**Feature Management Platform API Specification**

**Overview**

This specification outlines the API for a prototype feature management platform. The API provides functionality to create, read, update, delete, and toggle feature flags, as well as managing environments and users.

**Authentication**

Authentication is implemented using a simple API key mechanism.

**Headers:**

Authorization: ApiKey YOUR\_API\_KEY

**Base URL**

https://api.featureflag.example/v1

**Endpoints**

**Feature Flags**

**List Feature Flags**

GET /flags

**Query Parameters:**

* project\_id (optional): Filter flags by project
* environment\_id (optional): Filter flags by environment
* limit (optional): Number of items to return (default: 20)
* offset (optional): Pagination offset (default: 0)

**Response:**

{

"flags": [

{

"id": "flag-123",

"key": "new-checkout-flow",

"name": "New Checkout Flow",

"description": "Enables the new checkout experience",

"created\_at": "2025-04-01T12:00:00Z",

"updated\_at": "2025-04-05T15:30:00Z",

"state": {

"dev": true,

"staging": true,

"production": false

},

"tags": ["checkout", "beta"]

}

],

"total": 43,

"limit": 20,

"offset": 0

}

**Get a Feature Flag**

GET /flags/{flag\_id}

**Response:**

{

"id": "flag-123",

"key": "new-checkout-flow",

"name": "New Checkout Flow",

"description": "Enables the new checkout experience",

"created\_at": "2025-04-01T12:00:00Z",

"updated\_at": "2025-04-05T15:30:00Z",

"state": {

"dev": true,

"staging": true,

"production": false

},

"tags": ["checkout", "beta"],

"rules": [

{

"id": "rule-456",

"type": "user",

"attribute": "email",

"operator": "ends\_with",

"values": ["@company.com"],

"environment": "staging"

}

]

}

**Create a Feature Flag**

POST /flags

**Request Body:**

{

"key": "new-checkout-flow",

"name": "New Checkout Flow",

"description": "Enables the new checkout experience",

"state": {

"dev": true,

"staging": false,

"production": false

},

"tags": ["checkout", "beta"]

}

**Response:**

{

"id": "flag-123",

"key": "new-checkout-flow",

"name": "New Checkout Flow",

"description": "Enables the new checkout experience",

"created\_at": "2025-04-07T12:00:00Z",

"updated\_at": "2025-04-07T12:00:00Z",

"state": {

"dev": true,

"staging": false,

"production": false

},

"tags": ["checkout", "beta"]

}

**Update a Feature Flag**

PUT /flags/{flag\_id}

**Request Body:**

{

"name": "Updated Checkout Flow",

"description": "Enables the redesigned checkout experience",

"tags": ["checkout", "beta", "redesign"]

}

**Response:**

{

"id": "flag-123",

"key": "new-checkout-flow",

"name": "Updated Checkout Flow",

"description": "Enables the redesigned checkout experience",

"created\_at": "2025-04-01T12:00:00Z",

"updated\_at": "2025-04-07T14:30:00Z",

"state": {

"dev": true,

"staging": true,

"production": false

},

"tags": ["checkout", "beta", "redesign"]

}

**Toggle a Feature Flag State**

PATCH /flags/{flag\_id}/state

**Request Body:**

{

"environment": "staging",

"enabled": true

}

**Response:**

{

"id": "flag-123",

"key": "new-checkout-flow",

"state": {

"dev": true,

"staging": true,

"production": false

},

"updated\_at": "2025-04-07T15:45:00Z"

}

**Delete a Feature Flag**

DELETE /flags/{flag\_id}

**Response:**

204 No Content

**Targeting Rules**

**Add a Targeting Rule**

POST /flags/{flag\_id}/rules

**Request Body:**

{

"type": "user",

"attribute": "email",

"operator": "ends\_with",

"values": ["@company.com"],

"environment": "staging"

}

**Response:**

{

"id": "rule-456",

"type": "user",

"attribute": "email",

"operator": "ends\_with",

"values": ["@company.com"],

"environment": "staging",

"created\_at": "2025-04-07T16:00:00Z"

}

**Delete a Targeting Rule**

DELETE /flags/{flag\_id}/rules/{rule\_id}

**Response:**

204 No Content

**Environments**

**List Environments**

GET /environments

**Response:**

{

"environments": [

{

"id": "env-123",

"key": "dev",

"name": "Development",

"description": "Development environment",

"created\_at": "2025-03-01T12:00:00Z"

},

{

"id": "env-456",

"key": "staging",

"name": "Staging",

"description": "Staging/QA environment",

"created\_at": "2025-03-01T12:00:00Z"

},

{

"id": "env-789",

"key": "production",

"name": "Production",

"description": "Production environment",

"created\_at": "2025-03-01T12:00:00Z"

}

]

}

**Create Environment**

POST /environments

**Request Body:**

{

"key": "beta",

"name": "Beta",

"description": "Beta test environment"

}

**Response:**

{

"id": "env-101",

"key": "beta",

"name": "Beta",

"description": "Beta test environment",

"created\_at": "2025-04-07T17:00:00Z"

}

**Delete Environment**

DELETE /environments/{environment\_id}

**Response:**

204 No Content

**SDK Configuration**

**Get Client SDK Configuration**

GET /sdk/config?environment={environment\_key}

**Response:**

{

"environment": "production",

"flags": {

"new-checkout-flow": false,

"dark-mode": true,

"recommendation-engine": true

},

"updated\_at": "2025-04-07T18:00:00Z"

}

**Evaluate Flags for User**

POST /sdk/evaluate

**Request Body:**

{

"environment": "production",

"user": {

"id": "user-123",

"email": "john@company.com",

"groups": ["beta-testers"],

"country": "US"

}

}

**Response:**

{

"environment": "production",

"flags": {

"new-checkout-flow": true,

"dark-mode": true,

"recommendation-engine": true

},

"evaluated\_at": "2025-04-07T18:05:00Z"

}

**Analytics**

**Record Flag Exposure**

POST /analytics/exposure

**Request Body:**

{

"flag\_key": "new-checkout-flow",

"environment": "production",

"user\_id": "user-123",

"timestamp": "2025-04-07T18:10:00Z",

"client\_id": "web-app"

}

**Response:**

204 No Content

**Get Flag Usage Stats**

GET /analytics/flags/{flag\_id}/stats?environment={environment\_key}&period=7d

**Response:**

{

"flag\_id": "flag-123",

"flag\_key": "new-checkout-flow",

"environment": "production",

"period": "7d",

"exposures": {

"total": 15420,

"breakdown": {

"2025-04-01": 2105,

"2025-04-02": 2211,

"2025-04-03": 2098,

"2025-04-04": 2245,

"2025-04-05": 2301,

"2025-04-06": 2198,

"2025-04-07": 2262

}

}

}

**Error Responses**

All endpoints return appropriate HTTP status codes:

* 200 OK: The request was successful
* 201 Created: The resource was created successfully
* 204 No Content: The request was successful, with no response body
* 400 Bad Request: The request was invalid
* 401 Unauthorized: API key is missing or invalid
* 403 Forbidden: The API key doesn't have permission for the requested operation
* 404 Not Found: The requested resource was not found
* 409 Conflict: The request conflicts with current state (e.g., duplicate key)
* 429 Too Many Requests: Rate limit exceeded
* 500 Internal Server Error: An error occurred on the server

Error response body:

{

"error": {

"code": "invalid\_request",

"message": "Flag key must be unique",

"details": {

"field": "key",

"constraint": "unique"

}

}

}

**Rate Limiting**

API requests are limited to 100 requests per minute per API key. Rate limit information is included in the response headers:

X-RateLimit-Limit: 100

X-RateLimit-Remaining: 95

X-RateLimit-Reset: 1617807600