CloudForge API Reference

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Overview

The CloudForge API provides programmatic access to manage cloud infrastructure. This document covers authentication, endpoints, and common operations.

Base URL: `https://api.cloudforge.novatech.com/v2`

API Version: v2 (v1 deprecated, sunset June 2024)

Authentication

API Keys

Generate API keys in the CloudForge dashboard under Settings > API Keys.

```
curl -H "Authorization: Bearer cf_live_xxxxxxxxxxxx" \
  https://api.cloudforge.novatech.com/v2/projects
```

Key Types

Type	Prefix	Use Case
Live	`cf_live_`	Production operations
Test	`cf_test_`	Development/testing
Read-only	`cf_read_`	Monitoring, dashboards

OAuth 2.0

For user-context operations, use OAuth 2.0 authorization code flow:

```
Authorization URL: https://auth.cloudforge.novatech.com/oauth/authorize
Token URL: https://auth.cloudforge.novatech.com/oauth/token
```

Rate Limits

Plan	Requests/min	Burst
Starter	100	150
Professional	1,000	1,500
Enterprise	10,000	15,000

Rate limit headers: - `X-RateLimit-Limit`: Request limit - `X-RateLimit-Remaining`: Remaining requests - `X-RateLimit-Reset`: Reset timestamp (Unix)

Common Headers

Request Headers

```
Authorization: Bearer <api_key>
Content-Type: application/json
X-Request-ID: <unique-request-id>  (optional, for tracing)
```

Response Headers

```
X-Request-ID: <request-id>
X-CloudForge-Version: 2.15.3
```

Projects

List Projects

```
GET /projects
```

Parameters: | Name | Type | Description | |——|——|————-| | page | integer | Page number (default: 1) | | per_page | integer | Items per page (default: 20, max: 100) | | status | string | Filter by status: active, archived |

Response:

```json
{
  "data": [
    {
      "id": "proj_abc123",
      "name": "production-infrastructure",
      "organization_id": "org_xyz789",
      "status": "active",
      "created_at": "2024-01-15T10:30:00Z",
      "resource_count": 47,
      "monthly_cost": 12500.00
    }
  ],
  "meta": {
    "page": 1,
    "per_page": 20,
    "total": 5
  }
}
```

Create Project

`POST /projects`

Body:

```json
{
  "name": "staging-infrastructure",
  "description": "Staging environment resources",
  "cloud_provider": "aws",
  "region": "us-west-2",
  "tags": {
    "environment": "staging",
    "team": "platform"
  }
}
```

Response: `201 Created`

```json
{
  "data": {
    "id": "proj_def456",
    "name": "staging-infrastructure",
```

```
    "status": "active",
    "created_at": "2024-02-20T14:22:00Z"
  }
}
```

Get Project

`GET /projects/{project_id}`

Update Project

`PATCH /projects/{project_id}`

Delete Project

`DELETE /projects/{project_id}`

Note: Projects must have all resources removed before deletion.

Resources

List Resources

`GET /projects/{project_id}/resources`

Parameters: | Name | Type | Description | |——|——|————-| | type | string | Filter by resource type | | status | string | Filter: running, stopped, pending, error | | tag | string | Filter by tag (key:value) |

Response:

```json
{
  "data": [
    {
      "id": "res_123abc",
      "type": "compute_instance",
      "name": "web-server-1",
      "status": "running",
      "provider": "aws",
      "region": "us-west-2",
      "configuration": {
        "instance_type": "t3.medium",
        "ami": "ami-0abc123",
        "vpc_id": "vpc-456def"
      },
      "monthly_cost": 30.37,
      "created_at": "2024-01-20T09:15:00Z"
    }
  ]
}
```

Create Resource

`POST /projects/{project_id}/resources`

Body:

```json
{
  "type": "compute_instance",
  "name": "web-server-2",
  "configuration": {
    "instance_type": "t3.medium",
    "ami": "ami-0abc123",
    "vpc_id": "vpc-456def",
    "subnet_id": "subnet-789ghi",
    "security_groups": ["sg-web-public"],
    "key_pair": "production-key"
  },
  "tags": {
    "application": "web",
    "tier": "frontend"
  }
}
```

Response: `202 Accepted`

```
{
  "data": {
    "id": "res_456def",
    "status": "provisioning",
    "operation_id": "op_789ghi"
  }
}
```

Get Resource

`GET /projects/{project_id}/resources/{resource_id}`

Update Resource

`PATCH /projects/{project_id}/resources/{resource_id}`

Note: Some updates require resource restart.

Delete Resource

`DELETE /projects/{project_id}/resources/{resource_id}`

Resource Types

Compute

Type	Description	Providers
compute_instance	Virtual machine	AWS, GCP, Azure
container_cluster	Kubernetes cluster	AWS (EKS), GCP (GKE), Azure (AKS)

Type	Description	Providers
function	Serverless function	AWS (Lambda), GCP (Cloud Functions)

Network

Type	Description	Providers
vpc	Virtual network	AWS, GCP, Azure
subnet	Network subnet	AWS, GCP, Azure
load_balancer	Load balancer	AWS (ALB/NLB), GCP, Azure
firewall	Security group/firewall	AWS, GCP, Azure

Storage

Type	Description	Providers
block_storage	Block volumes	AWS (EBS), GCP, Azure
object_storage	Object storage bucket	AWS (S3), GCP (GCS), Azure (Blob)
file_storage	Managed file system	AWS (EFS), GCP (Filestore)

Database

Type	Description	Providers
rds_instance	Managed relational DB	AWS, GCP, Azure
nosql_database	NoSQL database	AWS (DynamoDB), GCP (Firestore)
cache_cluster	In-memory cache	AWS (ElastiCache), GCP (Memorystore)

Operations

Get Operation Status

```
GET /operations/{operation_id}
```

Response:

```json
{
  "data": {
    "id": "op_789ghi",
    "type": "create_resource",
    "status": "in_progress",
    "progress": 65,
    "resource_id": "res_456def",
    "started_at": "2024-02-20T14:25:00Z",
    "estimated_completion": "2024-02-20T14:30:00Z",
    "logs": [
      {"timestamp": "2024-02-20T14:25:01Z", "message": "Initializing resource creation"},
      {"timestamp": "2024-02-20T14:25:15Z", "message": "Configuring network interfaces"}
    ]
  }
}
```

Operation Statuses

Status	Description
pending	Queued for execution
in_progress	Currently executing
completed	Successfully finished
failed	Execution failed
cancelled	Cancelled by user

Webhooks

Create Webhook

`POST /webhooks`

Body:

```json
{
  "url": "https://your-server.com/webhook",
  "events": ["resource.created", "resource.deleted", "resource.status_changed"],
  "secret": "your-webhook-secret"
}
```

Webhook Events

- `resource.created`
- `resource.updated`
- `resource.deleted`
- `resource.status_changed`
- `operation.completed`
- `operation.failed`
- `cost.threshold_exceeded`

Errors

Error Response Format

```
{
  "error": {
    "code": "resource_not_found",
    "message": "The requested resource does not exist",
    "request_id": "req_abc123"
  }
}
```

Error Codes

Code	HTTP Status	Description
authentication_failed	401	Invalid API key
forbidden	403	Insufficient permissions
resource_not_found	404	Resource doesn't exist
validation_error	400	Invalid request parameters
rate_limited	429	Too many requests
internal_error	500	Server error

SDKs

Official SDKs available: - Python SDK - Node.js SDK - Go SDK - Ruby SDK

Related Documents: Getting Started Guide (PRD-CF-001), Architecture Overview (PRD-CF-002), CLI Reference (PRD-CF-011)