FPPredict+

API Documentation

Nov 2019
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1. Introduction
Audiences for this document are Development and Testing Team working on Integration of Prediction by Findability Platform.

1.1 Acronyms and Abbreviations

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Acronym / Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Key</td>
<td>Authentication key for Rest API, Generated from the UI</td>
</tr>
<tr>
<td>2</td>
<td>&lt;instance URL&gt;</td>
<td>Public URL of the instance</td>
</tr>
</tbody>
</table>
# 2. Create Prediction Job

## 2.1 POST api/v1/prediction/predict.json

Creates a prediction Job based on the parameters provided and returns the id of the prediction job submitted.

## 2.2 Resource URL

<Instance URL>/api/v1/prediction/predict.json

## 2.3 Resource Information

<table>
<thead>
<tr>
<th>Response formats</th>
<th>JSON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requires authentication?</td>
<td>YES</td>
</tr>
<tr>
<td>Method Supported</td>
<td>POST</td>
</tr>
</tbody>
</table>

## 2.4 Parameters

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>apiKey (Mandatory)</td>
<td>Your API key.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td>2</td>
<td>jobName (Mandatory)</td>
<td>Name of the job submitted.</td>
<td>None. Value must be provided.</td>
</tr>
<tr>
<td>3</td>
<td>jobDesc (Mandatory)</td>
<td>Description Of the job Submitted</td>
<td>None. Value must be provided.</td>
</tr>
<tr>
<td>4</td>
<td>jobType (Mandatory)</td>
<td>Type of Prediction Job. Must be one of (ModelingAndPredicting, Modeling and Predicting)</td>
<td>None. Value must be provided.</td>
</tr>
<tr>
<td>5</td>
<td>dataSetLocation</td>
<td>Type of location for choosing training, prediction and model files. Must be one of (Local, Cloud)</td>
<td>Local</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Local: Data Sets are present at the client File system</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cloud: Data Sets are present at the cloud Storage</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>modelingMode</td>
<td>Prediction mode (For binary prediction only). Must be of one of the following values:</td>
<td>BothValues</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LessFrequentValue : Only less frequent values are predicted.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MoreFrequentValue : Only more frequent values are predicted.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>BothValues : Both values are predicted.</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>targetVariable (Mandatory based on logic Given Below)</td>
<td>The variable to be predicted.</td>
<td>None. Value must be provided, and column must be present in the training file.</td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Notes</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>-------------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>trackerVariable</td>
<td>The variable name to be used as tracker variable. None. No tracker will be used for processing unless provided.</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>idVariable (Mandatory based on logic given below)</td>
<td>The variable which identifies a row in prediction file. None. Value must be provided, and column must be present in the prediction file.</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>trainingFile (Mandatory based on logic given below)</td>
<td>A csv File or file’s absolute path containing the data set to train the system, depending on value of dataSetLocation. If value is &quot;local&quot; then provide actual file and if value is &quot;cloud&quot; then provide file path. None. Value must be provided.</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>predictFile (Mandatory based on logic given below)</td>
<td>A csv File or file’s absolute path containing the data set to predict, depending on value of dataSetLocation. If value is &quot;local&quot; then provide actual file and if value is &quot;cloud&quot; then provide file path. None, value must be provided.</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>modelsFile (Mandatory based on logic given below)</td>
<td>A model File or path of model file which will be used for prediction. None. Value must be provided.</td>
<td></td>
</tr>
</tbody>
</table>
| 13 | processingMode | Allows to either let system decide the processing for the prediction job. The allowed values are:  
  a. **automated**: lets system decide the type of processing  
  b. **manual**: Lets user to override the processing type |
| 14 | processingType | This parameter decides the type of processing in case value “manual” is selected for parameter “processingMode”. The allowed values are:  
  a. **DTV**: This processing will predict the values to be one of the unique values present in the target variable in training file. None. Only mandatory in case value “manual” is selected for parameter “processingMode”. |

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b. **CTV:** This processing may predict the values to be beyond one of the unique values present in the target variable in training file.

### 2.4.1 Job Type Logic

The parameters `targetVariable`, `idVariable`, `trainingFile`, `predictFile` & `modelsFile` are mandatory based on values of `jobType`, which is as follows:

1. ModelingAndPredicting: `targetVariable`, `idVariable`, `trainingFile` & `predictFile` all are mandatory
2. Modeling: `targetVariable` & `trainingFile` are mandatory
3. Predicting: `idVariable`, `modelsFile` & `predictFile` are mandatory.

### 2.5 Response Field

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>statusCode</td>
<td>Status code of the api call</td>
</tr>
<tr>
<td>2</td>
<td>Message</td>
<td>Message of the API call</td>
</tr>
<tr>
<td>3</td>
<td>Data</td>
<td>A json object containing the job Id</td>
</tr>
</tbody>
</table>
2.6 Example Request 1

curl -X POST -H "Cache-Control: no-cache" -H "Content-Type: multipart/form-data; boundary=--WebKitFormBoundary7MA4YWxkTrZu0gW" -F "apiKey=vKtQEynlyMLGoZ7mwjDP" -F "jobName=Test" -F "jobDesc=Test" -F "jobType=ModelingAndPredicting" -F "targetVariable=TargetValue1" -F "idVariable=Uniqueldentifier" -F "trainingFile=@[object Object]" -F "predictFile=@[object Object]" "<Instance URL>/api/v1/prediction/predict.json"

2.7 Successful Result

```
{
  "statusCode": 200,
  "message": "latest log message:",
  "data": {
    "jobId": "188d2589-d50f-4a72-9f25-ff686b28d66c"
  }
}
```

2.8 Example Request 2

curl -X POST -H "Cache-Control: no-cache" -H "Content-Type: multipart/form-data; boundary=--WebKitFormBoundary7MA4YWxkTrZu0gW" -F "jobName=Test" -F "jobDesc=Test" -F "jobType=ModelingAndPredicting" -F "targetVariable=TargetValue1" -F "idVariable=Uniqueldentifier" -F "trainingFile=@[object Object]" -F "predictFile=@[object Object]" "<Instance URL>/api/v1/prediction/predict.json"

2.9 Example Result 2 with no authentication

```
{
  "statusCode": 401,
  "message": "API Key not valid or API Key Expired",
  "data": null
}
```
3. Get Job Status

3.1 GET api/v1/prediction/getJobStatus.json
Gets the most recent status of the job submitted.

3.2 Resource URL
<Instance URL>/ api/v1/prediction/getJobStatus.json

3.3 Resource Information
Response formats JSON
Requires authentication? YES
Method Supported GET

3.4 Parameters

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>apiKey</td>
<td>Your API key.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>jobId</td>
<td>Id of the job generated by the system during submission.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.5 Response Field

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>statusCode</td>
<td>Status code of the api call</td>
</tr>
<tr>
<td>2</td>
<td>Message</td>
<td>Message of the API call</td>
</tr>
<tr>
<td>3</td>
<td>Data</td>
<td>A json array, with object containing the following data</td>
</tr>
<tr>
<td>3.1</td>
<td>jobId</td>
<td>JobId of the job submitted.</td>
</tr>
<tr>
<td>3.2</td>
<td>jobStatus</td>
<td>Can be one of following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a. 1 (Started)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b. 2 (Running)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c. 3 (Failed)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>d. 4 (Completed Successfully)</td>
</tr>
<tr>
<td>3.3</td>
<td>jobLogMessage</td>
<td>Log message</td>
</tr>
<tr>
<td>3.4</td>
<td>jobLogTime</td>
<td>Time of Log</td>
</tr>
<tr>
<td>3.5</td>
<td>processingTime</td>
<td>Total Processing time till now in seconds</td>
</tr>
<tr>
<td>3.6</td>
<td>totalModels</td>
<td>Total Models created for the job</td>
</tr>
</tbody>
</table>
3.6 Example Request 1

```bash
curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/prediction/getJobStatus.json?apiKey=vKtQEynlyMLGoZ7mwjDP&jobId=188d2589-d50f-4a72-9f25-ff686b28d66c"
```

3.7 Successful Result

```json
{
    "statusCode": 200,
    "message": "latest log message:",
    "data": [{
        "jobId": "188d2589-d50f-4a72-9f25-ff686b28d66c",
        "jobStatus": "4",
        "jobLogMessage": "Job Completed Successfully",
        "jobLogTime": "2016-06-03 11:27:59.0",
        "processingTime": 407,
        "totalModels": 1380
    }]
}
```

3.8 Example Request 2

```bash
curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/prediction/getJobStatus.json?jobId=188d2589-d50f-4a72-9f25-ff686b28d66c"
```

3.9 Example Result 2 with no authentication

```json
{
    "statusCode": 401,
    "message": "API Key not valid or API Key Expired",
    "data": null
}
```
4. Get Job Log

4.1 GET api/v1/prediction/getJobLog.json
Gets the Complete log of job in text format.

4.2 Resource URL
<Instance URL>/api/v1/prediction/getJobLog.json

4.3 Resource Information
Response formats JSON
Requires authentication? YES
Method Supported GET

4.4 Parameters

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>apiKey</td>
<td>(Mandatory) Your API key.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td>2</td>
<td>jobId</td>
<td>(Mandatory) Id of the job generated by the system during submission.</td>
<td>None. Value must be provided.</td>
</tr>
</tbody>
</table>

4.5 Response Field

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>statusCode</td>
<td>Status code of the api call</td>
</tr>
<tr>
<td>2</td>
<td>message</td>
<td>Message of the API call</td>
</tr>
<tr>
<td>3</td>
<td>data</td>
<td>A JSON object containing the details of the job</td>
</tr>
<tr>
<td>3.1</td>
<td>jobName</td>
<td>Name provided for the job</td>
</tr>
<tr>
<td>3.2</td>
<td>jobDescription</td>
<td>Description of the job</td>
</tr>
<tr>
<td>3.3</td>
<td>jobType</td>
<td>Type of job</td>
</tr>
<tr>
<td>3.4</td>
<td>modelingMode</td>
<td>Whether job was predicting single or Multiple Values</td>
</tr>
<tr>
<td>3.5</td>
<td>modelsGenerated</td>
<td>Number of models generated</td>
</tr>
<tr>
<td>3.6</td>
<td>trainingFileName</td>
<td>Name of training file</td>
</tr>
<tr>
<td>3.7</td>
<td>recordsInTrainingFile</td>
<td>Number of records in training file</td>
</tr>
<tr>
<td>3.8</td>
<td>columnsInTrainingFile</td>
<td>Number of columns in training file</td>
</tr>
<tr>
<td>3.9</td>
<td>targetVariable</td>
<td>Name of target variable</td>
</tr>
<tr>
<td>3.10</td>
<td>modelingTime</td>
<td>Time taken for training in “hh:mm:ss” format</td>
</tr>
<tr>
<td>3.11</td>
<td>predictionFileName</td>
<td>Name of prediction file</td>
</tr>
<tr>
<td>3.12</td>
<td>recordsInPredictionFile</td>
<td>Number of records in prediction file</td>
</tr>
<tr>
<td>3.13</td>
<td>columnsInPredictionFile</td>
<td>Number of columns in prediction file</td>
</tr>
<tr>
<td>3.14</td>
<td>predictionTime</td>
<td>Time taken for prediction in “hh:mm:ss” format</td>
</tr>
</tbody>
</table>
4.6 Example Request 1

curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/prediction/getJobLog.json?apiKey=vKtQEynlyMLGoZ7mwjDP&jobId=188d2589-d50f-4a72-9f25-ff686b28d66c"

4.7 Successful Result

```json
{
"statusCode": 200,
"message": "Job Logs: ",
"data": {
"jobName": "API",
"jobDescription": "Test set job from Api",
"jobType": "modeling + prediction",
"modelingMode": "Multiple Values",
"modelsGenerated": 236,
"trainingFileName": "train_loan.csv",
"recordsInTrainingFile": 429,
"columnsInTrainingFile": 64,
"targetVariable": "LoanApprovalStatus",
"modelingTime": "00:00:29",
"predictionFileName": "predict_loan.csv",
"recordsInPredictionFile": 185,
"columnsInPredictionFile": 64,
"predictionTime": "00:00:31"
}
}
```
4.8 Example Request 2

curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/prediction/getJobLog.json?jobId=188d2589-d50f-4a72-9f25-ff686b28d66c"

4.9 Example Result 2 with no authentication

```
{
    "statusCode": 401,
    "message": "API Key not valid or API Key Expired",
    "data": null
}
```
5. Get Job Results

5.1 GET api/v1/prediction/getPredictionResults.json
Gets the prediction results of the job.

5.2 Resource URL
<Instance URL>/api/v1/prediction/getPredictionResults.json

5.3 Resource Information
Response formats: JSON
Requires authentication?: YES
Method Supported: GET

5.4 Parameters

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>apiKey</td>
<td>Your API key.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>jobId</td>
<td>Id of the job generated by the system during submission.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5.5 Response Field

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>statusCode</td>
<td>Status code of the api call</td>
</tr>
<tr>
<td>2</td>
<td>message</td>
<td>Message of the API call</td>
</tr>
<tr>
<td>3</td>
<td>data</td>
<td>Json Array containing result for every predicted record</td>
</tr>
<tr>
<td>3.1</td>
<td>Identifier</td>
<td>Identifier of the predicted record</td>
</tr>
<tr>
<td>3.2</td>
<td>predictedValue</td>
<td>Value predicted</td>
</tr>
<tr>
<td>3.3</td>
<td>modelNumber</td>
<td>Model number used for prediction</td>
</tr>
<tr>
<td>3.4</td>
<td>probability</td>
<td>Probability associated with model and scenario. The value will be returned as null in case it is DTV job</td>
</tr>
<tr>
<td>3.5</td>
<td>decile</td>
<td>Decile number associated with the predicted record.</td>
</tr>
</tbody>
</table>
5.6 Example Request 1

```
curl -X GET -H "Cache-Control: no-cache" "<Instance
URL>/api/v1/prediction/getPredictionResults.json?apiKey=vKtQEynlyMLGoZ7mwjDP&jobId=188d2589-
d50f-4a72-9f25-ff686b28d66c"
```

5.7 Successful Result

```json
{
    "statusCode": 200,
    "message": "OK",
    "data": [
        {
            "identifier": "LP001325",
            "predictedValue": "Yes",
            "modelNumber": 210,
            "probability": 99.97,
            "decile": 1
        },
        {
            "identifier": "LP001030",
            "predictedValue": "Yes",
            "modelNumber": 210,
            "probability": 99.97,
            "decile": 10
        }
    ]
}
```
5.8 Example Request 2
curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/prediction/getPredictionResults.json?jobId=188d2589-d50f-4a72-9f25-ff686b28d66c"

5.9 Example Result 2 with no authentication
```
{
    "statusCode": 401,
    "message": "API Key not valid or API Key Expired",
    "data": null
}
```
6. Get Deciles

6.1 GET api/v1/prediction/getJobDeciles.json
Gets the decile wise performance of the DTV prediction job.

6.2 Resource URL
<Instance URL>/api/v1/prediction/getJobDeciles.json

6.3 Resource Information
Response formats          JSON
Requires authentication?  YES
Method Supported          GET

6.4 Parameters
<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>apiKey</td>
<td>Your API key.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>jobId</td>
<td>Id of the job generated by the system during submission.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.5 Response Field
<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>statusCode</td>
<td>Status code of the api call</td>
</tr>
<tr>
<td>2</td>
<td>message</td>
<td>Message of the API call</td>
</tr>
<tr>
<td>3</td>
<td>data</td>
<td>JSON array of the deciles</td>
</tr>
<tr>
<td>3.1</td>
<td>decileNumber</td>
<td>Decile Number</td>
</tr>
<tr>
<td>3.2</td>
<td>decileSize</td>
<td>Number of predicted records in the decile</td>
</tr>
<tr>
<td>3.3</td>
<td>randomProbability</td>
<td>Random probability of matches in the decile (0 in case of predicting multiple classes)</td>
</tr>
<tr>
<td>3.4</td>
<td>randomHits</td>
<td>Random hits associated with the decile (0 in case of predicting multiple classes)</td>
</tr>
<tr>
<td>3.5</td>
<td>predictedProbability</td>
<td>Average of the probability prediction.</td>
</tr>
<tr>
<td>3.6</td>
<td>realHits</td>
<td>Total number of correct predictions in the decile</td>
</tr>
<tr>
<td>3.7</td>
<td>hitPercent</td>
<td>Percentage of real hits over Decile size.</td>
</tr>
</tbody>
</table>
6.6 Example Request 1

curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/prediction/getJobDeciles.json?apiKey=vKtQEynlyMLGoZ7mwjDP&jobId=188d2589-d50f-4a72-9f25-ff686b28d66c"

6.7 Successful Result

```json
{
  "statusCode": 200,
  "message": "Decile Wise Performance: ",
  "data": [
    {
      "decileNumber": 1,
      "decileSize": 19,
      "randomProbability": 0,
      "randomHits": 0,
      "predictedProbability": 97.8,
      "realHits": 18,
      "hitPercent": 94
    },
    ...
    {
      "decileNumber": 2,
      "decileSize": 18,
      "randomProbability": 0,
      "randomHits": 0,
      "predictedProbability": 91.67,
      "realHits": 18,
      "hitPercent": 100
    }
  ]
}
```

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6.8 Example Request 2
curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/prediction/getJobDeciles.json?jobId=188d2589-d50f-4a72-9f25-ff686b28d66c"

6.9 Example Result 2 with no authentication
{
    "statusCode": 401,
    "message": "API Key not valid or API Key Expired",
    "data": null
}
7. Get Job Models

7.1 GET api/v1/prediction/getModels.json
Gets the models associated with the results.

7.2 Resource URL
<Instance URL>/api/v1/prediction/getModels.json

7.3 Resource Information
Response formats JSON
Requires authentication? YES
Method Supported GET

7.4 Parameters

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>apiKey (Mandatory)</td>
<td>Your API key.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td>2</td>
<td>jobId (Mandatory)</td>
<td>Id of the job generated by the system during submission.</td>
<td>None. Value must be provided.</td>
</tr>
</tbody>
</table>

7.5 Response Field

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>statusCode</td>
<td>Status code of the api call</td>
</tr>
<tr>
<td>2</td>
<td>message</td>
<td>Message of the API call</td>
</tr>
<tr>
<td>3</td>
<td>data</td>
<td>Json Array containing models used for prediction</td>
</tr>
<tr>
<td>3.1</td>
<td>modelNumber</td>
<td>Model number used for prediction</td>
</tr>
<tr>
<td>3.2</td>
<td>variables</td>
<td>Array of variables present in training file associated with model.</td>
</tr>
</tbody>
</table>
7.6 Example Request 1

curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/prediction/getModels.json?apiKey=vKtQEynlyMLGoZ7mwjDP&jobId=188d2589-d50f-4a72-9f25-ff686b28d66c"

7.7 Successful Result

```json
{
    "statusCode": 200,
    "message": "Models: ",
    "data": [
        {
            "modelNumber": 208,
            "variables": [
                "HasLoanAlready",
                "TotalTerms",
                "Children",
            ]
        },
        
        ..........
        
        {
            "modelNumber": 205,
            "variables": [
                "HasLoanAlready",
                "PropertyLocation",
                "TotalTerms"
            ]
        }
    ]
}
```
7.8 Example Request 2


7.9 Example Result 2 with no authentication

```json
{
    "statusCode": 401,
    "message": "API Key not valid or API Key Expired",
    "data": null
}
```
8. Download Models File

8.1 GET api/v1/prediction/downloadModelsFile.json
Download models file associated with the job for prediction only jobs.

8.2 Resource URL
<Instance URL>/api/v1/prediction/downloadModelsFile.json

8.3 Resource Information
Response formats JSON
Requires authentication? YES
Method Supported GET

8.4 Parameters

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>apiKey</td>
<td>Your API key.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>jobId</td>
<td>Id of the job generated by the system during submission.</td>
<td>None. Value must be provided.</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.5 Response Field (Error)

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>statusCode</td>
<td>Status code of the api call</td>
</tr>
<tr>
<td>2</td>
<td>Message</td>
<td>Message of the API call</td>
</tr>
</tbody>
</table>
8.6 Example Request 1
curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/prediction/downloadModelsFile.json?apiKey=vKtQEynlyMLGoZ7mwjDP&jobId=188d2589-d50f-4a72-9f25-ff686b28d66c"

8.7 Successful Result

A binary file with extension .models is downloaded

8.8 Example Request 2

8.9 Example Result 2 with no authentication

```json
{
    "statusCode": 401,
    "message": "API Key not valid or API Key Expired",
    "data": null
}
```
9. Get Job Metrics

9.1 GET api/v1/prediction/getMetrics.json
Gets the metrics associated with the results for CTV Job

9.2 Resource URL
<Instance URL>/api/v1/prediction/getMetrics.json

9.3 Resource Information
Response formats : JSON
Requires authentication? : YES
Method Supported : GET

9.4 Parameters

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>apiKey</td>
<td>Your API key.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>jobId</td>
<td>Id of the job generated by the system during submission.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9.5 Response Field

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>statusCode</td>
<td>Status code of the api call</td>
</tr>
<tr>
<td>2</td>
<td>message</td>
<td>Message of the API call</td>
</tr>
<tr>
<td>3</td>
<td>data</td>
<td>Json Object containing metrics associated with the results</td>
</tr>
<tr>
<td>3.1</td>
<td>modelingMetrics</td>
<td>Json Array representing metrics generated during modeling phase of the job</td>
</tr>
<tr>
<td>3.1.1</td>
<td>errorType</td>
<td>This value represents the metric name. The value can be one of the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. Mean Error</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Root Mean Squared Error</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Mean Absolute Error</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Mean Percentage Error</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Mean Absolute Percentage Error</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. Mean Absolute Scaled Error</td>
</tr>
<tr>
<td>3.1.2</td>
<td>value</td>
<td>Value associated with the metric</td>
</tr>
<tr>
<td>3.2</td>
<td>predictionMetrics</td>
<td>Json Array representing metrics generated during modeling phase of the job</td>
</tr>
<tr>
<td>3.2.1</td>
<td>errorType</td>
<td>This value represents the metric name. The value same as that of modeling metrics</td>
</tr>
<tr>
<td>3.2.2</td>
<td>value</td>
<td>Value associated with the metric</td>
</tr>
</tbody>
</table>
9.6 Example Request 1

curl -X GET -H "Cache-Control: no-cache" 
"<Instance URL>/api/v1/prediction/getMetrics.json?apiKey=vKtQEynlyMLGoZ7mwjDP&jobId=188d2589-d50f-4a72-9f25-ff686b28d66c"

9.7 Successful Result

```
{
    "statusCode": 200,
    "message": "Metrics: ",
    "data": {
        "modelingMetrics": [
            {
                "errorType": "Mean Error",
                "value": 39.8867
            },
            {
                "errorType": "Root Mean Squared Error",
                "value": 5099.4355
            },
            {
                "errorType": "Mean Absolute Error",
                "value": 3744.1268
            },
            {
                "errorType": "Mean Percentage Error",
                "value": 39017.6152
            },
            {
                "errorType": "Mean Absolute Percentage Error",
                "value": 39017.6152
            },
            {
                "errorType": "Mean Absolute Scaled Error",
                "value": 0.3752
            }
        ],
        "predictionMetrics": [
            {
                "errorType": "Mean Error",
                "value": 6238.075
            },
            {
                "errorType": "Root Mean Squared Error",
                "value": 13760.9105
            },
            {
                "errorType": "Mean Absolute Error",
                "value": 9764.735
            }
        ]
    }
}
```

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9.8 Example Request 2
curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/prediction/getMetrics.json?jobId=188d2589-d50f-4a72-9f25-ff686b28d66c"

9.9 Example Result 2 with no authentication

```json
{
    "statusCode": 401,
    "message": "API Key not valid or API Key Expired",
    "data": null
}
```
10. Cancel Job

10.1 GET api/v1/prediction/cancelJob.json
Cancel a running job.

10.2 Resource URL
<Instance URL>/api/v1/prediction/cancelJob.json

10.3 Resource Information
Response formats: JSON
Requires authentication?: YES
Method Supported: GET

10.4 Parameters

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>apiKey</td>
<td>Your API key.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>jobId</td>
<td>Id of the job generated by the system during submission.</td>
<td>None. Value must be provided.</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10.5 Response Field (Error)

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>statusCode</td>
<td>Status code of the api call</td>
</tr>
<tr>
<td>2</td>
<td>message</td>
<td>Message of the API call</td>
</tr>
</tbody>
</table>
10.6 Example Request 1
```
curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/prediction/cancelJob.jsonapiKey=vKtQEynlyMLGoZ7mwjDP&jobId=188d2589-d50f-4a72-9f25-ff686b28d66c"
```

10.7 Successful Result
```
{
  "statusCode": 404,
  "message": "Job with the given id not found",
  "data": null
}
```

10.8 Example Request 2
```
curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/prediction/cancelJob.json?jobId=188d2589-d50f-4a72-9f25-ff686b28d66c"
```

10.9 Example Result 2 with no authentication
```
{
  "statusCode": 401,
  "message": "API Key not valid or API Key Expired",
  "data": null
}
```
11. Create Forecast Job

11.1 POST api/v1/forecast/forecast.json

Creates a forecast Job based on the parameters provided and returns the id of the forecast job submitted.

11.2 Resource URL

<Instance URL>/api/v1/forecast/forecast.json

11.3 Resource Information

<table>
<thead>
<tr>
<th>Response formats</th>
<th>JSON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requires authentication?</td>
<td>YES</td>
</tr>
<tr>
<td>Method Supported</td>
<td>POST</td>
</tr>
</tbody>
</table>

11.4 Parameters

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>apiKey</td>
<td>Your API key.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>jobName</td>
<td>Name of the job submitted.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>jobDesc</td>
<td>Description Of the job Submitted</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>checkedJobType</td>
<td>Type of Forecast Job. Must be one of (ModelingAndForecast, Modeling and Forecast)</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>dataSetLocation</td>
<td>Type of location for choosing training, forecast and model files. Must be one of (Local, Cloud)</td>
<td>Local</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Local: Data Sets are present at the client File system</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cloud: Data Sets are present at the cloud Storage</td>
<td></td>
</tr>
<tr>
<td>Table Row</td>
<td>Field</td>
<td>Description</td>
<td>Default Value</td>
</tr>
<tr>
<td>-----------</td>
<td>------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>6</td>
<td>timestampInterval</td>
<td>This field specifies the interval of training and forecast data.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Can be one of the following Daily/Weekly/Monthly/Yearly</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>targetVariableForTraining (Mandatory based on logic Given Below)</td>
<td>The variable to be forecasted.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td>8</td>
<td>timestampVariableForTraining (Mandatory based on logic Given Below)</td>
<td>The variable which identifies a timestamp in training/forecast file.</td>
<td>None. Value must be provided, and column must be present in the training file</td>
</tr>
<tr>
<td>9</td>
<td>timestampFormat</td>
<td>Specifies format of selected timestamp column e.g. “dd-mm-yyyy”</td>
<td>None. Value must be provided as the format of given timestamp variable</td>
</tr>
<tr>
<td>10</td>
<td>trainingFile (Mandatory based on logic Given Below)</td>
<td>A csv File or file’s absolute path containing the data set to train the system, depending on value of dataSetLocation. If value is “local” then provide actual file and if value is “cloud” then provide file path.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td>11</td>
<td>forecastFile (Mandatory based on logic given below)</td>
<td>A csv File or file’s absolute path containing the data set to forecast, depending on value of dataSetLocation. If value is “local” then provide actual file and if value is “cloud” then provide file path.</td>
<td>None, value must be provided</td>
</tr>
<tr>
<td>12</td>
<td>modelsFile (Mandatory based on logic Given Below)</td>
<td>A model File or path of model file which will be used for forecasting.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td>Sr. no</td>
<td>Field</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>---------------------</td>
<td>---------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>statusCode</td>
<td>Status code of the api call</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>message</td>
<td>Message of the API call</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>data</td>
<td>A json object containing the job Id</td>
<td></td>
</tr>
</tbody>
</table>

11.4.1 Job Type Logic
The parameters targetVariableForTraining, timestampVariableForTraining, timestampFormat, trainingFile, forecastFile & modelsFile are mandatory based on values of checkedJobType, which is as follows:

1- ModelingAndForecast: targetVariableForTraining, timestampVariableForTraining, timestampFormat, trainingFile & forecastFile all are mandatory
2- Modeling: targetVariableForTraining, timestampVariableForTraining, timestampFormat & trainingFile are mandatory
3- Forecast: timestampVariableForTraining, timestampFormat, modelsFile & forecastFile are mandatory.

11.5 Response Field

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11.6 Example Request 1 (for job without group)

curl -X POST -H "Cache-Control: no-cache" -H "Content-Type: multipart/form-data; boundary=--WebKitFormBoundary7MA4YWxkTrZu0gW" -F "apiKey=vKtQEynlyMLGoZ7mwdP" -F "jobName=Test" -F "jobDesc=Test" -F "checkedJobType=ModelingAndForecast" -F "timestampInterval=Daily" -F "targetVariableForTraining=TargetValue1" -F "timestampVariableForTraining=TimestampValue1" -F "removeOutliers=false" -F "trainingFile=@[object Object]" -F "forecastFile=@[object Object]" "<Instance URL>/api/v1/forecast/forecast.json"

11.7 Successful Result 1

```
{
    "statusCode": 200,
    "message": "Forecast job processing started.",
    "data": {
        "jobId": 3586
    }
}
```

11.8 Example Request 2 (for job having groups)

curl -X POST -H "Cache-Control: no-cache" -H "Content-Type: multipart/form-data; boundary=--WebKitFormBoundary7MA4YWxkTrZu0gW" -F "apiKey=vKtQEynlyMLGoZ7mwdP" -F "jobName=Test" -F "jobDesc=Test" -F "checkedJobType=ModelingAndForecast" -F "timestampInterval=Daily" -F "targetVariableForTraining=TargetValue1" -F "timestampVariableForTraining=TimestampValue1" -F "removeOutliers=false" -F "GroupIdentifierVariable=GroupIdValue1" -F "trainingFile=@[object Object]" -F "forecastFile=@[object Object]" "<Instance URL>/api/v1/forecast/forecast.json"

11.9 Successful Result 2 with multi-group forecast job

```
{
    "statusCode": 200,
    "message": "Forecast job processing started."
}
```
11.10 Example Request 3

curl -X POST -H "Cache-Control: no-cache" -H "Content-Type: multipart/form-data; boundary=--WebKitFormBoundary7MA4YWxkTrZu0gW" -F "jobName=Test" -F "jobDesc=Test" -F "checkedJobType=ModelingAndForecast" -F "timestampInterval=Daily" -F "targetVariableForTraining=TargetValue1" -F "timestampVariableForTraining=TimestampValue1" -F "timestampFormat=FormatValue1" -F "trainingFile=@[object Object]" -F "forecastFile=@[object Object]" "<Instance URL>/api/v1/forecast/forecast.json"

11.11 Example Result 3 with no authentication

{
  "statusCode": 401,
  "message": "API Key not valid or API Key Expired",
  "data": null
}
12. Get Job Status

12.1 GET api/v1/forecast/getJobStatus.json
Gets the most recent status of the forecast job submitted.

12.2 Resource URL
<Instance URL>/api/v1/forecast/getJobStatus.json

12.3 Resource Information
- Response formats: JSON
- Requires authentication?: YES
- Method Supported: GET

12.4 Parameters

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>apiKey</td>
<td>Your API key.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>jobId</td>
<td>Id of the job generated by the system during submission.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.5 Response Field

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>statusCode</td>
<td>Status code of the api call</td>
</tr>
<tr>
<td>2</td>
<td>message</td>
<td>Message of the API call</td>
</tr>
<tr>
<td>3</td>
<td>data</td>
<td>A json object containing the following data:</td>
</tr>
<tr>
<td>3.1</td>
<td>jobId</td>
<td>Job Id for called API</td>
</tr>
<tr>
<td>3.2</td>
<td>jobStatus</td>
<td>Can be one of following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. (Started)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. (Running)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. (Failed)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. (Completed Successfully)</td>
</tr>
<tr>
<td>3.3</td>
<td>statusMessage</td>
<td>Last operation performed for job or error message for the job.</td>
</tr>
</tbody>
</table>
In case of job with multiple groups the message will be a json array consisting of status of each group.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3.4</td>
<td>lastUpdated</td>
</tr>
<tr>
<td></td>
<td>timestamp of last operation performed.</td>
</tr>
</tbody>
</table>

### 12.6 Example Request 1 (for Forecast without group)

```bash
curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/forecast/getJobStatus.json?apiKey=vKtQEynlyMLGoZ7mwjDP&jobId=1368"
```

### 12.7 Successful Result for Forecast without group

```
{
    "statusCode": 200,
    "message": "Job is still in progress",
    "data": {
        "jobId": 1368,
        "jobStatus": "Running",
        "statusMessage": "Data import started for training."
    },
    "lastUpdated": "2019-10-24 08:34:06"
}
```

### 12.8 Example Request 2 (for Forecast having groups)

```bash
curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/forecast/getJobStatus.json?apiKey=vKtQEynlyMLGoZ7mwjDP&jobId=3552"
```

### 12.9 Successful Result for Forecast having multiple groups

```
{
    "statusCode": 200,
    "message": "Job Completed Successfully",
    "data": [
```

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{  
"jobId": 3552,
"jobStatus": "Finished",
"message": [
   
   {  
        "groupId": "Friday",
        "statusMessage": "No applicable model found"
   },
   
   {  
        "groupId": "Monday",
        "statusMessage": "Job Completed Successfully"
   },
   
   {  
        "groupId": "Saturday",
        "statusMessage": "No applicable model found"
   },
   
   {  
        "groupId": "Wednesday",
        "statusMessage": "Insufficient data in training file"
   }
],
"lastUpdated": "2019-10-31 06:28:07"
}

12.10 Example Request 3

```bash
curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/v1/forecast/getJobStatus.json?jobId=1368"
```
12.11 Example Result 3 with no authentication

```json
{
    "statusCode": 401,
    "message": "API Key not valid or API Key Expired",
    "data": null
}
```
13. Get Job Information

13.1 GET api/v1/forecast/getInfo.json
Gets the Complete information of job in text format.

13.2 Resource URL
<Instance URL>/api/v1/forecast/getInfo.json

13.3 Resource Information
Response formats JSON
Requires authentication? YES
Method Supported GET

13.4 Parameters

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>apiKey</td>
<td>Your API key.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>jobId</td>
<td>Id of the job generated by the system during submission.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13.5 Response Field

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>statusCode</td>
<td>Status code of the api call</td>
</tr>
<tr>
<td>2</td>
<td>message</td>
<td>Message of the API call</td>
</tr>
<tr>
<td>3</td>
<td>data</td>
<td>A JSON object containing the details of the job, with the following parameters</td>
</tr>
<tr>
<td>3.1</td>
<td>jobName</td>
<td>Name of job provided at the time of Job creation.</td>
</tr>
<tr>
<td>3.2</td>
<td>jobDesc</td>
<td>Description of job provided at the time of job creation.</td>
</tr>
<tr>
<td>3.3</td>
<td>JobType</td>
<td>Type of job. Expected values “ModelingAndForecast” or “Modeling” or “Forecast”</td>
</tr>
<tr>
<td>3.4</td>
<td>trainingFileName</td>
<td>Training file name</td>
</tr>
</tbody>
</table>
## 3.5 trainingFileRecords
Number of records in training file

## 3.6 totalModelingTime
Total modeling time required.

## 3.7 forecastFileName
Forecast file name

## 3.8 forecastFileRecords
Number of Records in forecast file

## 3.9 totalForecastTime
total time required for forecasting

## 3.10 totalProcessingTime
Total time required for job Completion.

## 3.11 numberOfImpVariables
(Optional: this field is valid only for job without groups.)Total number of important variables

## 3.12 totalNumbersOfModelsCreated
(Optional: this field is valid only for job having groups.)Number of Models created while modeling

## 3.13 totalNumbersOfGroupsIdentifiedInTrainingFile
(Optional: this field is valid only for job having groups.) Number of valid groups found in training file.

## 3.14 totalNumbersOfModelsApplied
(Optional: this field is valid only for job having groups.) Total number of models applied.

## 3.15 totalNumbersOfGroupsForForecastInForecastFile
(Optional: this field is valid only for job having groups.) Total number of groups in forecast file for which forecast is given.

### 13.6 Example Request 1 (for Forecast without group)
curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/forecast/getInfo.json?apiKey=vKtQEynlyMLGoZ7mwjDP&jobId=1368"

### 13.7 Successful Result 1 (for Forecast without group)

```json
{
    "statusCode": 200,
    "message": "Request Completed Successfully",
    "data": { 
        "jobName": "test for PID",
        "jobDesc": "test for PID",
        "jobType": "Modeling And Forecast"
    }
}
```
"trainingFileName": "sample_training_file.csv",
"trainingFileRecords": 367,
"totalModelingTime": "00:00:08",
"forecastFileName": "sample_forecast_file.csv",
"forecastFileRecords": 33,
"totalForecastTime": "00:00:00",
"totalProcessingTime": "00:01:04",
"numberOfImpVariables": 6
}

13.8 Example Request 2 (for Forecast having groups)
curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/forecast/ getinfo.json? jobId=1368"

13.9 Successful Result for Forecast having multiple groups

{
  "statusCode": 200,
  "message": "Request Completed Successfully ",
  "data": {
    "jobName": "forecast with group job",
    "jobDesc": "forecast having groups",
    "jobType": "Modeling And Forecast",
    "trainingFileName": "Daikoku_10_training.csv",
    "trainingFileRecords": 3058,
    "totalModelingTime": "00:06:06",
    "forecastFileName": "Daikoku_10_forecast.csv",
  }
}
"forecastFileRecords": 280,
"totalForecastTime": "00:00:15",
"totalProcessingTime": "00:02:51",
"totalNumbersOfModelsCreated": 10,
"totalNumbersOfGroupsIdentifiedInTrainingFile": 10,
"totalNumbersOfModelsApplied": 10,
"totalNumbersOfGroupsForecastInForecastFile": 10
13.10 Example Request 3
curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/forecast/ getInfo.json? jobId=1368"

13.11 Example Result 3 with no authentication

```json
{
   "statusCode": 401,
   "message": "API Key not valid or API Key Expired",
   "data": null
}
```
14. Get Job Results

14.1 GET api/v1/forecast/getResults.json
Gets the forecast results of the job.

14.2 Resource URL
<Instance URL>/api/v1/forecast/getResults.json

14.3 Resource Information
Response formats: JSON
Requires authentication?: YES
Method Supported: GET

14.4 Parameters

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>apiKey</td>
<td>Your API key.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td>2</td>
<td>jobId</td>
<td>Id of the job generated by the system during submission.</td>
<td>None. Value must be provided</td>
</tr>
</tbody>
</table>

14.5 Response Field

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>statusCode</td>
<td>Status code of the api call</td>
</tr>
<tr>
<td>2</td>
<td>message</td>
<td>Return message from API</td>
</tr>
<tr>
<td>3</td>
<td>data</td>
<td>Json Array containing results, with each result consisting of:</td>
</tr>
<tr>
<td>3.1</td>
<td>groupId</td>
<td>Group id. Will not be present in case the group wasn’t selected</td>
</tr>
<tr>
<td>3.2</td>
<td>timestamp</td>
<td>Log timestamp associated with the message</td>
</tr>
<tr>
<td>3.3</td>
<td>forecastValue</td>
<td>Forecast value for the record</td>
</tr>
<tr>
<td>3.4</td>
<td>actualValue</td>
<td>Actual value if present in the prediction file</td>
</tr>
<tr>
<td>3.5</td>
<td>deviation</td>
<td>Deviation of predicted value from the original value.</td>
</tr>
</tbody>
</table>
3.6 | modelNumber | Number representing the model used for forecast (Optional: this field is valid only for job having groups.)

14.6 Example Request 1 (for Forecast without group)
curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/forecast/getResults.json?apiKey=vKtQEynlYMLGoZ7mwjDP&jobId=1368"

14.7 Successful Result for Forecast without group

```json
{
    "statusCode": 200,
    "message": "Request Completed Successfully",
    "data": [
        {
            "forecastValue": 1.003558973,
            "actualValue": null,
            "deviation": null,
            "timestamp": "Oct-17"
        },
        {
            "forecastValue": 1.003487328,
            "actualValue": 1.017455214,
            "deviation": 0.013967885,
            "timestamp": "Nov-17"
        },
        {
            "forecastValue": 1.003494509,
            "actualValue": 1.009436245,
            "deviation": 0.009820036,
            "timestamp": "Dec-17"
        }
    ]
}
```
"deviation": 0.005941736,
"timestamp": "Dec-17"
}
]
}

14.8 Example Request 2 (for Forecast having groups)
curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/forecast/getResults.json?apiKey=vKtQEynlyMLGoZ7mwjDP&jobId=1368"

14.9 Successful Result for Forecast having multiple groups
{
"statusCode": 200,
"message": " Request Completed Successfully ",
"data": [
{
"forecastValue": 1854.0,
"actualValue": 2122.0,
"timestamp": "04-03-2019",
"modelNumber": 1,
"groupId": "X3B4QBB1_25097",
"deviation": 268.0
},
{
"forecastValue": 2748.0,
"actualValue": 1168.0,
"timestamp": "05-03-2019",
"modelNumber": 1,
{"groupId": "X3B4QBB1_25097",
"deviation": -1580.0
},
{
"forecastValue": 2641.0,
"actualValue": 1424.0,
"timestamp": "06-03-2019",
"modelNumber": 1,
"groupId": "X3B4QBB1_25097",
"deviation": -1217.0
}
14.10 Example Request 3
curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/forecast/getResults.json?jobId=1368"

14.11 Example Result 3 with no authentication

```json
{
    "statusCode": 401,
    "message": "API Key not valid or API Key Expired",
    "data": null
}
```
15. Get Metrics

15.1 GET api/v1/forecast/getMetrics.json

Gets the Modeling and Forecast metrics for forecast jobs

15.2 Resource URL

<Instance URL>/api/v1/forecast/getMetrics.json

15.3 Resource Information

<table>
<thead>
<tr>
<th>Requires authentication?</th>
<th>YES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method Supported</td>
<td>GET</td>
</tr>
<tr>
<td>Response formats</td>
<td>JSON</td>
</tr>
</tbody>
</table>

15.4 Parameters

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>apiKey</td>
<td>Your API key.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>jobId</td>
<td>Id of the job generated by the system during submission.</td>
<td>None. Value must be provided.</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

15.5 Response Field

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>statusCode</td>
<td>Status code of the api call</td>
</tr>
<tr>
<td>2</td>
<td>message</td>
<td>Return message from API</td>
</tr>
<tr>
<td>3</td>
<td>data</td>
<td>Json array of modeling and forecast metrics</td>
</tr>
<tr>
<td>3.1</td>
<td>groupIdentifier</td>
<td>Group id. Available only in case of Multi group forecast</td>
</tr>
<tr>
<td>3.2</td>
<td>modelingMetrics</td>
<td>Metrics showing the performance or modeling process. This section will not be available for Forecast only job. Every Metric has the following data</td>
</tr>
<tr>
<td>3.2.1</td>
<td>errorType</td>
<td>Metric used for performance evaluation</td>
</tr>
<tr>
<td>3.2.2</td>
<td>Value</td>
<td>Value associated with the metric</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.3</td>
<td>forecastMetrics</td>
<td>Metrics showing the performance of forecast process. This section will not be available for Modeling only job. Every Metric has the following data</td>
</tr>
<tr>
<td>3.3.1</td>
<td>errorType</td>
<td>Metric used for performance evaluation</td>
</tr>
<tr>
<td>3.3.2</td>
<td>value</td>
<td>Value associated with associated with the metric</td>
</tr>
</tbody>
</table>

### 15.6 Example Request 1 (for Forecast without group)

```
curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/forecast/getMetrics.json?apiKey=vKtQEynlyMLGoZ7mwjDP&jobId=1368"
```

### 15.7 Successful Result for Forecast without group

```
{
   "statusCode": 200,
   "message": "Request Completed Successfully",
   "data": {
      "modelingMetrics": [
         {
            "errorType": "Mean Error",
            "value": null
         },
         {
            "errorType": "Root Mean Squared Error",
            "value": 0.0069
         },
         {
            "errorType": "Mean Absolute Error",
            "value": 0.0051
         }
      ]
   }
}
```
"errorType": "Mean Percentage Error",
"value": -0.0053

"errorType": "Mean Absolute Percentage Error",
"value": 0.5072

"errorType": "Mean Absolute Scaled Error",
"value": 0.7466

"errorType": "Mean Error",
"value": 1.0E-4

"errorType": "Root Mean Squared Error",
"value": 0.0092

"errorType": "Mean Absolute Error",
"value":
15.8 Example Request 2 (for Forecast having groups)
curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/forecast/getMetrics.json?apiKey=vKtQEynlyMLGoZ7mwjDP&jobId=1368"

15.9 Successful Result for Forecast having multiple groups

{  
  "statusCode": 200,
  "message": "Request Completed Successfully",
  "data": [
    
  ]
}
"groupId": "X3B4QBB1_25161",
"modelingMetrics": [
{
  "errorType": "Mean Error",
  "value": 1.4998
},
{
  "errorType": "Root Mean Squared Error",
  "value": 3114.8634
},
{
  "errorType": "Mean Absolute Error",
  "value": 2310.4901
},
{
  "errorType": "Mean Percentage Error",
  "value": -2.6713
},
{
  "errorType": "Mean Absolute Percentage Error",
  "value": 33.6229
},
{
  "errorType": "Mean Absolute Scaled Error",
  "value": 10.6219
}]}
"value": 0.3236

],

"forecastMetrics": [

{

"errorType": "Mean Error",

"value": 2058.3704

},

{

"errorType": "Root Mean Squared Error",

"value": 2968.369

},

{

"errorType": "Mean Absolute Error",

"value": 2108.8889

},

{

"errorType": "Mean Percentage Error",

"value": 57.3661

},

{

"errorType": "Mean Absolute Percentage Error",

"value": 65.8976

}
"errorType": "Mean Absolute Scaled Error",
  "value": 0.9448
}
}

{
  "groupId": "X3B4QBB1_25171",
  "modelingMetrics": [ 
    {
      "errorType": "Mean Error",
      "value": -21.2023
    },
    {
      "errorType": "Root Mean Squared Error",
      "value": 1775.7181
    },
    {
      "errorType": "Mean Absolute Error",
      "value": 1314.4732
    },
    {
      "errorType": "Mean Percentage Error",
      "value": null
    },
  ]
}
"errorType": "Mean Absolute Percentage Error",
"value": null
},
{
  "errorType": "Mean Absolute Scaled Error",
  "value": 0.2715
},
"forecastMetrics": [
  {
    "errorType": "Mean Error",
    "value": 179.16
  },
  {
    "errorType": "Root Mean Squared Error",
    "value": 970.3141
  },
  {
    "errorType": "Mean Absolute Error",
    "value": 630.36
  },
  {
    "errorType": "Mean Percentage Error",
    "value": null
  }
]
"errorType": "Mean Absolute Percentage Error",
"value": null
},

{
  "errorType": "Mean Absolute Scaled Error",
  "value": 0.3739
}

15.10 Example Request 3

curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/forecast/getMetrics.json?jobId=1368"

15.11 Example Result 3 with no authentication

{
  "statusCode": 401,
  "message": "API Key not valid or API Key Expired",
  "data": null
}
16. Get Variables

16.1 GET api/v1/forecast/getVariables.json
Gets the variables associated with the models used for forecast.

16.2 Resource URL
<Instance URL>/api/v1/forecast/getVariables.json

16.3 Resource Information
Response formats JSON
Requires authentication? YES
Method Supported GET

16.4 Parameters

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>apiKey</td>
<td>Your API key.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>jobId</td>
<td>Id of the job generated by the system during submission.</td>
<td>None. Value must be provided.</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16.5 Response Field

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>statusCode</td>
<td>Status code of the api call</td>
</tr>
<tr>
<td>2</td>
<td>message</td>
<td>message associated with status code</td>
</tr>
<tr>
<td>3</td>
<td>data</td>
<td>Json Array containing variables used for prediction, with each containing the following fields:</td>
</tr>
<tr>
<td>3.1</td>
<td>variableName</td>
<td>Name of the variable</td>
</tr>
<tr>
<td>3.2</td>
<td>impact</td>
<td>Impact of variable on the result. Available values are (High, Medium, Low). (Optional: this field is valid only for job having groups)</td>
</tr>
<tr>
<td>3.3</td>
<td>occurrence</td>
<td>Number of times the variable is used in the models. Available values are (High, Medium, Low). (Optional: this field is valid only for job having groups)</td>
</tr>
</tbody>
</table>
16.6 Example Request 1

curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/forecast/getVariables.js?apiKey=vKtQEynlyMLGoZ7mwjDP&jobId=1368"

16.7 Successful Result

```json
{
    "statusCode": 200,
    "message": "Request Completed Successfully",
    "data": [
        {
            "variableName": "OUT_1",
            "impact": "low",
            "occurrence": "high"
        },
        {
            "variableName": "Rev",
            "impact": "low",
            "occurrence": "medium"
        }
    ]
}
```

16.8 Example Request 2

curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/forecast/getVariables.json?jobId=1368"

16.9 Example Result 2 with no authentication

```json
{
    "statusCode": 401,
    "message": "API Key not valid or API Key Expired",
}
```
"data": null
}

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17. Download Models File

17.1 GET api/v1/forecast/downloadModelsFile.json
Download models file is associated with the jobs Modeling, ModelingAndForecast job type.

17.2 Resource URL
<Instance URL>/api/v1/forecast/downloadModelsFile.json

17.3 Resource Information
<table>
<thead>
<tr>
<th>Response formats</th>
<th>JSON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requires authentication?</td>
<td>YES</td>
</tr>
<tr>
<td>Method Supported</td>
<td>GET</td>
</tr>
</tbody>
</table>

17.4 Parameters

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>apiKey</td>
<td>Your API key.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>jobId</td>
<td>Id of the job generated by the system during submission.</td>
<td>None. Value must be provided.</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

17.5 Response Field (Error)

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>statusCode</td>
<td>Status code of the api call</td>
</tr>
<tr>
<td>2</td>
<td>message</td>
<td>Message of the API call</td>
</tr>
</tbody>
</table>

17.6 Example Request 1

```
curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/forecast/downloadModelsFile.json?apiKey=vKtQEynlyMLGoZ7mwjDP&jobId=1368"
```

17.7 Successful Result

A binary file with extension .models is downloaded
17.8 Example Request 2

curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/forecast/downloadModelsFile.json?jobId=1368"

17.9 Example Result 2 with no authentication

```json
{
  "statusCode": 401,
  "message": "API Key not valid or API Key Expired",
  "data": null
}
```
18. Cancel forecast job

18.1 GET api/v1/forecast/cancelJob.json
Cancels a running job.

18.2 Resource URL
<Instance URL>/api/v1/forecast/cancelJob.json

18.3 Resource Information
- Response formats: JSON
- Requires authentication?: YES
- Method Supported: GET

18.4 Parameters

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>apiKey</td>
<td>Your API key.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>jobId</td>
<td>Id of the job generated by the system during submission.</td>
<td>None. Value must be provided.</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

18.5 Response Field (Error)

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>statusCode</td>
<td>Status code of the api call</td>
</tr>
<tr>
<td>2</td>
<td>message</td>
<td>Message of the API call</td>
</tr>
</tbody>
</table>

18.6 Example Request 1

```
curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/forecast/cancelJob.json?apiKey=vKtQEynlyMLGoZ7mwjDP&jobId=1368"
```

18.7 Successful Result

```
{
    "statusCode": 200,
}
```
"message": "Job Cancelled",

"data":null
}

18.8 Example Request 2
curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/forecast/cancelJob.json?jobId=1368"

18.9 Example Result 2 with no authentication

{
   "statusCode": 401,
   "message": "API Key not valid or API Key Expired",
   "data": null
}
19. Get Variables of Model

19.1 GET api/v1/forecast/getModels.json
Shows the important variables used by models.

This API is valid for with group jobs.

19.2 Resource URL
<Instance URL>/api/v1/forecast/getModels.json

19.3 Resource Information
Response formats JSON
Requires authentication? YES
Method Supported GET

19.4 Parameters

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>apiKey</td>
<td>Your API key.</td>
<td>None. Value must be provided</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>jobId</td>
<td>Id of the job generated by the system during submission.</td>
<td>None. Value must be provided.</td>
</tr>
<tr>
<td></td>
<td>(Mandatory)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

19.5 Response Field (Error)

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>statusCode</td>
<td>Status code of the api call</td>
</tr>
<tr>
<td>2</td>
<td>message</td>
<td>Message of the API call</td>
</tr>
<tr>
<td>3</td>
<td>data</td>
<td>Consists of model number and variables used for that model while forecast for particular group.</td>
</tr>
<tr>
<td>3.1</td>
<td>groupId</td>
<td>Group id forecasted using the model (This key will not be available in case of single group forecast)</td>
</tr>
<tr>
<td>3.2</td>
<td>modelNumber</td>
<td>Number representing the model used for forecast</td>
</tr>
<tr>
<td>3.3</td>
<td>variables</td>
<td>A json array of variables used for forecast.</td>
</tr>
</tbody>
</table>

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19.6 Example Request 1

curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/forecast/getModels.json?apiKey=vKtQEvlnyMLGoZ7wJDP&jobId=1368"

19.7 Successful Result

```json
{
    "statusCode": 200,
    "message": "Request Completed Successfully",
    "data": [
        {
            "groupId": "X7BB8BBQ_24627",
            "modelNumber": 9,
            "variables": [
                "Total_special_prize_times",
                "Rev",
                "Total_T1S",
                "OUT_1"
            ]
        },
        {
            "groupId": "X7BB8BBQ_24634",
            "modelNumber": 10,
            "variables": [
                "Total_special_prize_times",
                "OUT_1",
                "Total_safe"
            ]
        }
    ]
}
```
19.8 Example Request 2

curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/forecast/getModels.json?jobId=1368"

19.9 Example Result 2 with no authentication

{
    "statusCode": 401,
    "message": "API Key not valid or API Key Expired",
    "data": null
}

20. Return Code

<table>
<thead>
<tr>
<th>Code</th>
<th>When It Occur</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>Request was successful.</td>
</tr>
<tr>
<td>202</td>
<td>Job in progress</td>
</tr>
<tr>
<td>400</td>
<td>Required parameters not provided, they have improper values, or the API is not applicable for the job type. Error message provides more details.</td>
</tr>
<tr>
<td>401</td>
<td>Invalid API Key is provided</td>
</tr>
<tr>
<td>404</td>
<td>The resource was not found.</td>
</tr>
<tr>
<td>500</td>
<td>Error occurred while processing request. Error message associated provides more details why it happened.</td>
</tr>
</tbody>
</table>
Appendix 1: Prediction Job Lifecycle

The lifecycle of prediction job is as follows:

1. Prediction job is started using end point “/api/v1/prediction/predict.json”.
2. System validate the parameters. If parameters are validated, the job starts, and client is provided a job id. In case validations fails, the client is provided with a message regarding what is incorrect.
3. The client then can check the status of the running job using the end point “/api/v1/prediction/getJobStatus.json”. The status can be one of the following:
   a. **Running**: The job is still running, and client should check the status again after some time.
b. **Failed:** Unfortunately, the job has failed. In this case the client is provided with the error message, stating the reason due to which the job has failed.

c. **Finished:** The job is finished, and Users can use the results end points to consume the results of the prediction job.
Appendix 2: Forecast Job Lifecycle

The lifecycle of forecast job is as follows:

1. Forecast job is started using end point “/api/v1/forecast/forecast.json”.
2. System validate the parameters. If parameters are validated, the job starts, and client is provided a job id. In case validations fails, the client is provided with a message regarding what is incorrect.
3. The client then can check the status of the running job using the end point “/api/v1/forecast/getJobStatus.json”. The status can be one of the following:
   a. **Running**: The job is still running, and client should check the status again after some time.

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b. **Failed:** Unfortunately, the job has failed. In this case the client is provided with the error message, stating the reason due to which the job has failed. In case of forecast job having multiple groups the cause of failure of each group is provided.

c. **Finished:** The job is finished, and Users can use the results end points to consume the results of the prediction job. In case of forecast job having multiple groups the message regarding the status of each group is provided.