API USER GUIDE

Core MineralTree API User Guide

Document Tracking

Date	Section	Description
10/01/17	All sections.	Initial Version
11/06/17	Credit API entries	Add credit API documentation
2/20/2018	Extended Search API	Added TOC, and Search entities: CREDIT, DEPARTMENT, CLASS, ITEM, LOCATION, PROJECT, GLACCOUNT, PURCHASE_ORDER
3/15/18	Payment API; Purchase Order API	Modified paymentMethod: status, glAccount: required
4/12/18	Payment Entity	Payment status examples
4/23/18	Vendor Entity	remittanceEmail and remittanceEnabled examples Added VOID enum to credits Added payment_status examples
5/10/18	Formatting	Transition to google doc source

About This Document

This document puts together information and best practices that are necessary in order to successful use MineralTree API services. This document is an ongoing effort and will be changed to match new releases of the API.

Objective

The objective of this document is to sufficiently describe all supported API services and related business models.

Overview

The design of the API is put together in line with REST api best practices and guidance.

The Guiding Principles for these design are:

Principle	Reason
Security	The API will be secured for access to known identities only. Identification and secure session management will be used to manage access to the API endpoints.
Scalability	Product has to allow for unlimited elastic scalability. Once of the most important principles is statelessness of the interactions.
Fault Recoverable	Product needs to be able to recover after any system event returns to normal, such as network , drive, database, etc failures.
Redundancy	Product has to allow and include a full DR capability in case of a serious event.

The API is designed using CRUD+Search API design pattern, where each major entity under management exposes all major/supported aspects of CRUD to the API Users and any/all retrieval needs are satisfied by exposing a search/query endpoint that would allow for general retrieval of entities based on desired criteria.

Each major entity in the system will expose its model definition to the API User so that it could be operated upon with REST entry points. Under the rest guidelines each entity will potentially support all or a subset of the following calls.

CALL	METHOD	Pattern	Description	Request	Response
CREATE ENTITY	POST	/mtapi/base/services/[entityType]/{companyId}	Create new entity instance	Request model in JSON format to create	Created model, including the unique ID of the created entity
UPDATE ENTITY	PUT	/mtapi/base/services/[entityType]	Update entity	Json model to update. Model will contain the id of the entity to be updated	Updated entity
GET ENTITY	GET	/mtapi/base/services/[entityType]/{id}	Retrieve the entity.	Empty	Entity
DELETE ENTITY	DELETE	/mtapi/base/services/[entityType]/{id}	If supported will delete of void the entity. Specific behavior depends on the entity.	Empty	Empty

The response codes are returned via HTTP codes, as specified in HTTP RFC and REST best practices. The list of repose codes will be included.

Authentication

The API is authenticated via HTTP Authorization mechanism and is using a user name and password of the designated API user. In order to enable specific MineralTree user to be an API user it needs to be specifically enabled.

Once the user has being enabled an authentication request can be performed via standard HTTP authentication mechanism.

/mtapi/base/security/login

POST /mtapi/base/security/login HTTP/1.1
...
Authorization:MT <USERNAME>:<PASSWORD>
..

HTTP/1.1 200 OK

.....
ETag:23a27dbd55e0bc88b4f66924046086de725bc9ab4866d454438aa5013af8e0586a6245a2c215b75a
ac61f450d7ee3197fa28e5240b027766ddd7c0cf93d6d50b

The ETag header will contain a session artifact that would need to be sent back with every request.

Following successful logging the session artifact can be used to make subsequent REST calls.

/mtapi/base/services/bill

```
POST /mtapi/base/services/bill HTTP/1.1
...
If-Match: <SESSION>
...
...
...'

HTTP/1.1 200 OK
.....
ETag:23a27dbd55e0bc88b4f66924046086de725bc9ab4866d454438aa5013af8e0586a6245a2c215b75a
ac61f450d7ee3197fa28e5240b027766ddd7c0cf93d6d50b
```

API Details

Models and Objects.

Dates

All dates in the system are represented in 2 formats.

yyyy-MM-dd HH:mm:ss for the long date/time and **yyyy-MM-dd** for short date only representation.

Currency

The currency objects are homogenious within the system and are used everywhere monetary amounts exist. The format of the Money object is as follows:

```
{
  "amount": <amount [0-9]+[0-9]{2}>,
  "currency": "<Currency associated with this amount i.e. USD>"
}
```

Address

The address representation is normalized within the API model and is as follows:

```
"address" : {
    "address1" : "Address line",
    "address2" : "Address line",
```

```
    "address3" : "Address line",
    "address4" : "Address line",
    "address5" : "Address line",
    "postalCode" :"Address line",
    "town" :"The town",
    "ctrySubDivision" :"Country sub-div/state",
    "country" :"ISO Country 3-letter code",
    "accountNumber" : "Account number"
    "accountType" : "Account Type"
  }
```

The naming of these fields is in accordance to ISO naming of addresses.

User & Company API

We are not going to allow for this version of API for clients to create users and companies.*

Endpoint	Method	Description	Request	Response	Status
/mtapi/base/ services/use r	GET	Returns full User objects	None	Current user object	200, OK 503, Service Error 403, Forbidden
/mtapi/base/ services/use r/companies	GET	List all companies that user has association with	None	List of companies that User has association with.	200, OK 503, Service Error 403, Forbidden
/mtapi/base/ services/use r/company	PUT	Update existing company information. Including provding changes to	Block with company information to modify	Resulting Company object	200, OK 503, Service Error 403, Forbidden

		bank accounts.			

User	Company

{
"user": {
　　　"modified": \<Last time user was modified\>,
 	
"id": "\<User unique id\>", "name": "Rob Posniak", "emails": [
 	
"email, i.e. rob@mineraltree.com"
]
 	
}}
	{
	"modified": \<Last time user was
	
	modified\>,
	"id": "\<Company unique Id\>", "memo": null,
	"name": "Acme", "dBAName": "Acme", "address": {
	
	"address1": "470 Atlantic", "address2": null, "address3": null, "address4": null, "address5": null, "postalCode": "02210", "town": "Boston", "ctrySubDivision": "MA",
	
	}}
	
	]}

Payment Methods API

In order for the company to be able to enable payments of different types the payment method needs to be configured. Currently ACH/Bank Account or Credit Card payment methods are supported.

Endpoint	Method	Description	Request	Response	Status
/mtapi/base/servic es/pm/{companyI d}	POST	Creates new Payment method	PaymentM ethod to create		200, OK 503, Service Error 403, Forbidden
/mtapi/base/servic es/pm/{pmId}	GET	Get full PM record.	No request object	Full PM record	200, OK 503, Service Error 403, Forbidden
/mtapi/base/servic es/pm/{pmId}	PUT	Update existing payment method. Payment method Id is required for this call.	Request object containing payment method object	Payment method object that was updated	200, OK 503, Service Error 403, Forbidden

PaymentMethod JSON

```
{
    "paymentMethod": {
        "id": "<Only for update>",
        "type": "ACH",
        "externalId": "external id",
        "status": "Active/Locked",
        "bankAccount": {
            "name": "accountname",
            "accountNumber": "accno <optional>",
            "accountBalance": {
                "availableBalance": {
                    "amount": <Gl balance>
                }
            }
        }
    }
}

{
    "paymentMethod": {
        "id": "<Only for update>",
        "type": "CREDITCARD",
        "externalId": "external id",
```

```
        "status": "Active/Locked",
        "card": {
        "name": "card account name"
    }
  }
}

{
   "paymentMethod": {
        "id": "<Only for update>",
     "type": "UNKNOWN",
     "externalId": "external id",
        "status": "Active/Locked",
     "account": {
        "name": "account name"
     }
  }
}
```

Vendor API

Endpoint	Method	Description	Request	Response	Status
/mtapi/base/services/vendor/{companyId}	POST	Creates new Vendor object	Request object, containing Vendor object.	Vendor object that was created with the vendor id.	200, OK 503, Service Error 403, Forbidden
/mtapi/base/services/vendor/{vendorId}	PUT	Update existing vendor. Vendor Id is required for this call.	Request object containing Vendor object	Vendor object that was updated	200, OK 503, Service Error 403, Forbidden
/mtapi/base/services/vendor/{vendorId}	GET	Get full vendor record.	No request object	Full vendor record	200, OK 503, Service Error

					403, Forbidden
/mtapi/base/services/vendor/{vendorId}	DELETE	NOT SUPPORTED			

Vendor JSON

```
{
        "vendor": {
          "id": "Unique ID of this vendor <only required during update>",
                "form1099Enabled": true/false,
                "externalId": "Reference id that can be used to reference back to calling system",
                "name": "Name of the vendor",
                "active": true/false,
                "address": {
                        "name": "address name",
                        "address1": "Address line 1",
                        "address2": "Address line 2",
                        "address3": "Address line 3",
                        "address4": "Address line 4",
                        "address5": "Address line 5",
                        "postalCode": "Postal or Zipcode",
                        "town": "City or Town",
                        "ctrySubDivision": "State/Region",
                        "country" : "Country"
                },
                "legalName": "Vendor name on check",
                "vendorType": "NONPROFIT, CORPORATION, SOLE_PROPRIETORSHIP,
INDIVIDUAL, DICISION, SUBSIDIARY",
                "phones": [
                        {
                                "number": "Phone number - only one supported now",
                                "isFax": false
                        },
                        {
                                "number": "Fax number - only one supported now",
                                "isFax": true
                        }
                ],
    "fundingMethods": [
      {
                        "type": "ACH",
                        "bankAccount": {
                                "accountNumber": "accno <optional>",
        "routingNumber" : "routing number in us | sort code in UK"
                                }
                        }
    ],
```

```
                    "emails": [
                              "Vendor emails.  Only 1 is supported right now."
                    ],
                    "remittanceEmails": [
                              "abc@xyz.com", "def@xyz.com"
          ],
                    "remittanceEnabled": true/false,
                    "memo": "Vendor memp",
     "customerAccount" : "Customer account no - String",
                    "primarySubsidiary": {
                              "id": "Id of the subsidiary vendor linked to"
                    },
                    "taxId": "Tax ID",
                    "vatNumber": "Vat Number",
                    "vendorCompanyDefault": {
                              "defaultClassId": "Default class id of the vendor",
                              "defaultCustomerId": "Default customer id of the vendor",
                              "defaultDepartmentId": "Default department id of the vendor",
                              "defaultEmployeeId": "Default employee id of the vendor",
                              "defaultItemId": "Default item id of the vendor",
                              "defaultLocationId": "Default location id of the vendor",
                              "defaultProjectId": "Default project id of the vendor",
                              "defaultTermsId": "Default terms id of the vendor",
                              "defaultDebitAccountId": "Default debit account id of the vendor",
                              "defaultAPAccountId": "Default AP account id of the vendor",
                              "defaultExpenseAccountId": "Default expense account id of the vendor",
                              "defaultPaymentChannelCode": "Default payment channel code of the
vendor"

                    }

          }
}
```

Payment API

Endpoint	Method	Description	Request	Response	Status
/mtapi/base/ services/pay ment/{compa nyId}	POST	Creates new external payment	Request object, containing Payment object.	Payment created as a part of this request	200, OK 503, Service Error 403, Forbidden

					200, OK
/mtapi/base/ services/pay ment	PUT	Updates the payment	Request object containing Payment object	Payment object that was updated	503, Service Error 403, Forbidden
/mtapi/base/ services/pay ment/{payme ntId}	GET	Get full Payment record.	No request object	Full Payment record	200, OK 503, Service Error 403, Forbidden

Payment JSON

```
{
        "payment": {
                "paymentMethod": {
                        "id": "<Payment method id>"
                },
                "fundMethod": {
                        "type": "CHECK | CREDITCARD | DEBITCARD | VCARD | ACH |
ECHECK | BILLPAY | WIRE | CREDIT | UNKNOWN"
                },
                "bills": [
                        {
                                "id": "<bill id in the system>",
                                "appliedPaymentAmount": {
                                        "amount": <Bill amount applied to payment ex: 5000
is 50$>
                                }
                        }
                ],
                "amount": {
                        "amount": <Total payment amount ex: 5000 is 50$>
                },
                "accountingPeriod": {
                        "id": "<Id of the accounting period>"
                },
                "transactionDate": "<Payment date>",
                "externalId": "external id of the payment",
                "checkNumber": check number if it is a check payment(only integer),
    "sequenceText": sequence text of the payment(can be the check number or ach sequence text.
Depends on the payment channel
        }
```

}

Bill API

Endpoint	Method	Description	Request	Response	Status
/mtapi/base/services/bill/{companyId}	POST	Creates new Bill	Request object, containing Bill object.	Bill object that was created with the bill id.	200, OK 503, Service Error 403, Forbidden
/mtapi/base/services/bill/{billId}	PUT	Update existing Bill. Bill Id is required for this call.	Request object containing Bill object	Bill that was updated	200, OK 503, Service Error 403, Forbidden
/mtapi/base/services/bill/{billId}	GET	Get full Bill record.	No request object	Full Bill record	200, OK 503, Service Error 403, Forbidden
/mtapi/base/services/bill/{billId}	DELETE	NOT SUPPORTED			

Bill JSON

```json
{
        "bill": {
           "id": "Unique ID of this bill <only required during update>",
                   "externalId": "External ID that will help reference this bill with external system",
           "term": {
                              "id": "Id of the term object"
                   },
                   "classification": {
                              "id": "Id of the class object"
                   },
                   "department": {
                              "id": "Id of the department object"
                   },
                   "location": {
                              "id": "Id of the location object"
                   },
                   "subsidiary": {
                              "id": "Id of the subsidiary object"
                   },
                   "dueDate": "<due date of this bill ex:2017-03-12>",
                   "transactionDate": "<Invoice date of this bill ex:2017-03-12>",
                   "invoiceNumber": "Invoice number for this bill",
                   "amount": {
                              "amount": <amount [0-9]+[0-9]{2}>
                   },
                   "balance": {
                              "amount": <amount [0-9]+[0-9]{2}>
                   },
    "totalTaxAmount": {
                              "amount": <amount [0-9]+[0-9]{2}>
                   },
                   "memo": "string",
                   "poNumber": "ponumber1",
                   "state": "Any | Open | Settled | PendingSettled | ClosedByCredit | Voided",
                   "vendor": {
                              "id": "Id of the vendor object"
                   },
                   "expenses": [
                              {
                   "classification": {
                              "id": "Id of the class object"
                   },
                   "department": {
                              "id": "Id of the department object"
                   },
                   "location": {
                              "id": "Id of the location object"
                   },
                   "glAccount": {
                              "id": "Id of the gl account object"
                   },
        "taxRate": {
```

```
                                                    "amount": <amount (0|[1-9][0-9]?|100)>
                                    },
    "taxAmount": {
                                                    "amount": <amount [0-9]+[0-9]{2}>
                                    },
    "netAmount": {
                                                    "amount": <amount [0-9]+[0-9]{2}>
                                    },
                                    "amountDue": {
                                                    "amount": <amount [0-9]+[0-9]{2}>
                                    },
                                    "lineNumber": starts with 0,
                                    "closed": true/false,
                                    "memo": "Memo for the expense"
                        }
            ],
            "items": [
                        {
            "companyItem": {
                        "id": "Id of the company item object"
            },
            "classification": {
                        "id": "Id of the class object"
            },
            "department": {
                        "id": "Id of the department object"
            },
            "location": {
                        "id": "Id of the location object"
            },
            "glAccount": {
                        "id": "Id of the gl account object"
            },
                                    "name": "Name of the item if applicable",
                                    "quantity": {
                                                "value": <value of quantity>,
                                                "precision": <precision - default 2>
                                    },
                                    "cost": {
                                                "amount": <amount [0-9]+[0-9]>,
                                                "precision": <precision - default 2>
                                    },
    "taxRate": {
                                                "amount": <amount (0|[1-9][0-9]?|100)>
                                    },
    "taxAmount": {
                                                "amount": <amount [0-9]+[0-9]{2}>
                                    },
    "netAmount": {
                                                "amount": <amount [0-9]+[0-9]{2}>
                                    },
                                    "amountDue": {
```

```
                                "amount": <amount [0-9]+[0-9]{2}>
                        },
                        "lineNumber": Starts with 0,
                        "closed": true/false,
                        "description": "Item description"
                }
            ]
        }
}
```

Credit API

Endpoint	Method	Description	Request	Response	Status
/mtapi/base/ services/cre dit/{company Id}	POST	Creates new Credit	Request object, containing Credit object.	Credit object that was created with the credit id.	200, OK 503, Service Error 403, Forbidden
/mtapi/base/ services/cre dit/	PUT	Update existing Credit. Credit Id is required for this call.	Request object containing Credit object	Credit that was updated	200, OK 503, Service Error 403, Forbidden
/mtapi/base/ services/cre dit/{creditId}	GET	Get full Credit record.	No request object	Full Credit record	200, OK 503, Service Error 403, Forbidden
/mtapi/base/ services/cre dit/{creditId}	DELETE	NOT SUPPORTE D			
/mtapi/base/ services/billc	POST	Creates new bill credit	Request object, containing	Bill credit object that was created	200, OK

redit/{compa nyId}			bill credit object.	with the bill credit id.	503, Service Error 403, Forbidden
/mtapi/base/ services/billc redit/	PUT	NOT SUPPORTE D			
/mtapi/base/ services/billc redit/{billcred itId}	GET	Get full bill credit record.	No request object	Full Bill Credit record	200, OK 503, Service Error 403, Forbidden
/mtapi/base/ services/billc redit/void/{bil lcreditId}	GET	Void bill credit record	No request object	Void the bill credit record associated with the bill and credit	200, OK 503, Service Error 403, Forbidden

Credit JSON

```
{
        "credit": {
                "creditNumber": "<credit no>",
                "transactionDate": "<Credit date>",
                "vendor": {
                        "id": "<Mineraltree id of vendor>"
                },
                "amount": {
                        "amount": <Total amount of credit with precision 2 - USD>
                },
                "externalId": "<External id of credit>",
                "status": "Open|Settled|Voided  Default:Open",
                "memo": "<Memo for the credit>"
        }
}
```

BillCredit JSON

```
{
        "billCredit": {
                "transactionDate": "<Credit application date>",
```

```
"bill": {
        "id": "<Mineraltree id of bill>"
},
"credit": {
        "id": "<Mineraltree id of credit>"
},
"amountApplied": {
        "amount": <amount applied from credit to billwith precision 2 - USD>
}
```
}
}

Purchase Order API

Endpoint	Method	Description	Request	Response	Status
/mtapi/base/ services/pur chaseorder/{ companyId}	POST	Creates new Purchase Order	Request object, containing PurchaseOr der object.	PurchaseOr der object that was created with the bill id.	200, OK 503, Service Error 403, Forbidden
/mtapi/base/ services/pur chaseorder/{ purchaseOrd erId}	PUT	Update existing PurchaseOr der. PurchaseOr der Id is required for this call.	Request object containing P urchaseOrde r object	PurchaseOr der that was updated	200, OK 503, Service Error 403, Forbidden
/mtapi/base/ services/pur chaseorder/{ purchaseOrd erId}	GET	Get full purchase order record.	No request object	Full Purchas eOrder record	200, OK 503, Service Error 403, Forbidden
/mtapi/base/ services/pur chaseorder/{	DELETE	NOT SUPPORTE D			

purchaseOrd erId}					

PurchaseOrder JSON

```
{
        "purchaseOrder": {
                "externalId": "External ID that will help reference this purchase order with external
system",
                "vendor": {
                        "id": "id of the vendor"
                },
                "classification": {
                        "id": "Id of the class object"
                },
                "department": {
                        "id": "Id of the department object"
                },
                "location": {
                        "id": "Id of the location object"
                },
                "subsidiary": {
                        "id": "Id of the subsidiary object"
                },
                "terms": {
                        "id": "id of the term created"
                },
                "dueDate": "<due date of this PO ex:2017-03-12>",
                "poNumber": "po number",
                "memo": "memo",
                "state": "'Closed', 'FullyBilled', 'PartiallyReceived', 'PendingBillingPartiallyReceived',
'PendingBilling', 'PendingReceipt', 'PendingSupervisorApproval', 'RejectedBySupervisor', 'New',
'Released', 'ChangeOrder', 'Received', 'Cancelled'",
                "poType": "'Standard', 'DropShip', 'Blanket', 'DropshipBlanket'",
                "expenses": [
                                {
                "classification": {
                        "id": "Id of the class object"
                },
                "department": {
                        "id": "Id of the department object"
                },
                "location": {
                        "id": "Id of the location object"
                },
                "glAccount": {
                        "id": "Id of the gl account object"
                },
                                "amountDue": {
                                        "amount": <amount [0-9]+[0-9]{2}>
```

```json
                        },
                        "lineNumber": starts with 1,
                        "closed": true/false,
                        "memo": "Memo for the expense"
                }
        ],
        "items": [
                {
        "companyItem": {
                "id": "Id of the company item object"
        },
        "classification": {
                "id": "Id of the class object"
        },
        "department": {
                "id": "Id of the department object"
        },
        "location": {
                "id": "Id of the location object"
        },
        "glAccount": {
                "id": "Id of the gl account object"
        },
                                "name": "Name of the item required",
                                "quantity": {
                                        "value": <value of quantity>,
                                        "precision": <precision - default 2>
                                },
                                "quantityReceived": {
                                        "value": <value of quantity received>,
                                        "precision": <precision - default 2>
                                },
                                "billedQuantity": {
                                        "value": <value of billed quantity>,
                                        "precision": <precision - default 2>
                                },
                                "cost": {
                                        "amount": <amount [0-9]+[0-9]>,
                                        "precision": <precision - default 2>
                                },
                                "amountDue": {
                                        "amount": <amount [0-9]+[0-9]{2}>
                                },
                                "lineNumber": Starts with 1,
                                "closed": true/false,
                                "description": "Item description",
        "poItemStatus": "'New', 'Released', 'ChangeOrder', 'Received', 'Closed', 'Cancelled'",
                }
        ]
    }
}
```

Subsidiary API

Endpoint	Method	Description	Request	Response	Status
/mtapi/base/ services/sub sidiary/{com panyId}	POST	Creates new Subsidiary	Request object, containing S ubsidiary object.	Subsidiary o bject that was created with the subsidiary id.	200, OK 503, Service Error 403, Forbidden
/mtapi/base/ services/sub sidiary/{subsi diaryId}	PUT	Update existing Subsidiary. Subsidiary Id is required for this call.	Request object containing P urchaseOrde r object	Subsidiary th at was updated	200, OK 503, Service Error 403, Forbidden
/mtapi/base/ services/sub sidiary/{subsi diaryId}	GET	Get full subsidiar y record.	No request object	Full Subsidia ry record	200, OK 503, Service Error 403, Forbidden
/mtapi/base/ services/sub sidiary/{subsi diaryId}	DELETE	NOT SUPPORTE D			

Subsidiary JSON

```
{
        "subsidiary": {
                "id": "id - required only for update",
                "externalId": "external id of subsidiary - required (cannot be updated)",
                "name": "Name of the subsidiary - required",
                "externalParentId": "parent id of the subsidiary in the ERP - required (cannot be
updated)"
        }
}
```

Supporting entities API

Endpoint	Method	Description	Request	Response	Status
/mtapi/base/services/accountingperiod/{companyId} /mtapi/base/services/classification/{companyId} /mtapi/base/services/department/{companyId} /mtapi/base/services/glaccount/{companyId} /mtapi/base/services/item/{companyId} /mtapi/base/services/location/{companyId} /mtapi/base/services/project/{companyId} /mtapi/base/services/term/{companyId}	POST	Creates new entitye	Request object, containing entity object.	Entity object that was created with the entity id.	200, OK 503, Service Error 403, Forbidden

/mtapi/base/services/accountingperiod /mtapi/base/services/classification /mtapi/base/services/department /mtapi/base/services/glaccount /mtapi/base/services/item /mtapi/base/services/location /mtapi/base/services/project /mtapi/base/services/term	PUT	Update existing entity. Entity Id is required for this call.	Request object containing entity object	Entity that was updated	200, OK 503, Service Error 403, Forbidden
mtapi/base/services/accountingperiod/{accountingPeriodId} /mtapi/base/services/classification/{classificationId} /mtapi/base/services/department/{departmentId} /mtapi/base/services/glaccou	GET	Get full entity record.	No request object	Full entity record	200, OK 503, Service Error 403, Forbidden

nt/{glAccount Id} /mtapi/base/se rvices/item/{c ompanyItemI d} /mtapi/base/se rvices/locatio n/{locationId} /mtapi/base/se rvices/project/ {projectId} /mtapi/base/se rvices/term/{t ermId}					
	DELETE	NOT SUPPORTE D			

Accounting period JSON

```
{
 "accountingPeriod": {
   "id": "MT id of the accounting period. Required only for update",
   "locked": true/false,
   "parentId": "Parent id of the accounting period in ERP",
   "year": true/false,
   "subName": "Sub name",
   "quarter": true/false,
   "name": "Accounting period name",
   "externalId": "External id of the accounting period - Cannot be updated",
   "closed": true/false,
   "started": "YYYY-MM-DD start date - no time component",
   "ended": "YYYY-MM-DD End date - no time component",
   "active": true/false
 }
}
```

Classification JSON

```
{
 "classification": {
   "id": "Id of the classification - only for update",
   "subsidiaries": [
     {
```

```
      "id": "List of the subsidiaries."
    },
    {
      "id": "....."
    }
  ],
  "externalId": "External id of classification - cannot be updated",
  "name": "Name of the class",
  "active": true/false
 }
}
```

Department JSON

```
{
  "department": {
    "id": "Id of the department - only for update",
    "subsidiaries": [
      {
        "id": "List of the subsidiaries."
      },
      {
        "id": "....."
      }
    ],
    "externalId": "External id of department - cannot be updated",
    "name": "Name of the department",
    "active": true/false
  }
}
```

GL account JSON

```
{
  "glAccount": {
    "id": "Id of the gl account - only for update",
    "subsidiaries": [
      {
        "id": "List of the subsidiaries."
      },
      {
        "id": "....."
      }
    ],
    "departmentRequired": true/false,
    "locationRequired": true/false,
    "projectRequired": true/false,
    "customerRequired": true/false,
    "vendorRequired": true/false,
    "employeeRequired": true/false,
    "itemRequired": true/false,
    "classRequired": true/false,
    "ledgerType": "AP_ACCOUNT | EXPENSE_ACCOUNT | ACCOUNT",
    "accountNumber": "Account number",
```

```
    "externalId": "External id of glaccount - cannot be updated",
    "name": "Name of gl account",
    "active": true/false
  }
}
```

Company item JSON

```
{
          "item": {
      "id": "Id of the company item - only for update",
          "subsidiaries": [
           {
      "id": "List of the subsidiaries."
          },
          {
      "id": "....."
          }
          ],
                     "type": "NONE | INVENTORY | NON_INVENTORY | SERVICE | OTHER_CHARGE |
ASSEMBLY_BILL_OF_MATERIALS | DISCOUNT | SUBTOTAL | DESCRIPTION |
SHIPPING_COST_ITEM | DOWNLOAD_ITEM | GIFT_CERTIFICATE_ITEM | ITEMGROUP | KIT_ITEM |
MARKUP | PAYMENT_ITEM | SALES_INVENTORY | DISCONTINUED | KIT | MISC_CHARGES |
FLAT_FEE",
                     "cost": {
                             "amount": <amount [0-9]+[0-9]>,
                             "precision": <precision - default 2>
                     },
                     "residual": {
                             "amount": residual amount
                     },
                     "name": "Name of the item",
                     "active": true/false,
                     "externalId": "External id of the item - cannot be updated"
          }
}
```

Location JSON

```
{
  "location": {
    "id": "Id of the location - only for update",
    "subsidiaries": [
     {
       "id": "List of the subsidiaries."
     },
     {
       "id": "....."
     }
    ],
    "externalId": "External id of location - cannot be updated",
    "name": "Name of the location",
    "active": true/false
  }
```

}

Project JSON

```
{
 "project": {
   "id": "Id of the project - only for update",
   "externalId": "External id of the project - cannot be updated",
   "name": "Name of the Project",
   "active": true/false
 }
}
```

Terms JSON

```
{
 "term": {
   "id": "Id of the term - only for update",
   "subsidiaries": [
    {
      "id": "List of the subsidiaries."
    },
    {
      "id": "....."
    }
   ],
   "dueDays": Discount due in,
   "discountDays": Discount days,
   "discountPercent": Percentage of discount,
   "externalId": "External id of the term - cannot be updated",
   "name": "Name of the term",
   "active": true/false
 }
}
```

Search API

In order to provide general functionality for querying various data within Mineraltree system provides general purpose search API.

The search API send a general entity based query object to the server for query execution.

```
{
 "view": "Views supported by the search processor. <BILL, VENDOR, PAYMENT, CREDIT,
DEPARTMENT, CLASS, ITEM, LOCATION, PROJECT, GLACCOUNT, PURCHASE_ORDER>. More wil
be added with the new releases",
 "query": "QUERY STRING. SEE BELOW",
 "page": 0,
 "count": N,
 "sortField": "use the field from the below table. Default : modified",
 "sortAsc": true/false
}
```

Query language is based on the subset of
the https://tools.ietf.org/html/draft-nottingham-atompub-fiql-00#section-3.1 language
specification. Built specifically for REST paradigm it provides simple but extensible
means to support quieries for the MT API

Query Language

The query language is extensible but out of the box it supports the following logical
operations:

- Equal to : ==
- Not equal to : !=
- Less than : =lt= or <
- Less than or equal to : =le= or <
- Greater than operator : =gt= or >
- Greater than or equal to : =ge= or >=
- In : =in=
- Not in : =out=

Examples

> **vendor_name**=="NameA";**vendor_postalCode**=gt=02482

> **vendor_name**=="A*"

> **vendor_name**=="NameA";**bill_dueDate**>"2017-03-20T04:00:00Z"

> **id**=in=('d94b4b97-01fa-401c-a927-e85a71580cef','d94b4b97-01fa-401c-a927-e85a713cff')

> **bill_amountDue**=ge=2000

Allowed search fields per entity

Common fields across all entities

Field	Type	Description
id	UUID	
modified	Date	

created		
companyId	UUID	Company Id

BILL entity

Field	Type	Description
bill_externalId	String	
billOrCredit_vendorId	String	Unique vendor Id associated with this bill
billOrCredit_vendorExternalId	String	External id of the vendor
billOrCredit_vendorName	String	Name of the vendor for this bill
billOrCredit_vendorName_sort	String	
billOrCredit_vendorCategoryId	String	
billOrCredit_totalAmount	Long	Total amount on the bill
billOrCredit_totalAmountText	String	
billOrCredit_currency	String	
billOrCredit_memo	String	Memo inthe bill
billOrCredit_status	Integer	1: Open 2: Settled/Paid 3. Pending Settlement 4. Draft 6. Closed By Credit 8. Awaiting Approval
billOrCredit_batchNumber	String	
billOrCredit_batchNumber_string	String	
bill_modifiedDate	Date	
bill_vendorType	String	
bill_vendorRoutingNumber	String	

bill_vendorAccountNumber	String	
bill_vendorDefaultChannel	Integer	
bill_vendorNameOnCheck	String	Vendor name as it appears on the check
bill_vendorAddressState	Integer	
bill_vendorAchValidationStatus	Integer	
bill_vendorSubsidiaryId	String	
bill_subsidiaryIds	String	
bill_vendorFasterPaymentValidationStatus	Bolean	
bill_invoiceNumber	String	Invoice number
bill_txnDate	Date	Transaction date
bill_dueDate	Date	Due date
bill_balanceDue	Long	Balance due on the bill
bill_balanceDueText	String	
bill_terms	String	
bill_commentCount	Integer	
bill_attachmentCount	Integer	
bill_discountDays	Integer	
bill_discountPercent	Double	
bill_appliedBalance	Long	
bill_appliedApprovedBalance	Long	
bill_isTemplate	Boolean	

bill_apAccountIds	String	
bill_syncStatus	Integer	
bill_dataSource	Integer	
bill_subsidiaryId	String	
bill_cancelledApprovals	Integer	
bill_pendingApprovals	Integer	
bill_rejectedApprovals	Integer	
bill_approvedApprovals	Integer	
bill_notsentApprovals	Integer	
bill_approvalStatus	Integer	
bill_approvalStatusAll	Integer	
bill_po_match_status	Integer	
bill_approvalBypassStatus	Integer	
bill_appliedCreditTotal	Long	
bill_appliedNegativeInvoiceTotal	Long	
bill_attachmentNames	String	
bill_isQueued	Boolean	
bill_locationIds	String	
bill_departmentIds	String	
bill_classIds	String	
bill_projectIds	String	
bill_itemIds	String	

bill_employeeIds	String	
bill_customerIds	String	
bill_glAccountIds	String	
bill_poNumbers	String	
bill_poStatusValues	String	
bill_poClosedStatusValues	String	
bill_originalSyncErrorMessage	String	
bill_syncErrorExplanation	String	
bill_isEligibleForResync	Boolean	
bill_syncErrorId	String	
bill_vendorMismatch	Boolean	

VENDOR entity

Field	Type	Description
vendor_type	INT	Type of this vendor
vendor_entity_type	String	
vendor_vendorCategoryId	String	
vendor_name	String	Vendor name on check
vendor_name_string	String	Vendor name
vendor_name_sort	String	
vendor_search_name	String	
vendor_address1	String	

vendor_address2	String	
vendor_address3	String	
vendor_address4	String	
vendor_address5	String	
vendor_city	String	City
vendor_state	String	State
vendor_country	String	Country (US, etc)
vendor_postalCode	String	Postal code
vendor_email_address	String	Email address
vendor_phone	String	
vendor_customerAccount	String	
vendor_status	Integer	
vendor_comment	String	
vendor_externalId	String	external Id for this entity
vendor_primarySubsidiaryId	String	
vendor_subsidiaryIds	String	
vendor_defaultExpenseAccountId	String	
vendor_defaultApAccountId	String	
vendor_defaultTermsId	String	
vendor_defaultLocationId	String	
vendor_defaultDepartmentId	String	
vendor_form1099	Boolean	1099 form filing

vendor_defaultDebitAccountId	String	
vendor_defaultChannel	Integer	Default payment channel
vendor_achValidationStatus	Integer	
vendor_addressState	Integer	
vendor_availableCredit	Long	
vendor_billerId	String	
vendor_vpaEmail	String	
vendor_sharefileEmail	String	
vendor_amexTokenEmail	String	
vendor_channelAchEnabled	Boolean	
vendor_channelCheckEnabled	Boolean	
vendor_channelBillPayEnabled	Boolean	
vendor_channelCardEnabled	Boolean	
vendor_channelWireEnabled	Boolean	
vendor_channelFasterPaymentsEnabled	Boolean	
vendor_wireSubChannel	Integer	
vendor_defaultCardSubchannel	Integer	
vendor_availableNegativeInvoice	Long	

Payment entity

Field	Type	Description
payment_externalId	String	Payment external Id

payment_billCount	Integer	
payment_commentCount	Integer	
payment_paymentDate	Date	Payment date
payment_scheduledDate	Date	Original scheduled date
payment_sortStatus	Integer	

payment_status	Integer	Payment status
		
		Ex: If you need to search for all paid payments, search against the following statuses
		
		Manual Check = 1070
		Biller portal = 1120
		Manual Card = 1110
		Other Payments = 1010
		
		Other statuses(Above are the important statuses and what follows are just for understanding the status returned as part of payment API)
		
		    // Don't change the order or values here! as these represent ranges of state in the db!
		
		    Open = 1;
		
		    ForApproval = 10;
		
		    Recalled = 13;
		
		    Modified = 15;
		
		    Hold = 20;
		
		    Rejected=30;
		
		 FirstLevelApproved=900;
		
		    Approved=1000;

		Closed=1030;
		LegacyPaymentClosed=1040;
		CheckIssueACK=1050; CheckPrinted=1060;
		CheckLocalPrint=1070; ACHReturn=1080;
		CheckMailed=1090; CheckCanceled=1100;
		CardCompleted=1110;
		BillerDirectCompleted=1120;
		ProcessedRangeEnd = 1121;
		Voided = 2000;
		Dissolved = 2050;
		LockedByCompany=3000;
		BlockedByAccountLimit = 3100;
		AccountEdit=4000;
		PaymentBillModified=4010;
		LegacyPaymentCreated=4020;
		BillPaymentModified=4040;

		CreditModifiedOnBill=4050; Created=4060; ForApprovalByService=4070; CreatedByService=4080 Queued=6000;
payment_channel	Integer	Payment channel (Check, ACH, CreditCard.....)
payment_subChannel	Integer	Payment subchannel (VISA, AMEX...)
payment_amount	Long	Total amount of the payment
payment_currency	String	
payment_dueDate	Date	
payment_vendorId	String	
payment_vendorName	String	Vendor name for which the payment is made
payment_vendorName_sort	String	
payment_vendorNameOnCheck	String	
payment_vendorAccountNumber	String	
payment_shipDate	Date	
payment_amountText	String	

payment_checkNum	String	
payment_firstApprover	String	
payment_paymentPutOn HoldByApprover	String	
payment_modifiedDate	Date	
payment_submittedByFir stName	String	
payment_submittedByLa stName	String	
payment_accountName	String	
payment_accountNumber	String	
payment_accountRouting Number	String	
payment_batchNumber	String	
payment_sequenceText	String	
payment_documentId	String	
payment_documentConte ntType	String	
payment_billCreditTxnDa te	Date	
payment_syncStatus	Integer	
payment_subsidiaryId	String	
payment_originalSyncErr orMessage	String	
payment_syncErrorExpla nation	String	

payment_isEligibleForResync	Boolean	
payment_syncErrorId	String	

Dimensions (DEPARTMENT, CLASS, ITEM, LOCATION, PROJECT)

Field	Type	Description
dimension_name	String	
dimension_search_name	String	
dimension_type	Integer	Identifies if its department, class etc
dimension_status	Integer	
dimension_subsidaryIds	String	
dimension_defaultAmortizationTemplateId	String	
dimension_companyItemType	Integer	
dimension_externalId	String	

Gl Account

Field	Type	Description
gl_account_number_externalId	String	External id from outside source for the gl account
gl_account_number	String	
gl_account_name	String	Name of the gl account
gl_account_suggestion	String	
gl_account_type	Integer	Type of gl accounts

gl_account_status	Integer	Status of the gl account
gl_account_subsidaryIds	String	
gl_account_name_sort	String	
gl_account_number_sort	String	

Purchase orders

Field	Type	Description
purchaseOrder_externalId	String	External id of the purchase order
purchaseOrder_number	String	Purchase order number
purchaseOrder_vendorId	String	
	Long	
purchaseOrder_status	Integer	Status of the purchase order
purchaseOrder_isClosed	Boolean	
purchaseOrder_billedAmount	Long	
purchaseOrder_dueDate	Date	Due date of the purchase order
purchaseOrder_isLinkable	Boolean	
purchaseOrder_subsidiaryId	String	

Endpoint	Method	Description	Request	Response	Status
/mtapi/base/ services/sea rch/{compan yId}/ids	POST	Get a list of ids to entities that correspond to creteria	Query object as described above	Object containing an array of UUID(s) to identify	200, OK 503, Service Error

		provided in this query		selected entities	403, Forbidden
/mtapi/base/services/search/{companyId}/objects	PUT	Get a list of full objects that correspond to creteria provided in this query	Query object as described above	List of objects	200, OK 503, Service Error 403, Forbidden

Provided for future Implementation and not supported by API now

Payment/Funding Methods

There is a normalized, homogenous structure in the models of the MT API around Payment and Funding methods.

A payment/funding method is the means (methods) by which transfer value from a single debtor to a single creditor.

Examples of these methods are

Debtor → ACH → Creditor

Debtor → WIRE → Creditor

Debtor → Virtual Card → Creditor

Debtor → Bill Pay → Creditor

Debtor → Credit/Debt Card → Creditor

......

The difference between funding method and payment method is semantical only. In the transfer where an intermediary party ahas to move funds

or process around funds more then once in order to get from ultimate creditor to ultimate debtor we can have the following picture:

Debtor → ACH → Payment Processor → WIRE Creditor

Structurally both of these are the same but their semantic meaning is different and both have to be present in the exchange.

The structure of the PaymentMethod object is the following:

```
{
   "bankAccount|virtualCard|Wire|Check|card": {
       The content of the structure depends on the object type.  See below*
   },
   "accountType": "CREDITCARD(1), DEBITCARD(2), VCARD(3), ACH(4), ECHECK(5), CHECK(6),
BILLPAY(7), WIRE(8)",
   "id": "Global Unique Identifier. if the object has one.",
   "externalId": "External ID for reference",
   "name": "Used to name payment method"
}
```

Bank Account

```
{
  "id" : "Global Unique Identifier. If one is appropriate",
  "externalId" : "If reference needs to be retained to external id"
  "name" : "Name of the Bank",
  ""
  "address" : {
   "address1" : "Address line",
   "address2" : "Address line",
   "address3" : "Address line",
   "address4" : "Address line",
   "address5" : "Address line",
   "postalCode" :"Address line",
   "town" :"The town",
   "ctrySubDivision" :"Country sub-div/state",
   "country" :"ISO Country 3-letter code",
   "accountNumber" : "Account number"
   "accountType" : "Account Type"
  }
  "routingNumber" : "The bank account routing number"
}
```

Virtual Card

```
{
  "id" : "Global Unique Identifier. If one is appropriate",
  "externalId" : "If reference needs to be retained to external id"
  "token" : {
     "blocked" : "true|false",
     "bin" : "A bin associated with this card",
     "expiration" : "MMYY",
     "last4" : "Last 4 of the card",
     "first6" : "First 6 of the card",
  }
  "address" : {
   "address1" : "Address line",
   "address2" : "Address line",
   "address3" : "Address line",
   "address4" : "Address line",
   "address5" : "Address line",
   "postalCode" :"Address line",
   "town" :"The town",
   "ctrySubDivision" :"Country sub-div/state",
   "country" :"ISO Country 3-letter code",
   "accountNumber" : "Account number"
   "accountType" : "Account Type"
  },
  "phones" : [
    {
       "location" : "<HOME, OFFICE, MOBILE, OTHER>",
       "number" " "Phone number",
       "fax" : "<true|false>"
    }
  ],  List of phone numbers
  "emails" : [
    {
                    "VALID EMAIL"
          }
  ] - List of valid emails.
  "routingNumber" : "The bank account routing number"
}
```

Wire

```
{
  "id" : "Global Unique Identifier. If one is appropriate",
  "externalId" : "If reference needs to be retained to external id"
  "name" : "Name of the Bank",
  ""
  "address" : {
   "address1" : "Address line",
   "address2" : "Address line",
```

```
            "address3" : "Address line",
            "address4" : "Address line",
            "address5" : "Address line",
            "postalCode" :"Address line",
            "town" :"The town",
            "ctrySubDivision" :"Country sub-div/state",
            "country" :"ISO Country 3-letter code",
            "accountNumber" : "Account number"
            "accountType" : "Account Type"
        }
    "IBAN" : "International Bank Account Number",
    "swiftCode" : "SWIFT code number",
    "locale" : "Correct Locale settings i.e. us_en",
    "currency" : "USD|CAD|.....",
}
```