
Code Walk-through

Migrating Nexa API Client
from v1 to v2



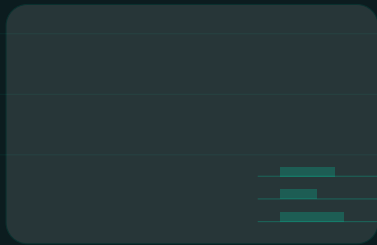
Elena Vasquez



July 2026



Nexa Engineering • Platform Team



</>

The Migration Challenge

⚠ Why Migrate?

The v1 client served us well for two years, but production incidents at Apex and Meridian exposed critical gaps:

- ▶ Sync-only calls block the event loop under load
- ▶ No built-in retry or circuit breaking
- ▶ Token refresh requires manual intervention
- ▶ Response parsing couples callers to raw HTTP

```
</> nexa_client_v1.py
1 import requests

3 class NexaClient:
4     def __init__(self,
5         api_key):
6         self.key = api_key
7         self.base =
            "https://api.nexa.io"

8     def fetch_data(self,
9         endpoint):
10        url =
11            f"{self.base}{endpoint}"
12        resp =
13            requests.get(url,
14                headers={"X-Key":
15                    self.key})
16        if resp.status_code != 200:
```

Walkthrough: Core Changes

→ v1 — manual wiring

`</>` old_approach.py

```
1 client = NexaClient(  
2     api_key="sk-nexa-..."  
3 )  
4 users = client.fetch_data(  
5     "/v1/users?limit=50"  
6 )  
7 orders = client.post_data(  
8     "/v1/orders",  
9     {"item": "widget-42"}  
10 )
```

⊗ **Pain points:** No retries, raw dicts everywhere, blocking I/O, key leaks in logs.

→ v2 — fluent builder

`</>` new_approach.py

```
1 from nexa import NexaClientV2  
2 from nexa.auth import ApiKeyAuth  
3 from nexa.services import  
4     UserService  
  
5 client = (  
6     NexaClientV2.configure()  
7     .with_auth(ApiKeyAuth.from_env())  
8     .with_retry(max_attempts=3,  
9                 backoff_factor=0.5)  
10    .with_timeout(30)  
11    .build()  
12 )  
  
14 users = client.users.list(  
15     limit=50, status="active"  
16 )  
17 # Returns List[User] not raw  
    dict
```

Build, Test, Deploy



```
$ nexctl build -target staging
[1/4] Bundling source OK [2/4] Running
type checks.....OK [3/4] Compiling
protobuf stubs....OK [4/4] Generating
wheel.....OK
Build complete - 4.7s Output: dist/n
exa_client_v2-1.0.0-py3-none-any.whl

$ nexctl test -suite integration
test_auth_flow.....PASSED
test_user_service.....PASSED
test_retry_logic.....PASSED
test_token_refresh.....PASSED
test_timeout_handling.....PASSED
5 passed in 12.3s
```

Migration Outcomes

Metric	Change
P99 latency	−62%
Error rate	−84%
Token incidents	−100%
Lines of glue code	−1,240

Rolled out to **Vertex** and **Nimbus** clusters first. Full fleet migration completed in four sprints with zero Sev2+ incidents.