

Prediction API Documentation

Introduction

The Prediction API allows users to perform predictions either synchronously or asynchronously. Users can submit data for prediction and retrieve results based on their request type.

Base URL

`http://localhost:8080`

Endpoints

1. POST /predict

Description: Submit data for prediction. Supports both synchronous and asynchronous processing based on the presence of the `Async-Mode` header.

Request

- **Method:** POST
- **URL:** `/predict`
- **Headers:**
 - `Content-Type: application/json`
 - `Async-Mode` (optional): If provided, the request is processed asynchronously.

Body (JSON):

```
{  
  "input": "string data to be predicted"  
}
```

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Responses

- **200 OK:**
 - **Description:** Returns the prediction results for synchronous requests.

Body (JSON):

json

Copy code

```
{  
  "result": "predicted value"  
}
```

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- **202 Accepted:**
 - **Description:** Returns a prediction ID for asynchronous processing.

Body (JSON):

```
{  
  "message": "Request received. Processing asynchronously.",  
  "prediction_id": "uuid4"  
}
```

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- **400 Bad Request:**
 - **Description:** Indicates that the request was malformed or missing required data.

Body (JSON):

```
{  
  "error": "No input data provided"  
}
```

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- **404 Not Found:**
 - **Description:** The content type of the request is not JSON.

Body (JSON):

```
{  
  "error": "Content Type is not JSON"  
}
```

- **405 Method Not Allowed:**
 - **Description:** The input data is not a string.

Body (JSON):

```
{  
  "error": "Input data should be string"  
}
```

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Example Request

Synchronous Prediction Request:

http

```
POST /predict HTTP/1.1  
Host: localhost:8080  
Content-Type: application/json
```

```
{  
  "input": "example data"  
}
```

Asynchronous Prediction Request:

```
POST /predict HTTP/1.1  
Host: localhost:8080  
Content-Type: application/json  
Async-Mode: true
```

```
{  
  "input": "example data"  
}
```

Example Response

Asynchronous Prediction Response:

```
{
  "message": "Request received. Processing asynchronously.",
  "prediction_id": "123e4567-e89b-12d3-a456-426614174000"
}
```

Synchronous Prediction Response:

```
{
  "result": "predicted value"
}
```

2. GET /predict/{prediction_id}

Description: Retrieve the result of an asynchronous prediction using the provided prediction ID.

Request

- **Method:** GET
- **URL:** /predict/{prediction_id}
- **Path Parameter:**
 - **prediction_id:** The ID of the asynchronous prediction request.

Responses

- **200 OK:**
 - **Description:** Returns the prediction result if it is ready.

Body (JSON):

```
{
  "prediction_id": "uuid4",
  "output": "predicted value"
}
```

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- **400 Bad Request:**
 - **Description:** The result for the given prediction ID is still being processed.

Body (JSON):

```
{
  "error": "Prediction is still being processed."
}
```

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- **404 Not Found:**
 - **Description:** The provided prediction ID does not exist.

Body (JSON):

```
{
  "error": "Prediction ID not found"
}
```

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Example Request

```
GET /predict/123e4567-e89b-12d3-a456-426614174000 HTTP/1.1
Host: localhost:8080
```

Example Response

Successful Response:

json

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```
{
  "prediction_id": "123e4567-e89b-12d3-a456-426614174000",
  "output": "predicted value"
}
```

Processing Response:

json

Copy code

```
{
  "error": "Prediction is still being processed."
}
```

Not Found Response:

json

Copy code

```
{  
  "error": "Prediction ID not found"  
}
```

Authentication and Security

- **Authentication:** This API does not require authentication.
- **Security:** Ensure proper handling of input data and configuration to prevent unauthorized access.

Error Codes

- **400 Bad Request:** Malformed request or missing required fields.
- **404 Not Found:** Resource or prediction ID does not exist.
- **405 Method Not Allowed:** Invalid data type or method not allowed.