

# Binoculars API User Guide

This guide covers how to run the local Binoculars API, use the GUI demo harness, and send example requests.

## 1) What You Get

The API mode ( `--api` ) exposes local HTTP endpoints for Binoculars scoring:

- `GET /` , `GET /health` , `GET /healthz`
- `POST /score`

`POST /score` returns the same core scoring object used by CLI JSON output ( `input` , `observer` , `performer` , `cross` , `binoculars` , `cache` ).

## 2) Fastest Start (Harness + API Together)

Use the launcher script:

```
./run_api_demo_harness.sh
```

What it does:

1. Checks whether API is already healthy on the configured port.
2. Starts `binoculars.sh --config fast --api <port>` if needed.
3. Waits for API health.
4. Opens the GUI harness ( `api_demo_harness.py` ).

Port configuration:

- The port is controlled by the top-level constant `API_PORT` in `run_api_demo_harness.sh`.

Notes:

- If the script started the API process, it will stop it when the harness exits.
- If an API server is already running on the same port, the script reuses it.

## 3) Start API Manually

Default port:

```
./binoculars.sh --config fast --api
```

Custom port:

```
./binoculars.sh --config fast --api 8787
```

Health check:

```
curl -sS http://127.0.0.1:8765/health
```

Expected shape:

```
{
  "ok": true,
  "service": "binoculars",
  "route": "/health",
  "ts_utc": "2026-02-22T21:06:47Z"
}
```

## 4) Launch Harness Manually

If API is already running:

```
venv/bin/python api_demo_harness.py
```

Optional: override API URL for this session:

```
BINOCULARS_API_BASE_URL=http://127.0.0.1:8787 venv/bin/python  
api_demo_harness.py
```

Harness controls:

- Base URL : API endpoint root (for example `http://127.0.0.1:8765` )
- Timeout (s) : request timeout
- Health Check : calls `GET /health`
- Score Segment : calls `POST /score`
- `input_label` , `diagnose_paragraphs` , `diagnose_top_k` , `need_paragraph_profile` : optional request flags
- Response panes:

- summary metrics
- raw JSON response

## 5) API Request Examples

Minimal score request:

```
curl -sS \  
-H 'Content-Type: application/json' \  
-d '{"text": "This is a short test segment for binocular scoring."}' \  
http://127.0.0.1:8765/score
```

Request with optional flags:

```
curl -sS \  
-H 'Content-Type: application/json' \  
-d '{  
  "text": "A longer text segment you want to evaluate...",  
  "input_label": "draft-1",  
  "diagnose_paragraphs": true,  
  "diagnose_top_k": 12,  
  "need_paragraph_profile": true  
}' \  
http://127.0.0.1:8765/score
```

The response includes:

- `ok` (boolean)
- `result` (standard Binoculars scoring object)
- `paragraph_profile` (present when `need_paragraph_profile=true`)

## 6) API Request Contract

POST `/score` body:

- Required:
  - `text` (string, non-empty)
- Optional:
  - `input_label` (string)
  - `diagnose_paragraphs` (boolean, default `false`)
  - `diagnose_top_k` (integer, default `10`, min `1`)
  - `need_paragraph_profile` (boolean, default `false`)

Error behavior:

- Invalid JSON or missing required fields returns an error JSON payload:
  - `{ "ok": false, "error": "<message>" }`

## 7) Common Issues

Connection refused:

- API is not running, wrong port, or wrong base URL.
- Verify with:

```
curl -sS http://127.0.0.1:8765/health
```

Long first response time:

- First score request may include model load time.
- Subsequent requests are typically faster while process is warm.

`text` validation error:

- Ensure request JSON includes non-empty string field `text`.

Port conflict:

- Change API port via:
  - `./binoculars.sh --config fast --api <port>` for manual mode, or
  - `API_PORT` constant in `run_api_demo_harness.sh` for launcher mode.