
timezone	The employee's time zone. It may be provided in either of the following formats: 1.) Area/City – e. g.: Europe/Isle_of_Man (Preferred) 2.) Area/Zone – e.g.: US/Central 3.) Difference from GMT – e. g.: GMT+2

Post Parameters	Description
	4.) Special formats – e. g.: `CET`, `Zulu`, etc.

Response	Description
status	[true/false] Indicates if there was an error on the server or not
tag	An URI to which the call was made to
employee	A JSON array with the account details of the requestor user who made the call. ```{ id: integer, identifier: string, title: string, first_name: string, last_name: string }```
company	Details of the current company. ```{ id: integer, name: string }```
employee_data	An object with updated data on the target user. ```{ id: integer, identifier: string, first_name: string, last_name: string, email: string, mobile_number: string, username: string, timezone: string }```

Update an Employee By Identifier

Updates data on an existing employee, based on the employee's Identifier.

Parameters	Method specific value
URI	api/employee/updatebyidentifier
Verb	PUT
Data Type	JSON

Headers	Method specific value
GEOPAL-SIGNATURE	[reference]
GEOPAL-TIMESTAMP	[reference]
GEOPAL-EMPLOYEEID	A unique ID assigned to the requestor employee by GeoPal

Post Parameters	Description
identifier	The employee's unique identifier.
username	The employee's unique username for logging in to GeoPal.
password	The employee's password for logging in to GeoPal.
first_name	The employee's first name.
last_name	The employee's last name.
email	The employee's e-mail address.
mobile_number	The employee's mobile phone number.
administrator	A boolean value (true/false, 1/0) to indicate if a user is an administrator.
guest_user	A boolean value (true/false, 1/0) to indicate if a user is a guest user.
mobile_user	A boolean value (true/false, 1/0) to indicate if a user is a mobile app user.
portal_user	A boolean value (true/false, 1/0) to indicate if a user is a portal user.
web_user	A boolean value (true/false, 1/0) to indicate if a user is a web user.
timezone	The employee's time zone. It may be provided in either of the following formats: 1.) Area/City – e. g.: Europe/Isle_of_Man (Preferred) 2.) Area/Zone – e.g.: US/Central 3.) Difference from GMT – e. g.: GMT+2 4.) Special formats – e. g.: CET, Zulu, etc.

Response	Description
status	[true/false] Indicates if there was an error on the server or not
tag	An URI to which the call was made to

employee	A JSON array with the account details of the requestor user who made the call.
	
	``
	{
	    id: integer,
	    identifier: string,
	    title: string,
	    first_name: string,
	    last_name: string
	}
	``

company	Details of the current company.
	
	``
	{
	    id: integer,
	    name: string
	}
	``

employee_data	An object with updated data on the target user.
	
	``
	{
	    id: integer,
	    identifier: string,
	    first_name: string,
	    last_name: string,
	    email: string,
	    mobile_number: string,
	    username: string,
	    timezone: string
	}
	``

Listing Employee Shifts

Returns a list of shifts in the target time frame.

Parameters	Method specific value
URI	api/employees/shifts
Verb	GET
Data Type	JSON

Headers	Method specific value
GEOPAL-SIGNATURE	[reference]
GEOPAL-TIMESTAMP	[reference]
GEOPAL-EMPLOYEEID	A unique ID assigned to the requestor employee by GeoPal

Get Parameters	Description
date_time_from	Shifts starting at or after this point will be listed. (YYYY-MM-DD HH:MI:SS)
date_time_to	Shifts ending at or before this point will be listed. (YYYY-MM-DD HH:MI:SS)

Response	Description
status	[true/false] Indicates if there was an error on the server or not
tag	An URI to which the call was made to

employee	A JSON array with the account details of the requestor user who made the call.
	
	`{`
	`    id: integer,`
	`    identifier: string,`
	`    title: string,`
	`    first_name: string,`
	`    last_name: string`
	`}`

company	Details of the current company.
	
	`{`
	`    id: integer,`
	`    name: string`
	`}`

shifts	An array containing the details for all the shifts matching provided criteria.
	
	Each object has:
	
	`{`
	`    employee_id: integer,`

Response	Description
| | ```
employee_name: string,
start_address: string,
start_on: dateTime / String,
stop_address: string,
stop_on: dateTime / String,
duration: string
}
``` |

Listing Employee Status Logs

Returns a list of status log entries in the target time frame.

Parameters	Method specific value
URI	api/employees/status_logs
Verb	GET
Data Type	JSON

Headers	Method specific value
GEOPAL-SIGNATURE	[reference]
GEOPAL-TIMESTAMP	[reference]
GEOPAL-EMPLOYEEID	A unique ID assigned to the requestor employee by GeoPal

Get Parameters	Description
date_time_from	Shifts starting at or after this point will be listed. (YYYY-MM-DD HH:MI:SS)
date_time_to	Shifts ending at or before this point will be listed. (YYYY-MM-DD HH:MI:SS)
employee_identifier	If provided, only results for this employee will be shown.
employee_id	If provided, only results for this employee will be shown. Note: GeoPal will check for an employee_identifier first; if both values are valid, the employee_identifier takes precedence.

Response	Description
status	[true/false] Indicates if there was an error on the server or not
tag	An URI to which the call was made to

employee	A JSON array with the account details of the requestor user who made the call.
	
	`{`
	`    id: integer,`
	`    identifier: string,`
	`    title: string,`
	`    first_name: string,`
	`    last_name: string`
	`}`

company	Details of the current company.
	
	`{`
	`    id: integer,`
	`    name: string`
	`}`

Response	Description
status_logs	An array containing the details for all the employee status logs matching provided criteria.

Each object has:

```
{
    id: integer,
    employee_id: integer,
    company_id: integer,
    status: integer,
    status_update_from: integer,
    ip_address: string,
    user_agent: string,
    updated_on: dateTime / string
}
```

Status values and the source of status update are represented as integers:

`status` field:
- **0** for "Ready"
- **1** for "Busy"
- **2** for "Offline"

`status_update_from` field:
- **0** for "system" (e.g.: expired session)
- **1** for "employee"

Get Route Replay of an Employee

Get route data within a given time period, by an employee's GeoPal ID.

Parameters	Method specific value
URI	api/employee/routereplay
Verb	GET
Data Type	JSON

Headers	Method specific value
GEOPAL-SIGNATURE	[reference]
GEOPAL-TIMESTAMP	[reference]
GEOPAL-EMPLOYEEID	A unique ID assigned to the requestor employee by GeoPal

Get Parameters	Description
employee_id	The employee's GeoPal ID.
date_time_from	The date and time to list the entries from.
date_time_to	The date and time to list the entries to.

Response	Description
status	[true/false] Indicates if there was an error on the server or not
tag	An URI to which the call was made to

employee	A JSON array with the account details of the requestor user who made the call.
	
	`{`
	`    id: integer,`
	`    identifier: string,`
	`    title: string,`
	`    first_name: string,`
	`    last_name: string`
	`}`

company	Details of the current company.
	
	`{`
	`    id: integer,`
	`    name: string`
	`}`

tracks	An array of objects with information on the individual points recorded on the user's route, in the target time period. Each object has:
	
	`{`
	`    employee_name: integer,`
	`    address: string,`
	`    lat: float,`
	`    lng: float,`
	`    speed: integer,`

Response	Description
| | ```
heading_txt: string,
signal_strength_txt: string,
battery_level_percentage: integer,
accuracy: integer,
accuracy_type: string,
tag: string,
distance_travelled: integer,
created_on: dateTime / String
}
``` |

Get Route Replay of Employee By Identifier

Get route data within a given time period, by an employee's Identifier.

Parameters	Method specific value
URI	api/employee/routereplaybyidentifier
Verb	GET
Data Type	JSON

Headers	Method specific value
GEOPAL-SIGNATURE	[reference]
GEOPAL-TIMESTAMP	[reference]
GEOPAL-EMPLOYEEID	A unique ID assigned to the requestor employee by GeoPal

Get Parameters	Description
employee_identifier	The employee's Identifier.
date_time_from	The date and time to list the entries from.
date_time_to	The date and time to list the entries to.

Response	Description
status	[true/false] Indicates if there was an error on the server or not
tag	An URI to which the call was made to

employee	A JSON array with the account details of the requestor user who made the call.
	
	`{`
	`    id: integer,`
	`    identifier: string,`
	`    title: string,`
	`    first_name: string,`
	`    last_name: string`
	`}`

company	Details of the current company.
	
	`{`
	`    id: integer,`
	`    name: string`
	`}`

tracks	An array of objects with information on the individual points recorded on the user's route, in the target time period. Each object has:
	
	`{`
	`    employee_name: integer,`
	`    address: string,`
	`    lat: float,`
	`    lng: float,`
	`    speed: integer,`

Response	Description
|  | ```
  heading_txt: string,
  signal_strength_txt: string,
  battery_level_percentage: integer,
  accuracy: integer,
  accuracy_type: string,
  tag: string,
  distance_travelled: integer,
  created_on: dateTime / String
}
``` |

Asset Management API

We expect your Asset Identifiers to be RFIDs, as this is the way you look up assets on the Mobile App.

Getting a list of Assets

Returns a paged list of all assets in the system.

Parameters	Method specific value
URI	api/assets/getall
Verb	GET
Data Type	JSON

Headers	Method specific value
GEOPAL-SIGNATURE	[reference]
GEOPAL-TIMESTAMP	[reference]
GEOPAL-EMPLOYEEID	A unique ID assigned to the requestor employee by GeoPal

Get Parameter	Description
limit	The amount of assets to be returned per page. Defaults to 10.
page	The page number to start the listing from. Defaults to 0.
updated_on	An optional unix timestamp. If provided, only assets modified at or after the indicated date and time will be listed.

Response	Description
status	[true/false] Indicates if there was an error on the server or not
tag	An URI to which the call was made to

employee	A JSON array with the account details of the requestor user who made the call.
	
	{
	    id: integer,
	    title: string,

Response	Description

	``
	    first_name: string,
	    last_name: string
	}```

company	Details of the current company.
	
	``
	{
	    id: integer,
	    name: string
	}```

total	The total number of assets in GeoPal.
has_next	A boolean value to indicate if there are additional records in the system, based on the current settings for the `limit`, `page` and `updated_on` parameters.

assets	An array of objects representing all assets that match the given criteria. Each object has:
	
	``
	{
	    id: integer,
	    identifier: string,
	    name: string,
	    company_id: integer,
	    asset_template_id: integer,
	    asset_company_status_id: integer,
	    customer_id: integer,
	    address_id: integer,
	    parent_id: integer,
	    cost_price: string,
	    selling_price: string,
	    last_scanned_on: string / dateTime,
	    last_scanned_by: integer,
	    is_deleted: boolean,
	    updated_on: string / dateTime,
	    updated_by: integer,
	    created_on: string / dateTime,
	    created_by: integer
	}```

Getting an Asset by Id

Returns details of an Asset, based on its Id in GeoPal.

Parameters	Method specific value
URI	api/assets/get
Verb	GET
Data Type	JSON

Headers	Method specific value
GEOPAL-SIGNATURE	[reference]
GEOPAL-TIMESTAMP	[reference]
GEOPAL-EMPLOYEEID	A unique ID assigned to the requestor employee by GeoPal

Get Parameter	Description
asset_id	The ID of the Asset.

Response	Description
status	[true/false] Indicates if there was an error on the server or not
tag	An URI to which the call was made to
| employee | A JSON array with the account details of the requestor user who made the call.<br><br>```
{
    id: integer,
    title: string,
    first_name: string,
    last_name: string
}
``` |
| company | Details of the current company.<br><br>```
{
    id: integer,
    name: string
}
``` |
| asset | An object containing the Asset details.<br><br>```
{
    id: integer,
    identifier: string,
    name: string,
    company_id: integer,
    asset_template_id: integer,
    asset_company_status_id: integer,
    customer_id: integer,
    address_id: integer,
    parent_id: integer,
    cost_price: string,
``` |

Response	Description
| | ```
selling_price: string,
last_scanned_on: string / dateTime,
last_scanned_by: integer,
is_deleted: boolean,
updated_on: string / dateTime,
updated_by: integer,
created_on: string / dateTime,
created_by: integer,
address: {
    id: integer,
    identifier: string,
    is_primary: boolean,
    is_billing: boolean,
    is_user: boolean,
    address_line_1: string,
    address_line_2: string,
    address_line_3: string,
    city: string,
    postal_code: string,
    country_id: integer,
    coordinates_verified: boolean,
    lat: float,
    lng: float,
    boundary: string,
    is_deleted: boolean,
    company_id: integer,
    updated_on: string / dateTime,
    updated_by: integer,
    created_on: string / dateTime,
    created_by: integer
},
asset_fields: [{
    id: integer,
    asset_id: integer,
    asset_company_field_id: integer,
    company_id: integer,
    action_value_entered: string,
    s3file_id: integer,
    updated_on: string / dateTime,
    updated_by: integer,
    created_on: string / dateTime,
    created_by: integer
}],
asset_triggers: [{
    id: integer,
    company_id: integer,
    asset_id: integer,
    asset_company_trigger_id: integer,
    assigned_date_time: string / dateTime,
    trigger_date_time: string / dateTime,
    is_active: boolean,
    updated_on: string / dateTime,
    updated_by: integer,
    created_on: string / dateTime,
    created_by: integer
}]
}
``` |

Getting an Asset by Identifier

Returns details of an Asset, based on its Identifier.

Parameters	Method specific value
URI	api/assets/getbyidentifier
Verb	GET
Data Type	JSON

Headers	Method specific value
GEOPAL-SIGNATURE	[reference]
GEOPAL-TIMESTAMP	[reference]
GEOPAL-EMPLOYEEID	A unique ID assigned to the requestor employee by GeoPal

Get Parameter	Description
asset_identifier	The identifier of the Asset.

Response	Description
status	[true/false] Indicates if there was an error on the server or not
tag	An URI to which the call was made to
employee	A JSON array with the account details of the requestor user who made the call. ```{ id: integer, title: string, first_name: string, last_name: string}```
company	Details of the current company. ```{ id: integer, name: string}```
asset	An object containing the Asset details. (Same as for getting an Asset by Id)

Updating and Creating an Asset

Updates an existing asset or creates a new one with the details provided.

Parameters	Method specific value
URI	api/assets/replace
Verb	GET
Data Type	JSON

Headers	Method specific value
GEOPAL-SIGNATURE	[reference]
GEOPAL-TIMESTAMP	[reference]
GEOPAL-EMPLOYEEID	A unique ID assigned to the requestor employee by GeoPal

Post Parameter	Description
asset_identifier	The identifier of the Asset. Either the Identifier or the Id must be provided.
asset_id	The Id of the Asset. Either the Identifier or the Id must be provided.
asset_template_id	The Id of the Asset Template based on which to create the Asset. **For new Assets, this parameter is required.** For existing Assets, the Asset Template Id cannot be changed. As such, it will be ignored and may be omitted from the request.
asset_company_status_id	The Id of the company-defined asset status to assign to the Asset.
asset_name	The human-readable name of the Asset.
customer_identifier	The identifier of the customer associated with the Asset.
last_scanned_on	A unix timestamp to indicate the last time the Asset has been checked.
last_scanned_by	The Id of the last employee to check the Asset.
address_lat	The latitude coordinate of the Asset's location.
address_lng	The longitude coordinate of the Asset's location.
address_postal_code	The postal code to the Asset's location
address_city	The name of the city or village where the Asset is located.
address_line_1	The first line of the address where the Asset is located.
address_line_2	The second line of the address where the Asset is located.

Post Parameter	Description
address_line_3	The third line of the address where the Asset is located.
address_updated_on	Indicates when the Address data to the Asset has last been updated.

asset_fields	An array or JSON encoded list of key-value pairs representing the user-defined Asset's Fields, where the Asset Field's Id acts as the key, and the Asset Field's new value to set as the value.
	
	E.g.:
	
	`{`
	`    asset_field_id_1: asset_field_new_value_1,`
	`    asset_field_id_2: asset_field_new_value_2,`
	`    ...`
	`}`
	
	Asset Fields not associated with the Asset's Template will be ignored.

Response	Description
status	[true/false] Indicates if there was an error on the server or not
tag	An URI to which the call was made to

employee	A JSON array with the account details of the requestor user who made the call.
	
	`{`
	`    id: integer,`
	`    title: string,`
	`    first_name: string,`
	`    last_name: string`
	`}`

company	Details of the current company.
	
	`{`
	`    id: integer,`
	`    name: string`
	`}`

asset	An object containing the Asset details. (Same as for getting an Asset by Id)

Updating an Asset Field

Allows for updating an individual, user-defined field of an asset.

Parameters	Method specific value
URI	api/assetfields/update
Verb	POST
Data Type	JSON

Headers	Method specific value
GEOPAL-SIGNATURE	[reference]
GEOPAL-TIMESTAMP	[reference]
GEOPAL-EMPLOYEEID	A unique ID assigned to the requestor employee by GeoPal

Post Parameter	Description
asset_identifier	The identifier of the Asset. Either the Identifier or the Id must be provided.
asset_id	The Id of the Asset. Either the Identifier or the Id must be provided.
asset_company_field_id	The Id of the corresponding Asset Company Field.
action_value_entered	The value to set to the selected Asset Field. Defaults to null.

Response	Description
status	[true/false] Indicates if there was an error on the server or not
tag	An URI to which the call was made to

employee	A JSON array with the account details of the requestor user who made the call.
	
	 ``{``
	``    id: integer,``
	``    title: string,``
	``    first_name: string,``
	``    last_name: string``
	``}``

company	Details of the current company.
	
	 ``{``
	``    id: integer,``
	``    name: string``
	``}``

asset_field	An object containing the Asset Field details.

Response	Description
| | ```
{
    id: integer,
    asset_id: integer,
    asset_company_field_id: integer,
    company_id: integer,
    action_value_entered: string,
    s3file_id: integer,
    updated_on: string / dateTime,
    updated_by: integer,
    created_on: string / dateTime,
    created_by: integer
}
``` |

Uploading a file to an Asset Field

Allows for updating an individual, user-defined field of an asset.

Parameters	Method specific value
URI	api/assetfields/file
Verb	POST
Data Type	JSON

Headers	Method specific value
GEOPAL-SIGNATURE	[reference]
GEOPAL-TIMESTAMP	[reference]
GEOPAL-EMPLOYEEID	A unique ID assigned to the requestor employee by GeoPal

Post Parameter	Description
asset_identifier	The identifier of the Asset. Either the Identifier or the Id must be provided.
asset_id	The Id of the Asset. Either the Identifier or the Id must be provided.
asset_company_field_id	The Id of the corresponding Asset Company Field.
file2upload	The absolute path to the file to be uploaded.

Note
The file upload behaviour here is that of a standard single file upload via HTTP. That means that, for example, in CURL or .NET, you should prefix the file path with an "@" symbol.

Response	Description
status	[true/false] Indicates if there was an error on the server or not
tag	An URI to which the call was made to

employee	A JSON array with the account details of the requestor user who made the call.
	
	`{`
	`    id: integer,`
	`    title: string,`
	`    first_name: string,`
	`    last_name: string`
	`}`

company	Details of the current company.
	
	`{`
	`    id: integer,`
	`    name: string`
	`}`

Response	Description

asset_field	An object containing details on the target Asset Field.
	
	``
	{
	    id: integer,
	    asset_id: integer,
	    asset_company_field_id: integer,
	    company_id: integer,
	    action_value_entered: string,
	    s3file_id: integer,
	    updated_on: string / dateTime,
	    updated_by: integer,
	    created_on: string / dateTime,
	    created_by: integer
	}
	``

Updating an Asset Trigger

Allows for updating an Asset Trigger.

Parameters	Method specific value
URI	api/assettriggers/update
Verb	POST
Data Type	JSON

Headers	Method specific value
GEOPAL-SIGNATURE	[reference]
GEOPAL-TIMESTAMP	[reference]
GEOPAL-EMPLOYEEID	A unique ID assigned to the requestor employee by GeoPal

Post Parameter	Description
asset_identifier	The identifier of the Asset. Either the Identifier or the Id must be provided.
asset_id	The Id of the Asset. Either the Identifier or the Id must be provided.
asset_company_trigger_id	The Id of the corresponding Asset Company Trigger.
assigned_date_time	The unix timestamp indicating when the triggered Job should be assigned. Defaults to the current date and time.

Response	Description
status	[true/false] Indicates if there was an error on the server or not
tag	An URI to which the call was made to

employee	A JSON array with the account details of the requestor user who made the call.
	
	``{
	    id: integer,
	    title: string,
	    first_name: string,
	    last_name: string
	}```

company	Details of the current company.
	
	``{
	    id: integer,
	    name: string
	}```

Response	Description

asset_trigger	An object containing the Asset Trigger details.
	
	``
	{
	    id: integer,
	    company_id: integer,
	    asset_id: integer,
	    asset_company_trigger_id: integer,
	    assigned_date_time: string / dateTime,
	    trigger_date_time: string / dateTime,
	    is_active: boolean,
	    updated_on: string / dateTime,
	    updated_by: integer,
	    created_on: string / dateTime,
	    created_by: integer
	}
	``

Files API

Getting a File

Retrieves An Uploaded File From The System. Any s3file id can be downloaded with this call.

Parameters	Method specific value
URI	api/s3files/get
Verb	GET
Data Type	Binary or JSON (see parameters)

Headers	Method specific value
GEOPAL-SIGNATURE	[reference]
GEOPAL-TIMESTAMP	[reference]
GEOPAL-EMPLOYEEID	A unique ID assigned to the requestor employee by GeoPal

Get Parameters	Description
s3_file_id	The S3 file's ID in GeoPal.
json	A boolean value to indicate if the file metadata should be returned instead of the file contents. Defaults to false.

Response	Description
status	[true/false] Indicates if there was an error on the server or not
tag	An URI to which the call was made to

employee	A JSON array with the account details of the requestor user who made the call.
	
	`{`
	`    id: integer,`
	`    identifier: string,`
	`    title: string,`
	`    first_name: string,`
	`    last_name: string`
	`}`

company	Details of the current company.
	
	`{`
	`    id: integer,`
	`    name: string`
	`}`

S3file (Only if json=true)	A json string with the metadata associated with the file `{`

Response	Description
| | ```
  id: integer,
  uuid: string,
  bucket: string,
  file_name: string,
  mime_type: string,
  size: integer,
  tmp_file_name: string,
  tmp_file_created_on: string / dateTime,
  company_id: integer,
  is_deleted: boolean,
  deleted_by: integer,
  created_by: integer,
  created_on: string / dateTime,
  updated_on: string / dateTime
}
``` |

Sending Job Fields

Getting Job Field Ids

If you would like to get the job field ids you can use the api section on Geopal (https://app.geopalsolutions.com/admin/api) you can use Get All Job Templates first to find all the job template ids you currently have and then use the Get Job Template Detail function to see details about a specific template. In the json returned there is a section called job_template_fields, the ids for each of these fields are the id for the job fields.

Sending Job Fields In Create A Job

To send on job fields you need to construct a simple json array. You can use either the ids of the job fields or the job field names. If you decide to use the name then be careful when editing the template that the names then do not change and the names remain unique. The ids do not have this issue.

To construct the json array you can use a simple dictionary of ids/names and values:

```
Dim jobFieldsDict = New Dictionary(Of Integer, [String])()
jobFieldsDict(JobTemplateFieldId) = "value"
or
Dim jobFieldsDict = New Dictionary(Of String, [String])()
jobFieldsDict(JobTemplateFieldName) = "value"
```

To send those fields you can serialize the dictionary of fields like so:

```
Dim jobFieldsJson As String = JsonConvert.SerializeObject(jobFieldsDict)
Dim pairs As New NameValueCollection()
pairs.Add("template_id", jobTemplateId)
pairs.Add("job_fields", jobFieldsJson)
Dim response As [String] = geopalClient.post(pairs)
```

Visual Basic Reference

1. Creating Signature

```vb
Private Function GetSignature(signtext As String, privateKey As String) As String
    Dim encoding As New System.Text.ASCIIEncoding()

    Dim keybytes As Byte() = encoding.GetBytes(privateKey)
    Dim signbytes As Byte() = encoding.GetBytes(signtext)

    Dim hmacsha256 As New HMACSHA256(keybytes)

    Return EncodeTo64(ByteToString(hmacsha256.ComputeHash(signbytes)).ToLower())
End Function

Private Function EncodeTo64(toEncode As String) As String
    Dim toEncodeAsBytes As Byte() = System.Text.ASCIIEncoding.ASCII.GetBytes(toEncode)
    Dim returnValue As String = System.Convert.ToBase64String(toEncodeAsBytes)
    Return returnValue
End Function

Private Shared Function ByteToString(buff As Byte()) As String
    Dim sbinary As String = ""

    For i As Integer = 0 To buff.Length - 1
        ' hex format
        sbinary += buff(i).ToString("X2")
    Next
    Return (sbinary)
End Function
```

2. Creating a Job
https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/vb.net/VBGeopalJob/Application.vb#L81

3. Getting Job Details
https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/vb.net/VBGeopalJob/Application.vb#L107

4. Listing All Job Templates
https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/vb.net/VBGeopalJob/Application.vb#L163

5. Reading a Job Template
https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/vb.net/VBGeopalJob/Application.vb#L184

6. Getting Jobs in a Specific Date Range
https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/vb.net/VBGeopalJob/Application.vb#L214

7. Listing Employees
https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/vb.net/VBGeopalJob/Application.vb#L239

Java Reference

1. Creating Signature

```java
private String getSignature(String signtext, String privateKey){
    String test = getHMAC256(privateKey, signtext);
    return Base64.encodeBase64String(test.getBytes());
}

public String getHMAC256(String pwd, String inputdata) {
    String temp = null;
    SecretKeySpec keySpec = new SecretKeySpec(pwd.getBytes(), "HmacSHA256");
    try {
        Mac mac = Mac.getInstance("HmacSHA256");
        mac.init(keySpec);
        // update method adds the given byte to the Mac's input data.
        mac.update(inputdata.getBytes());
        byte[] m = mac.doFinal();
        // The base64-encoder in Commons Codec
        temp = new String(Hex.encodeHex(m));
    } catch (Exception e) {
        e.printStackTrace();
    }
    return temp;
}
```

2. Creating a Job

https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/java/src/GeopalJobSample/MainClass.java#L88

3. Getting Job Details

https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/java/src/GeopalJobSample/MainClass.java#L114

4. Listing All Job Templates

https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/java/src/GeopalJobSample/MainClass.java#L214

5. Reading a Job Template

https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/java/src/GeopalJobSample/MainClass.java#L174

6. Getting Jobs in a Specific Date Range

https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/java/src/GeopalJobSample/MainClass.java#L244

7. Listing Employees

https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/java/src/GeopalJobSample/MainClass.java#L281

PHP Reference

Our php client code can be found: https://github.com/geopal-solutions/geopal-php-client

1. Creating Signature

```
private String getSignature(String signtext, String privateKey){
    String test = getHMAC256(privateKey, signtext);
    return Base64.encodeBase64String(test.getBytes());
}
```

2. Creating a Job

https://github.com/geopal-solutions/geopal-php-client/blob/master/src/Geopal/Geopal.php#L117

3. Getting Job Details

https://github.com/geopal-solutions/geopal-php-client/blob/master/src/Geopal/Geopal.php#L128

4. Listing All Job Templates

https://github.com/geopal-solutions/geopal-php-client/blob/master/src/Geopal/Geopal.php#L164

5. Reading a Job Template

https://github.com/geopal-solutions/geopal-php-client/blob/master/src/Geopal/Geopal.php#L176

6. Getting Jobs in a Specific Date Range

https://github.com/geopal-solutions/geopal-php-client/blob/master/src/Geopal/Geopal.php#L140

7. Listing Employees

https://github.com/geopal-solutions/geopal-php-client/blob/master/src/Geopal/Geopal.php#L153

Python Reference

1. Creating Signature

```python
def __generateSignatureString(self, method, uri, employee_id):
    return method.lower() + uri + employee_id.__str__() + self.getTimeStamp()


def __generateSignature(self, sign_text, private_key):
    dig = hmac.new(private_key, sign_text, hashlib.sha256).hexdigest()
    sign = base64.b64encode(dig)
    return sign
```

2. Creating a Job
https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/python/GeopalClient.py#L160

3. Getting Job Details

https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/python/GeopalClient.py#L172

4. Listing All Job Templates

https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/python/GeopalClient.py#L194

5. Reading a Job Template

https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/python/GeopalClient.py#L214

6. Getting Jobs in a Specific Date Range

https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/python/GeopalClient.py#L235

7. Listing Employees

https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/python/GeopalClient.py#L250

C# .Net Reference

1. Creating Signature

```csharp
private string GetSignature(string signtext, string privateKey)
{
    System.Text.ASCIIEncoding encoding = new System.Text.ASCIIEncoding();

    byte[] keybytes = encoding.GetBytes(privateKey);
    byte[] signbytes = encoding.GetBytes(signtext);

    HMACSHA256 hmacsha256 = new HMACSHA256(keybytes);

    return EncodeTo64(ByteToString(hmacsha256.ComputeHash(signbytes)).ToLower());
}

private string EncodeTo64(string toEncode)
{
    byte[] toEncodeAsBytes
        = System.Text.ASCIIEncoding.ASCII.GetBytes(toEncode);
    string returnValue
        = System.Convert.ToBase64String(toEncodeAsBytes);
    return returnValue;
}

private static string ByteToString(byte[] buff)
{
    string sbinary = "";

    for (int i = 0; i < buff.Length; i++)
    {
        sbinary += buff[i].ToString("X2"); // hex format
    }
    return (sbinary);
}
```

2. Creating a Job
https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/csharp.net/GeopalJobSample/Main.cs#L84

3. Getting Job Details

https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/csharp.net/GeopalJobSample/Main.cs#L117

4. Listing All Job Templates

https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/csharp.net/GeopalJobSample/Main.cs#L167

5. Reading a Job Template

https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/csharp.net/GeopalJobSample/Main.cs#L188

6. Getting Jobs in a Specific Date Range

https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/csharp.net/GeopalJobSample/Main.cs#L218

7. Listing Employees

https://github.com/geopal-solutions/geopal-api-samples/blob/master/samples/csharp.net/GeopalJobSample/Main.cs#L243