ENTERPRICE FORECASTING

API Documentation

Feb 2024

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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

Sr. No.	Acronym / Abbreviation	Description
1	Key	Authentication key for Rest API, Generated from the UI
2	<instance URL>	Public URL of the instance

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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

Response formats	JSON
Requires authentication?	YES
Method Supported	POST

2.4 Parameters

Sr. no	Field	Description	Default Value
1	apiKey (Mandatory)	Your API key.	None. Value must be provided
2	jobName (Mandatory)	Name of the job submitted.	None. Value must be provided.
3	jobDesc (Mandatory)	Description Of the job Submitted	None. Value must be provided.
4	jobType (Mandatory)	Type of Prediction Job. Must be one of (ModelingAndPredicting, Modeling and Predicting)	None. Value must be provided.
5	dataSetLocation	Type of location for choosing training, prediction and model files. Must be one of (Local, Cloud) Local: Data Sets are present at the client File system Cloud: Data Sets are present at the cloud Storage	Local
6	modelingMode	Prediction mode (For binary prediction only). Must be of one of the following values: LessFrequentValue : Only less frequent values are predicted. MoreFrequentValue : Only more frequent values are predicted. BothValues : Both values are predicted.	BothValues
7	targetVariable (Mandatory based on logic Given Below)	The variable to be predicted.	None. Value must be provided, and column must be present in the training file.

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8	trackerVariable	The variable name to be used as tracker variable	None. No tracker will be used for processing unless provided.
9	idVariable (Mandatory based on logic Given Below)	The variable which identifies a row in prediction file.	None. Value must be provided, and column must be present in the prediction file.
10	trainingFile (Mandatory based on logic Given Below)	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.	None. Value must be provided
11	predictFile (Mandatory based on logic given below)	A csv File or file's absolute path containing the data set to predict, depending on value of dataSetLocation. If value is "*local*" then provide actual file and if value is "*cloud*" then provide file path.	None, value must be provided.
12	modelsFile (Mandatory based on logic Given Below)	A model File or path of model file which will be used for prediction.	None. Value must be provided.
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

Sr. no	Field	Description
1	statusCode	Status code of the api call
2	Message	Message of the API call
3	Data	A json object containing the job Id

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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=UniqueIdentifier" -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=UniqueIdentifier" -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
}
```


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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

Sr. no	Field	Description	Default Value
1	apiKey (Mandatory)	Your API key.	None. Value must be provided
2	jobId (Mandatory)	Id of the job generated by the system during submission.	None. Value must be provided.

3.5 Response Field

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

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3.6 Example Request 1

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


```
{
   "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

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


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


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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

Sr. no	Field	Description	Default Value
1	apiKey (Mandatory)	Your API key.	None. Value must be provided
2	jobId (Mandatory)	Id of the job generated by the system during submission.	None. Value must be provided.

4.5 Response Field

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

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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


```
{
  "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"
  }
}
```


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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
}
```


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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

Sr. no	Field	Description	Default Value
1	apiKey (Mandatory)	Your API key.	None. Value must be provided
2	jobId (Mandatory)	Id of the job generated by the system during submission.	None. Value must be provided.

5.5 Response Field

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

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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


```
{
   "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
      },
   ]
}
```


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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
}
```


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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

Sr. no	Field	Description	Default Value
1	apiKey (Mandatory)	Your API key.	None. Value must be provided
2	jobId (Mandatory)	Id of the job generated by the system during submission.	None. Value must be provided.

6.5 Response Field

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

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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


```
{
   "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
}
```


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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

Sr. no	Field	Description	Default Value
1	apiKey (Mandatory)	Your API key.	None. Value must be provided
2	jobId (Mandatory)	Id of the job generated by the system during submission.	None. Value must be provided.

7.5 Response Field

Sr. no	Field	Description
1	statusCode	Status code of the api call
2	message	Message of the API call
3	data	Json Array containing models used for prediction
3.1	modelNumber	Model number used for prediction
3.2	variables	Array of variables present in training file associated with model.

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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


```
{
   "statusCode": 200,
   "message": "Models: ",
   "data": [
      {
         "modelNumber": 208,
         "variables": [
            "HasLoanAlready",
            "TotalTerms",
            "Children",
         ]
      },
      ……..
      {
         "modelNumber": 205,
         "variables": [
            "HasLoanAlready",
            "PropertyLocation",
            "TotalTerms"
         ]
      }
   ]
}
```


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7.8 Example Request 2

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

7.9 Example Result 2 with no authentication


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


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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

Sr. no	Field	Description	Default Value
1	apiKey (Mandatory)	Your API key.	None. Value must be provided
2	jobId (Mandatory)	Id of the job generated by the system during submission.	None. Value must be provided.

8.5 Response Field (Error)

Sr. no	Field	Description
1	statusCode	Status code of the api call
2	Message	Message of the API call

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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

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

8.9 Example Result 2 with no authentication


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


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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

Sr. no	Field	Description	Default Value
1	apiKey (Mandatory)	Your API key.	None. Value must be provided
2	jobId (Mandatory)	Id of the job generated by the system during submission.	None. Value must be provided.

9.5 Response Field

Sr. no	Field	Description
1	statusCode	Status code of the api call
2	message	Message of the API call
3	data	Json Object containing metrics associated with the results
3.1	modelingMetrics	Json Array representing metrics generated during modeling phase of the job
3.1.1	errorType	This value represents the metric name. The value can be one of the following: 1. Mean Error 2. Root Mean Squared Error 3. Mean Absolute Error 4. Mean Percentage Error 5. Mean Absolute Percentage Error 6. Mean Absolute Scaled Error
3.1.2	value	Value associated with the metric
3.2	predictionMetrics	Json Array representing metrics generated during modeling phase of the job. These won't be available in case the job is modeling only
3.2.1	errorType	This value represents the metric name. The value same as that of modeling metrics
3.2.2	value	Value associated with the metric

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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


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


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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

Sr. no	Field	Description	Default Value
1	apiKey (Mandatory)	Your API key.	None. Value must be provided
2	jobId (Mandatory)	Id of the job generated by the system during submission.	None. Value must be provided.

10.5 Response Field (Error)

Sr. no	Field	Description
1	statusCode	Status code of the api call
2	message	Message of the API call

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10.6 Example Request 1

curl -X GET -H "Cache-Control: no-cache" "<Instance URL>/api/v1/prediction/cancelJob.json?apiKey=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
}
```

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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

Response formats	JSON
Requires authentication?	YES
Method Supported	POST

11.4 Parameters

Sr. no	Field	Description	Default Value
1	apiKey (Mandatory)	Your API key.	None. Value must be provided
2	jobName (Mandatory)	Name of the job submitted.	None. Value must be provided.
3	jobDesc (Mandatory)	Description Of the job Submitted	None. Value must be provided.
4	checkedJobType (Mandatory)	Type of Forecast Job. Must be one of (ModelingAndForecast, Modeling and Forecast)	None. Value must be provided.
5	dataSetLocation	Type of location for choosing training, forecast and model files. Must be one of (Local, Cloud) Local: Data Sets are present at the client File system Cloud: Data Sets are present at the cloud Storage	Local

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6	timestampInterval	This field specifies the interval of training and forecast data. Can be one of the following Daily/Weekly/Monthly/Yearly	None. Value must be provided
7	targetVariableForTraining (Mandatory based on logic Given Below)	The variable to be forecasted.	None. Value must be provided, and column must be present in the training file.
8	timestampVariableForTraining (Mandatory based on logic Given Below)	The variable which identifies a timestamp in training/forecast file.	None. Value must be provided, and column must be present in the forecast file.
9	timestampFormat	Specifies format of selected timestamp column e.g. “dd-mm-yyyy”	None. Value must be provided as the format of given timestamp variable
10	trainingFile (Mandatory based on logic Given Below)	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.	None. Value must be provided
11	forecastFile (Mandatory based on logic given below)	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.	None, value must be provided.
12	modelsFile (Mandatory based on logic Given Below)	A model File or path of model file which will be used for forecasting.	None. Value must be provided.

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13	groupIdentifierVariable (Optional Name of group column)	A variable which identifies the group column within training/forecast file.	Optional.
14	removeOutliers (Optional)	Parameter to remove extreme values(Outliers) of the dataset. If this parameter is provided , its values must be true(removes outliers from data) false(do not remove outliers from dataset)	Optional. Default value is false

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

Sr. no	Field	Description
1	statusCode	Status code of the api call
2	message	Message of the API call
3	data	A json object containing the job Id

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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=vKtQEynlyMLGoZ7mwjDP" -F "jobName=Test" -F "jobDesc=Test" -F "checkedJobType=ModelingAndForecast" -F “timestampInterval=Daily” -F "targetVariableForTraining=TargetValue1" -F "timestampVariableForTraining=TimestampValue1" -F "timestampFormat=FormatValue1" -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=vKtQEynlyMLGoZ7mwjDP" -F "jobName=Test" -F "jobDesc=Test" -F " checkedJobType =ModelingAndForecast" -F “timestampInterval=Daily” -F "targetVariableForTraining=TargetValue1" -F "timestampVariableForTraining=TimestampValue1" -F "timestampFormat=FormatValue1" -F “removeOutliers=false” -F “GroupIdentifierVariable=GroupValue1” -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.",
```


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```
  "data": {

     "jobId": 3586

  }

}
```


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

}
```


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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

Sr. no	Field	Description	Default Value
1	apiKey (Mandatory)	Your API key.	None. Value must be provided
2	jobId (Mandatory)	Id of the job generated by the system during submission.	None. Value must be provided.

12.5 Response Field

Sr. no	Field	Description
1	statusCode	Status code of the api call
2	message	Message of the API call
3	data	A json object containing the following data:
3.1	jobId	Job Id for called API
3.2	jobStatus	Can be one of following: 1. (Started) 2. (Running) 3. (Failed) 4. (Completed Successfully)
3.3	statusMessage	Last operation performed for job or error message for the job.

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		In case of job with multiple groups the message will be a json array consisting of status of each group.
3.4	lastUpdated	timestamp of last operation performed.

12.6 Example Request 1 (for Forecast without group)

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)

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

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

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12.11 Example Result 3 with no authentication


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


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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

Sr. no	Field	Description	Default Value
1	apiKey (Mandatory)	Your API key.	None. Value must be provided
2	jobId (Mandatory)	Id of the job generated by the system during submission.	None. Value must be provided.

13.5 Response Field

Sr. no	Field	Description
1	statusCode	Status code of the api call
2	message	Message of the API call
3	data	A JSON object containing the details of the job, with the following parameters
3.1	jobName	Name of job provided at the time of Job creation.
3.2	jobDesc	Description of job provided at the time of job creation.
3.3	JobType	Type of job. Expected values “ModelingAndForecast” or “Modeling” or “Forecast”
3.4	trainingFileName	Training file name

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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 wile 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	totalNumbersOfGroupsForecastInForecastFile	(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)


```
{
   "statusCode": 200,
   "message": " Request Completed Successfully ",
   "data": {
      "jobName": "test for PID",
      "jobDesc": "test for PID",
      "jobType": "Modeling And Forecast",
```


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```
    "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",
```


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```
    "forecastFileRecords": 280,
    "totalForecastTime": "00:00:15",
    "totalProcessingTime": "00:02:51",
    "totalNumbersOfModelsCreated": 10,
    "totalNumbersOfGroupsIdentifiedInTrainingFile": 10,
    "totalNumbersOfModelsApplied": 10,
    "totalNumbersOfGroupsForecastInForecastFile": 10
  }
}
```


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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


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


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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

Sr. no	Field	Description	Default Value
1	apiKey (Mandatory)	Your API key.	None. Value must be provided
2	jobId (Mandatory)	Id of the job generated by the system during submission.	None. Value must be provided.

14.5 Response Field

Sr. no	Field	Description
1	statusCode	Status code of the api call
2	message	Return message from API
3	data	Json Array containing results, with each result consisting of:
3.1	groupId	Group id. Will not be present in case the group wasn't selected
3.2	timestamp	Log timestamp associated with the message
3.3	forecastValue	Forecast value for the record
3.4	actualValue	Actual value if present in the prediction file
3.5	deviation	Deviation of predicted value from the original value.

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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


```
{
   "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,
```


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```
        "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,
```


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```
        "groupId": "X3B4QBB1_25097",
        "deviation": -1580.0
    },
    {
        "forecastValue": 2641.0,
        "actualValue": 1424.0,
        "timestamp": "06-03-2019",
        "modelNumber": 1,
        "groupId": "X3B4QBB1_25097",
        "deviation": -1217.0
    }
  ]
}
```


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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


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


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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

Response formats	JSON
Requires authentication?	YES
Method Supported	GET

15.4 Parameters

Sr. no	Field	Description	Default Value
1	apiKey (Mandatory)	Your API key.	None. Value must be provided
2	jobId (Mandatory)	Id of the job generated by the system during submission.	None. Value must be provided.

15.5 Response Field

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

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

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
```


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```
    },
    {
      "errorType": "Mean Percentage Error",
      "value": -0.0053
    },
    {
      "errorType": "Mean Absolute Percentage Error",
      "value": 0.5072
    },
    {
      "errorType": "Mean Absolute Scaled Error",
      "value": 0.7466
    }
  ],
  "forecastMetrics": [
    {
      "errorType": "Mean Error",
      "value": 1.0E-4
    },
    {
      "errorType": "Root Mean Squared Error",
      "value": 0.0092
    },
    {
      "errorType": "Mean Absolute Error",
```


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```
            "value": 0.007
        },
        {
            "errorType": "Mean Percentage Error",
            "value": 0.0081
        },
        {
            "errorType": "Mean Absolute Percentage Error",
            "value": 0.6955
        },
        {
            "errorType": "Mean Absolute Scaled Error",
            "value": 0.9953
        }
    ]
  }
}
```


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": [
```


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```
{
  "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",
```


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```
            "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
        },
        {
```


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```
            "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
        },
        {
```


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```
            "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
        },
```


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```
        {
          "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
}
```


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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

Sr. no	Field	Description	Default Value
1	apiKey (Mandatory)	Your API key.	None. Value must be provided
2	jobId (Mandatory)	Id of the job generated by the system during submission.	None. Value must be provided.

16.5 Response Field

Sr. no	Field	Description
1	statusCode	Status code of the api call
2	message	message associated with status code
3	data	Json Array containing variables used for prediction, with each containing the following fields:
3.1	variableName	Name of the variable
3.2	impact	Impact of variable on the result. Available values are (High, Medium, Low). (Optional: this field is valid only for job having groups)
3.3.	occurrence	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)

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16.6 Example Request 1

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

16.7 Successful Result


```
{
   "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


```
{
   "statusCode": 401,
   "message": "API Key not valid or API Key Expired",
```


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```
    "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

Response formats	JSON
Requires authentication?	YES
Method Supported	GET

17.4 Parameters

Sr. no	Field	Description	Default Value
1	apiKey (Mandatory)	Your API key.	None. Value must be provided
2	jobId (Mandatory)	Id of the job generated by the system during submission.	None. Value must be provided.

17.5 Response Field (Error)

Sr. no	Field	Description
1	statusCode	Status code of the api call
2	message	Message of the API call

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

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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


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


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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

Sr. no	Field	Description	Default Value
1	apiKey (Mandatory)	Your API key.	None. Value must be provided
2	jobId (Mandatory)	Id of the job generated by the system during submission.	None. Value must be provided.

18.5 Response Field (Error)

Sr. no	Field	Description
1	statusCode	Status code of the api call
2	message	Message of the API call

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,
```

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```
   "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

}
```


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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

Sr. no	Field	Description	Default Value
1	apiKey (Mandatory)	Your API key.	None. Value must be provided
2	jobId (Mandatory)	Id of the job generated by the system during submission.	None. Value must be provided.

19.5 Response Field (Error)

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

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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=vKtQEynlyMLGoZ7mwjDP&jobId=1368"

19.7 Successful Result


```
{
   "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"
```


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```
        ]

      }

   ]

}
```

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

Code	When It Occur
200	Request was successful.
202	Job in progress
400	Required parameters not provided, they have improper values, or the API is not applicable for the job type. Error message provides more details.
401	Invalid API Key is provided
404	The resource was not found.
500	Error occurred while processing request. Error message associated provides more details why it happened.

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Appendix 1: Prediction Job Lifecycle

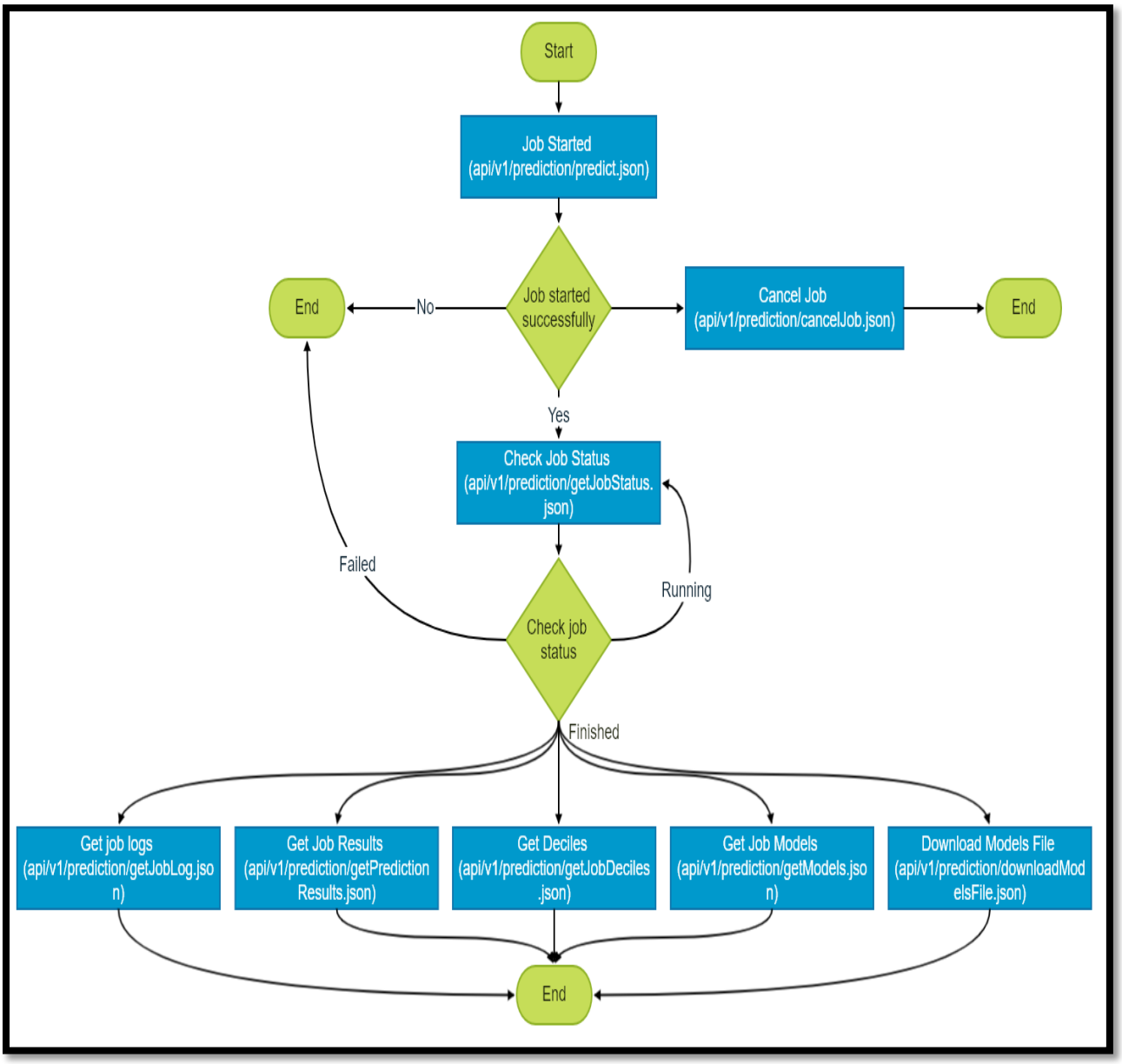

Figure 1 – Prediction Job Lifecycle

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.

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

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Appendix 2: Forecast Job Lifecycle

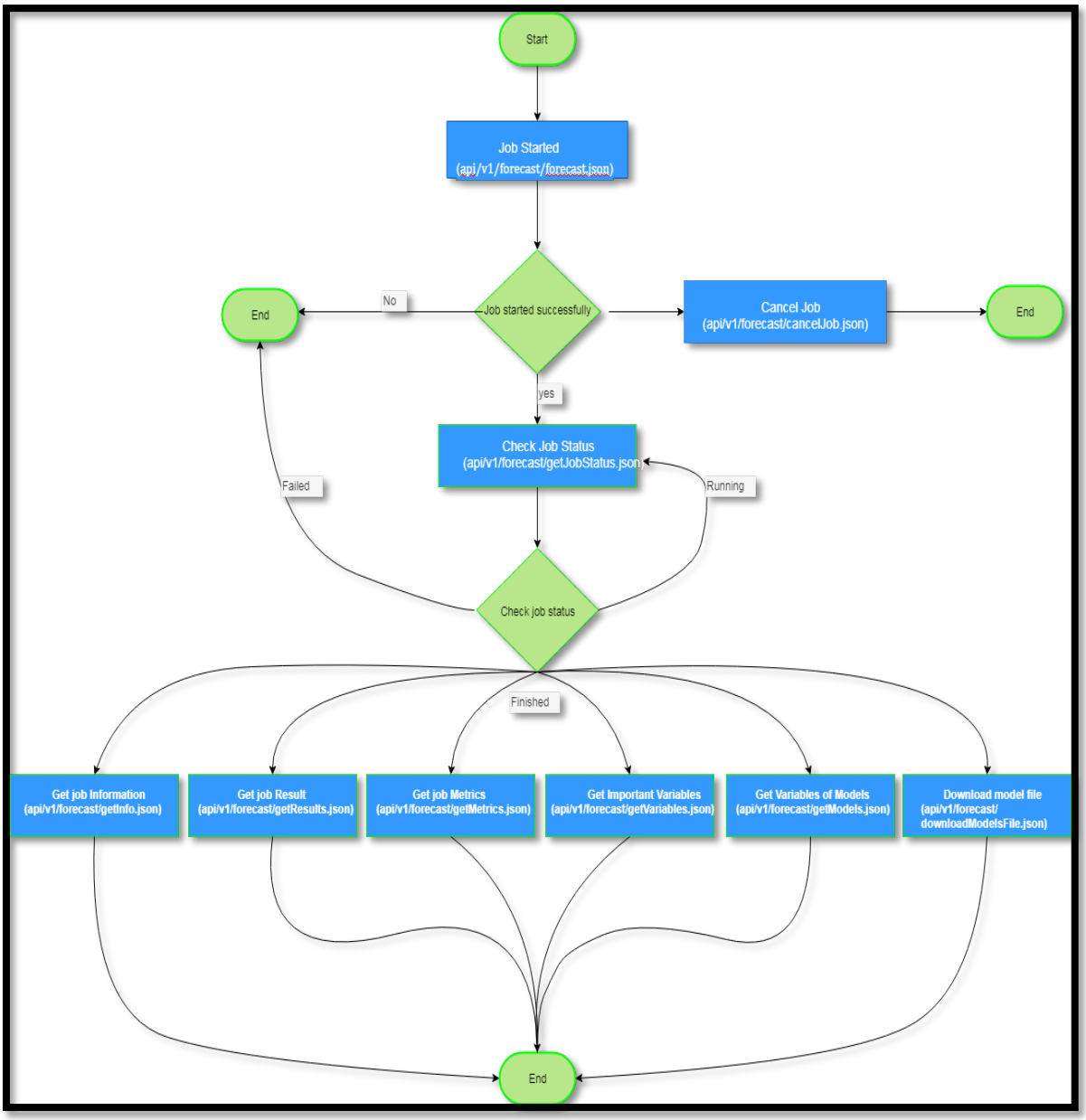

Figure 2 - Forecast Job Lifecycle

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.

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