Model Manager Application Program Interface (API)

The Model Manager API can only be used by an API user that is loaded as a contact person on the Model Manager on the Finworks system. The API user can only be the contact person on one Model Manager, if the contact person on more than one model manager the API will return an error with a description of **Found more than one linked model portfolio manager.** So this API is only to be used in the context of one model manager.

If the user has Investor Admin checked in Global Permissions then you won't be able to use the Model Manager API as investor admin implies that you have access to multiple Model Managers.

The URL generally has the form /api/modelmanager/<resource>, which will retrieve a result.

The API expects a HTTP GET method.

Successful results are returned as HTTP 200 responses, with the body containing JSON data. Defined error responses will be in the HTTP 400 range, and undefined server errors in the HTTP 500 range.

Error responses contain the following JSON format:

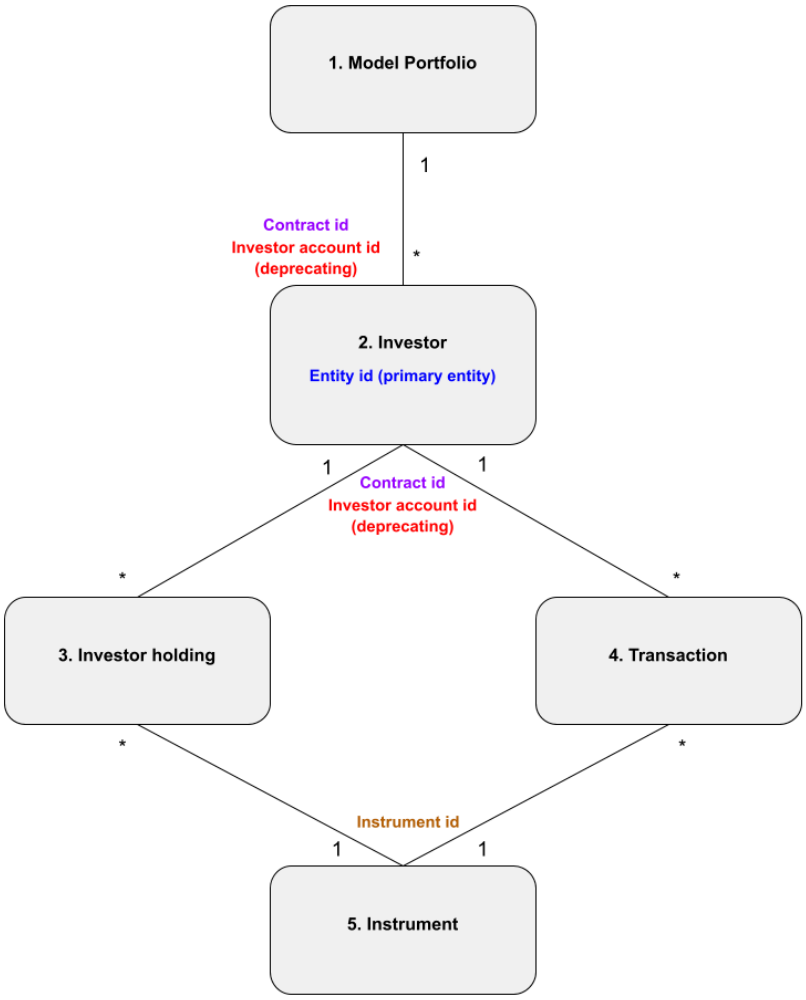
```
{
  "errors" : [
    {
      "description" : "<error description>",
      "code" : "<error code>"
    }
  ]
}
```

Supported API calls

The above calls allow the user access to the various sets of data as outlined in the individual call sections below. These sets of data can be linked together to create a customised report.

Technical security details and API setup will be discussed directly with the API user.

Outlined below is the call and the linked fields



1 Get model portfolios

List the available models on the system linked to the Model Manager.

GET: model-portfolios

Example request:

http://development/api/modelmanager/model-portfolios

Example JSON response:

HTTP: 200


```
{
    'data' : [
        {
            'Splits' : [
                {
                    'Instrument id' : 603305473,
                    'Split' : {
                        'value' : '100.00',
                        'type' : 'Percentage'
                    }
                }
            ],
            'Code' : 'ITRRAPGRO',
            'Model portfolio id' : 634373121,
            'Name' : 'Growth Regulation 28 Portfolio'
        }
    ],
    'size' : 1
}
```

2 Get investors

List all client accounts that are invested in Model Portfolios as well as the status of the account e.g Active-Existing Business, Ceded, Death Claim etc. It also gives details of the product that the investor has invested in e.g ABC Retirement Annuity Fund.

GET: investors (Pull investors with investment value as of today)

GET: investors?date={date} (Pull investors linked to model portfolio on specified date)

Example request:

http://development/api/modelmanager/investors?date=2005-05-02

Note: Date must be ISO format string YYYY-MM-DD.

Example JSON response:

HTTP: 200


```
{
    'data' : [
        {
            'Client account id' : 78738460123,
            'Contract id' : 496865537,
            'Identification number' : 'SMITH1234',
            'Contract number' : 'AOS1000002',
            'Description' : Securities Investment Plan Portfolios',
            'Product' : Securities Investment Plan Portfolios',
            'Investor name' : 'John Smith',
            'Policy number' : '',
            'Status' : {
                'active' : true,
                'identifier' : 'existingBusiness'
            },
            'Take On Date' : '2021-07-12',//Deprecated - replaced with ‘Contract Start Date’
            'Contract Start Date' : '2021-07-12',
            ‘Modelportfolio’: '634373121'
        }
    ],
    'size' : 1
```

}

Error codes:

HTTP response	Code	Description
400	MalformedRequest	Invalid date "2005-13-01". Expected ISO date "YYYY-MM-DD"

3 Get investor holdings

A breakdown of the Investor accounts underlying instruments and their balances/market values.

GET: holdings?date={date}

Example request:

http://development/api/modelmanager/holdings?date=2005-05-13

Note: Date must be ISO format string YYYY-MM-DD

Example JSON response:

HTTP: 200


```
{
  "data": [
    {
      "Instrument id": 603305473,    -> Sample of cash instrument
      "Latest available price": {
        "type": "Price",
        "currency": "ZAR",
        "Instrument id": 603305473,
        "value": "1.000000"
      },
      "Client account id": 97333879297,
      "Contract id": 97224434945,
      "Units": {
        "type": "Money",
        "currency": "ZAR",
        "value": "11.11"
      },
      "Market Value in Fund Currency": {
        "type": "Money",
        "currency": "ZAR",
        "value": "11.11"
      },
      "Market Value in System Currency": {
```

"type": "Money",
"currency": "ZAR",
"value": "11.11"
},
"Instrument account number": "",
"Price date": "2021-05-17",
"Date": "2025-02-03"
},
{
"Instrument id": 291169793, ***-> Sample of Money Market***
"Latest available price": {
"type": "Price",
"currency": "ZAR",
"Instrument id": 291169793,
"value": "1.000000"
},
"Client account id": 97333879297,
"Contract id": 97224434945,
"Units": {
"type": "Money",
"currency": "ZAR",
"value": "25000.00"
},
"Market Value in Fund Currency": {
"type": "Money",
"currency": "ZAR",
"value": "25000.00"
},
"Market Value in System Currency": {
"type": "Money",
"currency": "ZAR",
"value": "25000.00"
},
"Instrument account number": "",

"Price date": "2022-05-18",
"Date": "2025-02-03"
},
{
"Instrument id": 837024001, ***-> Sample of Unitised instrument e.g. ETF***
"Latest available price": {
"type": "Price",
"currency": "ZAR",
"Instrument id": 837024001,
"value": "23.32"
},
"Client account id": 97333879297,
"Contract id": 97224434945,
"Units": {
"type": "Unit",
"Instrument id": 837024001,
"value": "1070"
},
"Market Value in Fund Currency": {
"type": "Money",
"currency": "ZAR",
"value": "24952.40"
},
"Market Value in System Currency": {
"type": "Money",
"currency": "ZAR",
"value": "24952.40"
},
"Instrument account number": "",
"Price date": "2025-01-30",
"Date": "2025-02-03"
}
]
}

Error codes:

HTTP response	Code	Description
400	MalformedRequest	Invalid date "2005-13-01". Expected ISO date "YYYY-MM-DD"

4 Get transactions

If drawn since inception of an investor account, will give the same balance per instrument as the Get Investor Holdings if summed together. Transaction types can be grouped together to give In/Out flows and fees/expense transaction totals.

GET: transactions (Pull all transactions)

GET: transactions?date={date} (Pull all transaction for a date)

Example request:

http://development/api/modelmanager/transactions?date=2005-05-01

Note: Date must be ISO format string YYYY-MM-DD and will only include transactions that changed on this date

Example JSON response:

HTTP: 200

```
{
  "size": 8,
  "data": [
    {
      "Instrument account number": "",
      "Amount": {
        "type": "Money",
        "currency": "ZAR",
        "value": "24952.40"
      },
      "Transaction id": 97456141313,
      "Contract id": 97224434945,
      "Instrument id": 837024001,   -> Sample of Unitised instrument e.g. ETF
      "Is Cashflow": "No",
      "Type": "ContributionTransaction",
      "Description": "\"Buy (Cash Transfer In - Model Switch)\"",
      "Units": {
        "type": "Unit",
        "Instrument id": 837024001,
        "value": "1070"
```

```
    },
    "Price": {
        "type": "Price",
        "currency": "ZAR",
        "Instrument id": 837024001,
        "value": "23.32"
    },
    "Client account id": 97333879297,
    "Processed date": "2025-02-03",
    "Sub type": "Buy",
    "Date": "2025-02-03"
},
{
    "Instrument account number": "",
    "Amount": {
        "type": "Money",
        "currency": "ZAR",
        "value": "25000.00"
    },
    "Transaction id": 97493031681,
    "Contract id": 97224434945,
    "Instrument id": 291169793,    -> Sample of Money Market
    "Is Cashflow": "No",
    "Type": "ContributionTransaction",
    "Description": "\"Buy (Cash Transfer In - Model Switch)\"",
    "Units": {
        "type": "Money",
        "currency": "ZAR",
        "value": "25000.00"
    },
    "Price": {
        "type": "Price",
        "currency": "ZAR",
        "Instrument id": 291169793,
```

```
        "value": "1.000000"
    },
    "Client account id": 97333879297,
    "Processed date": "2025-02-03",
    "Sub type": "Buy",
    "Date": "2025-02-03"
},
{
    "Instrument account number": "",
    "Amount": {
        "type": "Money",
        "currency": "ZAR",
        "value": "50000.00"
    },
    "Transaction id": 97367246337,
    "Contract id": 97224434945,
    "Instrument id": 603305473,    -> Sample of cash instrument
    "Is Cashflow": "No",
    "Type": "ClientAccountTransferTransaction",
    "Description": "\"Buy model portfolio\"",
    "Units": {
        "type": "Money",
        "currency": "ZAR",
        "value": "50000.00"
    },
    "Price": {
        "type": "Price",
        "currency": "ZAR",
        "Instrument id": 603305473,
        "value": "1.000000"
    },
    "Client account id": 97333879297,
    "Processed date": "2025-02-03",
    "Sub type": "",
```

"Date": "2025-02-03"
},
]
}

Error codes:

HTTP response	Code	Description
400	MalformedRequest	Invalid date "2005-13-01". Expected ISO date "YYYY-MM-DD"

5 Get instruments

Details of instruments. Link this data with the identifier "Instrument id".

GET: instruments

Example request:

http://development/api/modelmanager/instruments

Example JSON response:

HTTP: 200


```
{
   "size": 3,
   "data": [
      {
         "Instrument id": 291169793,
         "Instrument type": "Money Market",
         "Name": "Allan Gray Money Market Fund (A)",
         "Instrument provider unique id": 144755201,
         "Code": "AGMF",
         "ISIN Number": "ZAE000030946",
         "Instrument grouping": "Public"
         "Instrument provider": "Allan Gray Unit Trust Management Limited",
         "Currency": "ZAR",
         "Status": "Open"
      },
      {
         "Instrument id": 603305473,
         "Instrument type": "Cash",
         "Name": "Settlement cash account",
         "Instrument provider unique id": null,
         "Code": "ZAR-S",
         "ISIN Number": "",
        "Instrument grouping": "Public"
```

"Instrument provider": "",
"Currency": "ZAR",
"Status": "Open"
},
{
"Instrument id": 837024001,
"Instrument type": "Exchange Traded Fund",
"Name": "Satrix S&P Namibia Bond ETF",
"Instrument provider unique id": 831966977,
"Code": "STXNAM",
"ISIN Number": "ZAE000318275",
"Instrument grouping": "Public"
"Instrument provider": "Satrix",
"Currency": "ZAR",
"Status": "Open"
}
]
}

6 Generic error codes

Common error codes for all endpoints:

HTTP response	Code	Description
500	MultipleModelPortfolioProvidersFound	Found more than one linked model portfolio provider
400	ModelPortfolioProviderNotFound	Could not find the linked model portfolio provider