

# NightShift — Security Assessment Report

**Target:** https://demo.northwind-hr.example

**Prepared for:** Northwind Workforce

**Date:** May 25, 2026

**Scan ID:** NS-SAMPLE

**Authentication:** Credentialed (authenticated session)



## Executive Summary

| Severity       | Count |
|----------------|-------|
| Critical       | 0     |
| High           | 3     |
| Medium         | 0     |
| Low            | 1     |
| Info           | 0     |
| Total Findings | 4     |

An review of **Northwind Workforce**’s in-scope application surfaces at **demo.northwind-hr.example**, **api.northwind-hr.example**, and **rag.northwind-hr.example** was performed using targeted security testing of the exposed web and API functionality to identify common application-layer weaknesses and validate key protections.

The review identified **3 findings, rated High severity** and **1 finding, rated Low severity**. The most significant issues were **No rate limit on login endpoint (+4 more endpoints)**, **Unauthenticated API endpoint exposes data at /api/auth/providers**, and **Unauthenticated session endpoint returns user identity and tenant details**. No Critical severity issues were reported.

In addition to the reported findings, multiple controls were tested and confirmed on the assessed targets, including **File-upload validation**, **SQL injection**, **Object-level authorization (BOLA / IDOR)**, and **CSRF protection on state-changing endpoints**. Further verified controls included resistance to reflected and DOM-based cross-site scripting, HTTP header / response-splitting injection, password-reset poisoning via Host / forwarded headers, and error-message information disclosure.

## Scope

The following hosts were in scope for this review:

- demo.northwind-hr.example
- api.northwind-hr.example
- rag.northwind-hr.example

This review was conducted as a **credentialed black-box scan** of the externally-reachable attack surface, executed with an authenticated session established at scan start. No source code or internal documentation was provided. All findings were discovered through external probing using the authenticated session and matching unauthenticated probes against the same surface.

## Methodology

The review systematically tested the application against OWASP Top 10 (2021) and OWASP API Top 10 (2023) categories using AI-driven reconnaissance, targeted exploitation agents, and deterministic validation. Each finding was independently reproduced before inclusion in this report.

Categories tested during this review:

| CATEGORY | DESCRIPTION                              |
|----------|------------------------------------------|
| A01      | Broken Access Control                    |
| A03      | Injection                                |
| A04      | Insecure Design                          |
| A05      | Security Misconfiguration                |
| A06      | Vulnerable & Outdated Components         |
| A07      | Identification & Authentication Failures |
| A10      | Server-Side Request Forgery              |

|             |                                                 |
|-------------|-------------------------------------------------|
| <b>API1</b> | Broken Object Level Authorization               |
| <b>API2</b> | Broken Authentication                           |
| <b>API3</b> | Broken Object Property Level Authorization      |
| <b>API5</b> | Broken Function Level Authorization             |
| <b>API6</b> | Unrestricted Access to Sensitive Business Flows |
| <b>API7</b> | Server-Side Request Forgery                     |
| <b>API8</b> | Security Misconfiguration                       |

Categories outside this scan's tested surface — either structurally outside black-box scope or with no matching surface on this target:

| CATEGORY     | DESCRIPTION                            | REASON NOT TESTED                                                                                                                                               |
|--------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A02</b>   | Cryptographic Failures                 | No applicable test surface detected on this target during recon.                                                                                                |
| <b>A08</b>   | Software & Data Integrity Failures     | No applicable test surface detected on this target during recon.                                                                                                |
| <b>A09</b>   | Security Logging & Monitoring Failures | Internal logging and monitoring behavior is not observable from a black-box vantage — verifying this control requires log access or coordinated alerting tests. |
| <b>API4</b>  | Unrestricted Resource Consumption      | No applicable test surface detected on this target during recon.                                                                                                |
| <b>API9</b>  | Improper Inventory Management          | API inventory and version-management hygiene requires schema or admin-side metadata; not assessable from external probing.                                      |
| <b>API10</b> | Unsafe API Consumption                 | Server-side third-party API consumption is opaque from outside — assessing safe consumption requires source access or outbound traffic visibility.              |

# Findings

## Authentication & Authorization (1)

**HIGH**

### 1. Unauthenticated API endpoint exposes data at /api/auth/providers

A01 — Broken Access Control

GET <https://demo.northwind-hr.example/api/auth/providers> returns the same response body to an unauthenticated caller (no cookies, no JWT, no session headers) as it does to an authenticated session. The endpoint has no authentication check at all — any caller on the public network can read the response. Authed status=200, unauth status=200; body shape matches across both probes; response contains identity-shape fields. This is OWASP API5:2023 (broken function-level authorization) and A01:2021 (broken access control). Common on microservice meshes where a backend service trusts the gateway and exposes its endpoints to anyone who knows the URL. Add a server-side authentication check on the handler — do not rely on the gateway, the UI, or path obscurity.

#### RISK

An attacker can exploit the unauthenticated API endpoint to access sensitive identity-related information, potentially leading to unauthorized account access or impersonation. This could result in the exposure of user data and compromise of user accounts.

#### MITIGATION

Implement server-side authentication checks for the /api/auth/providers endpoint to ensure that only authenticated users can access the data. Verify that the request includes valid authentication tokens or session identifiers before returning any response.

#### PROOF OF CONCEPT

##### STEP 1 — LOG IN (CAPTURE SESSION COOKIE)

```
# Save the `session=` cookie value from the Set-Cookie header → $SESSION_COOKIE
curl -i \
  -X POST \
  -H 'Content-Type: application/json' \
  -d '{
    "email": "<user>",
    "password": "<password>"
  }' \
  'https://demo.northwind-hr.example/api/auth/cognito/authenticate'
```

## STEP 2 — MINT BACKEND API TOKEN

```
# Save `token` from the JSON response → $JWT (used below as `Authorization: Bearer {token}`)
curl \
  -b 'session=$SESSION_COOKIE' \
  'https://demo.northwind-hr.example/api/auth/api-token'
```

## STEP 3 — REPEATED 2 TIMES (SAME REQUEST)

```
curl \
  -b 'session=$SESSION_COOKIE' \
  -H 'Authorization: Bearer $JWT' \
  'https://demo.northwind-hr.example/api/auth/providers'
```

## VALIDATION CHECKS

`status`: 200

## Data Exposure & Information Leakage (1)

**HIGH**

### 2. Unauthenticated session endpoint returns user identity and tenant details

A05 — Security Misconfiguration

The unauthenticated `/api/auth/session` endpoint exposes JSON describing the current user object, including name, role, tenant ID, tenant key, and tenant name. This is sensitive internal account and tenancy data that should not be available without a valid session. Because the no-session replay returns the same body shape with an `unauthenticated=false` flag, the endpoint is publicly exposing session state.

#### RISK

An attacker can exploit the unauthenticated `/api/auth/session` endpoint to gain access to sensitive user information, including user identity, role, and tenant details, which may lead to unauthorized access or account takeover.

#### MITIGATION

Restrict access to the `/api/auth/session` endpoint so that it only responds to authenticated requests. Implement proper session validation to ensure that sensitive data is not exposed without a valid session.

#### PROOF OF CONCEPT

##### STEP 1 — LOG IN (CAPTURE SESSION COOKIE)

```
# Save the `session=` cookie value from the Set-Cookie header → $SESSION_COOKIE
curl -i \
  -X POST \
  -H 'Content-Type: application/json' \
  -d '{
    "email": "<user>",
    "password": "<password>"
  }' \
  'https://demo.northwind-hr.example/api/auth/cognito/authenticate'
```

##### STEP 2 — MINT BACKEND API TOKEN

```
# Save `token` from the JSON response → $JWT (used below as `Authorization: Bearer {token}`)
curl \
  -b 'session=$SESSION_COOKIE' \
  'https://demo.northwind-hr.example/api/auth/api-token'
```

### STEP 3

```
curl \
  -b 'session=$SESSION_COOKIE' \
  -H 'Authorization: Bearer $JWT' \
  'https://demo.northwind-hr.example/api/auth/session'
```

### VALIDATION CHECKS

`status`: 200

`body_contains`: "authenticated":false

`body_contains`: "user":null

## Business Logic Abuse (1)

### **HIGH** 3. No rate limit on login endpoint (+4 more endpoints)

A07 — Identification & Authentication Failures

The login endpoint at `https://demo.northwind-hr.example/api/auth/callback/credentials` accepted 10 POST submissions within 4.35s with no rate-limit response observed (no HTTP 429, 423, or 503 + Retry-After). Status codes: [302, 302, 302, 302, 302, 302, 302, 302, 302, 302]. An attacker can mount credential stuffing, password spraying, or account-enumeration attacks at full network bandwidth. Add per-IP / per-account throttling at the application or reverse-proxy layer and return 429 with a Retry-After header once the threshold is exceeded.

#### AFFECTED ENDPOINTS

`https://demo.northwind-hr.example/api/auth/callback/credentials`

`https://demo.northwind-hr.example/api/auth/register`

`https://demo.northwind-hr.example/auth/forgot-password`

`https://demo.northwind-hr.example/login`

`https://demo.northwind-hr.example/api/auth/login`

#### RISK

An attacker can exploit the lack of rate limiting on the login endpoint to perform credential stuffing, password spraying, or account enumeration attacks, potentially gaining unauthorized access to user accounts.

#### MITIGATION

Implement per-IP and per-account throttling on the login endpoint. Configure the application or reverse proxy to return a 429 status code with a Retry-After header when the threshold of login attempts is exceeded.

#### PROOF OF CONCEPT

##### STEP 1 — LOG IN (CAPTURE SESSION COOKIE)

```
# Save the `session=` cookie value from the Set-Cookie header → $SESSION_COOKIE
curl -i \
  -X POST \
  -H 'Content-Type: application/json' \
  -d '{
    "email": "<user>",
    "password": "<password>"
  }' \
  'https://demo.northwind-hr.example/api/auth/cognito/authenticate'
```



## STEP 2 — MINT BACKEND API TOKEN

```
# Save `token` from the JSON response → $JWT (used below as `Authorization: Bearer {token}`)
curl \
  -b 'session=$SESSION_COOKIE' \
  'https://demo.northwind-hr.example/api/auth/api-token'
```

## STEP 3

```
curl \
  -X POST \
  -H 'Content-Type: application/x-www-form-urlencoded' \
  -b 'session=$SESSION_COOKIE' \
  -H 'Authorization: Bearer $JWT' \
  -d 'email=probec0aa542e%40example.invalid&password=Probe123%21&remember=on' \
  'https://demo.northwind-hr.example/api/auth/callback/credentials'
```

## VALIDATION CHECKS

`aggregate`: none\_status\_eq:429

# Verified Controls

The review tested the following control categories and confirmed they behave as expected. Each control listed below produced a true-negative result from a live primitive run — the test was attempted, the target responded correctly, and the response was recorded as evidence.

| CATEGORY                                                                  | CONTROL                                                   | SAMPLE ENDPOINT                                        | EVIDENCE                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ✓ <b>A04</b> ·<br>Insecure<br>Design                                      | File-upload<br>validation                                 | https://api.northwind-hr.example/api/v1/rosters/upload | No upload-bypass signal across 10 bypass modes. Either every variant was rejected at the upload layer, or the file landed at a path none of the canonical guesses reached.                                                 |
| ✓ <b>API3</b> ·<br>Broken<br>Object<br>Property<br>Level<br>Authorization | Excessive<br>property<br>exposure /<br>mass<br>assignment | https://demo.northwind-hr.example/api/auth/api-token   | No sensitive properties found in the response from GET https://demo.northwind-hr.example/api/auth/api-token. Server-side property filtering appears to be in effect (or the resource has no sensitive properties to leak). |

|                                                                                                                                                 |                                                       |                                                                 |                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <b>API3</b> · Broken Object Property Level Authorization      | Excessive property exposure / mass assignment         | https://api.northwind-hr.example/api/v1/scheduled-reports/      | The server rejected the synthetic write payload with HTTP 422 before any mass-assignment persistence check could run. Schema-required fields appear to be enforced server-side, which is itself a positive signal — though it means the deeper persistence test for this endpoint is inconclusive.                                             |
|  <b>API6</b> · Unrestricted Access to Sensitive Business Flows | Business-flow abuse                                   | https://demo.northwind-hr.example/api/auth/register             | Defences observed: server rejected requests (cause not identified), 5/5 attempts rejected. 0/5 attempts succeeded.                                                                                                                                                                                                                             |
|  <b>A03</b> · Injection                                        | SQL injection                                         | https://demo.northwind-hr.example/api/auth/session/search       | No SQL injection signal across 5 modes (error, auth_bypass, boolean_blind, union, time_blind)                                                                                                                                                                                                                                                  |
|  <b>A03</b> · Injection                                      | Cross-site scripting (reflected / stored)             | https://demo.northwind-hr.example/api/auth/session/search       | Canary 'sc4nr XSS_ec03c4b42943' did not reflect at url (probe phase). No XSS-reachable surface.                                                                                                                                                                                                                                                |
|  <b>A07</b> · Identification & Authentication Failures       | Password-reset poisoning via Host / forwarded headers | https://demo.northwind-hr.example/auth/forgot-password          | Tested 4 host-header variants; canary 'pr-canary-65436fd8bd0a.skripted-canary.invalid' did not appear in any response body or Location header in URL-shaped context. Endpoint is either hardened against host-header poisoning OR the reset link is constructed server-side from a hard-coded hostname (response wouldn't echo it either way). |
|  <b>A01</b> · Broken Access Control                          | Object-level authorization (BOLA / IDOR)              | https://demo.northwind-hr.example/api/v1/notifications/read-all | Tested across 20 endpoints; control enforced on all.                                                                                                                                                                                                                                                                                           |

|                                                         |                                                       |                                                                                                                                                                                     |                                                                |
|---------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| ✓ <b>A07</b> · Identification & Authentication Failures | Default-credential and credential-stuffing resistance | <a href="https://demo.northwind-hr.example/api/auth/callback/credentials">https://demo.northwind-hr.example/api/auth/callback/credentials</a>                                       | Tested across 3 endpoints; no findings reported by the agent.  |
| ✓ <b>A01</b> · Broken Access Control                    | CSRF protection on state-changing endpoints           | <a href="https://demo.northwind-hr.example/api/v1/scheduled-reports/">https://demo.northwind-hr.example/api/v1/scheduled-reports/</a>                                               | Tested across 1 endpoint; control enforced on all.             |
| ✓ <b>A03</b> · Injection                                | DOM-based cross-site scripting                        | <a href="https://demo.northwind-hr.example">https://demo.northwind-hr.example</a>                                                                                                   | Tested across 1 endpoint; control enforced on all.             |
| ✓ <b>A03</b> · Injection                                | HTTP header / response-splitting injection            | <a href="https://demo.northwind-hr.example/login?next=/dashboard">https://demo.northwind-hr.example/login?next=/dashboard</a>                                                       | Tested across 8 endpoints; control enforced on all.            |
| ✓ <b>A01</b> · Broken Access Control                    | Path-parameter object enumeration (IDOR)              | <a href="https://api.northwind-hr.example/api/v1/sites/379cec79-0275-4752-8193-8bb2c927c516">https://api.northwind-hr.example/api/v1/sites/379cec79-0275-4752-8193-8bb2c927c516</a> | Tested across 8 endpoints; control enforced on all.            |
| ✓ <b>API2</b> · Broken Authentication                   | Rate limiting on authentication endpoints             | <a href="https://demo.northwind-hr.example/api/auth/callback/credentials">https://demo.northwind-hr.example/api/auth/callback/credentials</a>                                       | Tested across 5 endpoints; control enforced on all.            |
| ✓ <b>A05</b> · Security Misconfiguration                | Error-message information disclosure                  | <a href="https://demo.northwind-hr.example/api/auth/api-token">https://demo.northwind-hr.example/api/auth/api-token</a>                                                             | Tested across 12 endpoints; no findings reported by the agent. |

## Resources tested

Structured resource coverage extracted from the target's surface. Each row is a logical resource (folder, report, file, ...) we identified during recon and probed across the primitives that apply to its action set.

| RESOURCE               | ACTIONS TESTED      | SAMPLE IDS                                                                                                                                                      | VERDICT    |
|------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <b>ai</b>              | create              | –                                                                                                                                                               | 0 findings |
| <b>api_auth</b>        | read                | 85958ba7-469d-485e-8c0f-e897f75e0730,<br>45cb7506-cf17-4524-85ca-bc3817b03c96                                                                                   | 0 findings |
| <b>api_siem</b>        | read                | –                                                                                                                                                               | 0 findings |
| <b>auth</b>            | create              | 85958ba7-469d-485e-8c0f-e897f75e0730                                                                                                                            | 0 findings |
| <b>chart</b>           | create              | –                                                                                                                                                               | 0 findings |
| <b>connection</b>      | create              | –                                                                                                                                                               | 0 findings |
| <b>connections</b>     | read                | –                                                                                                                                                               | 0 findings |
| <b>region</b>          | create, read, stats | 45cb7506-cf17-4524-85ca-bc3817b03c96                                                                                                                            | 0 findings |
| <b>document</b>        | create              | –                                                                                                                                                               | 0 findings |
| <b>file-submission</b> | create              | –                                                                                                                                                               | 0 findings |
| <b>help</b>            | read                | –                                                                                                                                                               | 0 findings |
| <b>imports</b>         | create, read        | c8b110d5-7fe5-4efe-8f7e-4494b474573c,<br>f70c21d7-a80c-4ba5-8046-fd4cde318511,<br>eb30fbac-bfcf-4a23-8076-a8ec0fcc2909,<br>ea925095-8450-4deb-894d-ec868b91dca0 | 0 findings |
| <b>integrations</b>    | read                | –                                                                                                                                                               | 0 findings |

|                         |              |                                                                                                                                                                         |            |
|-------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <b>my-site</b>          | create, read | 379cec79-0275-4752-8193-8bb2c927c516                                                                                                                                    | 0 findings |
| <b>notification</b>     | create       | –                                                                                                                                                                       | 0 findings |
| <b>report</b>           | create       | –                                                                                                                                                                       | 0 findings |
| <b>reports</b>          | read         | 2dfd24fc-83a1-47e6-84b3-17fb392bda88, 56d47761-1ce2-4a7b-8e74-bf524a5c1a27, e5f85dcb-02d1-444c-8be7-04f458be73f9                                                        | 0 findings |
| <b>roster</b>           | create       | –                                                                                                                                                                       | 0 findings |
| <b>scheduled-report</b> | create       | –                                                                                                                                                                       | 0 findings |
| <b>site</b>             | create       | e0179f8d-9f9f-425f-8a59-5595d98e6d6a, 379cec79-0275-4752-8193-8bb2c927c516, ec1669cb-95fe-4d9d-8169-c1a3ed0dae56                                                        | 0 findings |
| <b>sites</b>            | read         | e0179f8d-9f9f-425f-8a59-5595d98e6d6a, 379cec79-0275-4752-8193-8bb2c927c516, ec1669cb-95fe-4d9d-8169-c1a3ed0dae56                                                        | 0 findings |
| <b>settings</b>         | create, read | –                                                                                                                                                                       | 0 findings |
| <b>siem</b>             | create       | –                                                                                                                                                                       | 0 findings |
| <b>staff</b>            | read         | 82beea5a-637e-486f-8b22-0ac0e3b88971, babdcca2-1308-4515-bd5e-5d, 678815b8-366f-4d93-8736-e19f91b3f555, 2dbbfd22-cf69-4264-8ca6-58d10af9ee8d, e904ddc9-468d-4219-bfa1-c | 0 findings |

|                  |         |                                                                                                                                                                                     |            |
|------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <b>employee</b>  | summary | 2dfd24fc-83a1-47e6-84b3-17fb392bda88,<br>56d47761-1ce2-4a7b-8e74-bf524a5c1a27,<br>e5f85dcb-02d1-444c-8be7-04f458be73f9,<br>d089ff2f-c8cc-4452-8f4e-2d7663e6d88e                     | 0 findings |
| <b>employees</b> | read    | 2dfd24fc-83a1-47e6-84b3-17fb392bda88,<br>56d47761-1ce2-4a7b-8e74-bf524a5c1a27,<br>e5f85dcb-02d1-444c-8be7-04f458be73f9,<br>d089ff2f-c8cc-4452-8f4e-2d7663e6d88e                     | 0 findings |
| <b>manager</b>   | create  | –                                                                                                                                                                                   | 0 findings |
| <b>managers</b>  | read    | babdcca2-1308-4515-bd5e-5d,<br>678815b8-366f-4d93-8736-e19f91b3f555,<br>2dbbfd22-cf69-4264-8ca6-58d10af9ee8d,<br>e904ddc9-468d-4219-bfa1-c,<br>fc7738fc-57a3-42bb-82ba-b83ddd01e4f2 | 0 findings |

## Not applicable to this target

The following categories were considered but not tested — the precondition for testing was not present in the target's surface.

| CATEGORY                                  | REASON                                                    |
|-------------------------------------------|-----------------------------------------------------------|
| Configuration-file exposure               | no exposed config files / .env / debug endpoints in recon |
| External API key leakage in client assets | no API keys found in JavaScript                           |

|                                                     |                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function-level authorization / privilege escalation | no admin endpoints from the deterministic admin sweep                                                                                                                                                                                                                                                                                                          |
| GraphQL introspection and operation safety          | no GraphQL endpoint detected on the target                                                                                                                                                                                                                                                                                                                     |
| LLM prompt-injection resistance                     | Endpoint at target origin could not be characterized by recon; CSP `connect-src` names sibling-apex backend(s) (api.northwind-hr.example, staging-api.northwind-hr.example, rag.northwind-hr.example, staging-rag.northwind-hr.example) that almost certainly host the real API. Add `additional_origins` to the auth YAML and re-scan to probe them in scope. |
| NoSQL injection                                     | no NoSQL backend hints in fingerprints / responses                                                                                                                                                                                                                                                                                                             |
| Open redirect via redirect-parameter handling       | no redirect-shaped query parameters                                                                                                                                                                                                                                                                                                                            |
| Path traversal                                      | no file/path-shaped query parameters                                                                                                                                                                                                                                                                                                                           |
| Server-side request forgery                         | no URL-accepting parameters discovered                                                                                                                                                                                                                                                                                                                         |
| Server-side template injection                      | no template-rendering endpoints                                                                                                                                                                                                                                                                                                                                |
| User-ID forgery / mass-assignment for auth fields   | no feedback / comment / message POST endpoints detected                                                                                                                                                                                                                                                                                                        |
| XML external entity processing                      | no XML-accepting endpoints in OpenAPI specs                                                                                                                                                                                                                                                                                                                    |
| investigate lead                                    | no investigation leads emitted by LLM inference                                                                                                                                                                                                                                                                                                                |

## Attack Chains

Attack chains combine multiple individual findings into compound exploitation scenarios. Each chain demonstrates how an attacker could escalate from an initial weakness to a higher-impact outcome.

*No attack chains identified.*

# Additional Observations

The following lower-severity items represent security hardening opportunities. While not directly exploitable, addressing them strengthens overall defensive posture.

| SEVERITY | FINDING                                                              | DETAILS                                                                                                                                                                                             |
|----------|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Low      | Frontend bundle uses lodash (version unknown — check lockfile) (A06) | The bundle at `https://demo.northwind-hr.example/_next/static/chunks/f48cec60a7945b58.js` carries a library-specific marker (`__lodash_hash_undefined__`) that identifies the presence of `lodash`. |

## Remediation Priority

If the customer fixes only a handful of findings first, these are the ones that compound impact or unlock the broadest blast radius. Severity ranking still applies in full below; this section is the recommended sequence.

- 1

HIGH

**Unauthenticated session endpoint returns user identity and tenant details**

An unauthenticated endpoint disclosing user identity and tenant details creates immediate reconnaissance and privacy risk for any internet user, making it both high-impact and highly reachable.
- 2

HIGH

**No rate limit on login endpoint (+4 more endpoints)**

Missing rate limits on login and additional endpoints materially increases the likelihood of credential stuffing and automated abuse, and is often comparatively quick to mitigate with gateway or application controls.
- 3

HIGH

**Unauthenticated API endpoint exposes data at /api/auth/providers**

An unauthenticated auth-related API endpoint widens external visibility into the authentication surface and can aid targeted attacks with no prerequisite access.
- 4

LOW

**Frontend bundle uses lodash (version unknown — check lockfile)**

The lodash finding is lower urgency because the version is unknown and impact is unproven, but confirming and upgrading it is still worthwhile to reduce dependency risk.



## Appendix — Endpoints tested

For each verified control above, the full list of URLs probed during the review. Controls that share a category and label are merged.

### A01 · Broken Access Control

#### CSRF protection on state-changing endpoints · 1 endpoint

- <https://demo.northwind-hr.example/api/v1/scheduled-reports/>

#### Object-level authorization (BOLA / IDOR) · 20 endpoints

- <https://api.northwind-hr.example/api/v1/notifications/unread-count>
- <https://demo.northwind-hr.example/api/v1/notifications/read-all>
- <https://demo.northwind-hr.example/dashboard/connections>
- <https://demo.northwind-hr.example/dashboard/region>
- <https://demo.northwind-hr.example/dashboard/help>
- <https://demo.northwind-hr.example/dashboard/imports>
- <https://demo.northwind-hr.example/dashboard/integrations>
- <https://demo.northwind-hr.example/dashboard/my-site>
- <https://demo.northwind-hr.example/dashboard/my-site/attendance>
- <https://demo.northwind-hr.example/dashboard/my-site/teams>
- <https://demo.northwind-hr.example/dashboard/my-site/reports>
- <https://demo.northwind-hr.example/dashboard/my-site/staff>
- <https://demo.northwind-hr.example/dashboard/my-site/employees>
- <https://demo.northwind-hr.example/dashboard/my-site/managers>
- <https://demo.northwind-hr.example/dashboard/reports>
- <https://demo.northwind-hr.example/dashboard/sites>
- <https://demo.northwind-hr.example/dashboard/settings>
- <https://demo.northwind-hr.example/dashboard/staff>
- <https://demo.northwind-hr.example/dashboard/employees>
- <https://demo.northwind-hr.example/dashboard/managers>

#### Path-parameter object enumeration (IDOR) · 8 endpoints

- <https://api.northwind-hr.example/api/v1/documents/activity?limit=10>
- [https://api.northwind-hr.example/api/v1/reports/review-results?site\\_id=379cec79-0275-4752-8193-8bb2c927c516](https://api.northwind-hr.example/api/v1/reports/review-results?site_id=379cec79-0275-4752-8193-8bb2c927c516)
- [https://api.northwind-hr.example/api/v1/reports/headcount-summary?site\\_id=379cec79-0275-4752-8193-8bb2c927c516](https://api.northwind-hr.example/api/v1/reports/headcount-summary?site_id=379cec79-0275-4752-8193-8bb2c927c516)
- [https://api.northwind-hr.example/api/v1/reports/staff-directory?site\\_id=379cec79-0275-4752-8193-8bb2c927c516](https://api.northwind-hr.example/api/v1/reports/staff-directory?site_id=379cec79-0275-4752-8193-8bb2c927c516)
- <https://api.northwind-hr.example/api/v1/sites/379cec79-0275-4752-8193-8bb2c927c516>
- [https://api.northwind-hr.example/api/v1/staff/?site\\_id=379cec79-0275-4752-8193-8bb2c927c516](https://api.northwind-hr.example/api/v1/staff/?site_id=379cec79-0275-4752-8193-8bb2c927c516)

- `https://api.northwind-hr.example/api/v1/employees/?site_id=379cec79-0275-4752-8193-8bb2c927c516`
- `https://api.northwind-hr.example/api/v1/managers/?site_id=379cec79-0275-4752-8193-8bb2c927c516`

## A03 · Injection

### Cross-site scripting (reflected / stored) · 1 endpoint

- `https://demo.northwind-hr.example/api/auth/session/search`

### DOM-based cross-site scripting · 1 endpoint

- `https://demo.northwind-hr.example`

### HTTP header / response-splitting injection · 8 endpoints

- `https://demo.northwind-hr.example/login?continue=/dashboard`
- `https://demo.northwind-hr.example/login?dest=/dashboard`
- `https://demo.northwind-hr.example/login?destination=/dashboard`
- `https://demo.northwind-hr.example/login?next=/dashboard`
- `https://demo.northwind-hr.example/login?redirect=/dashboard`
- `https://demo.northwind-hr.example/login?redirect_url=/dashboard`
- `https://demo.northwind-hr.example/login?return=/dashboard`
- `https://demo.northwind-hr.example/login?return_url=/dashboard`

### SQL injection · 1 endpoint

- `https://demo.northwind-hr.example/api/auth/session/search`

## A04 · Insecure Design

### File-upload validation · 1 endpoint

- `https://api.northwind-hr.example/api/v1/rosters/upload`

## A05 · Security Misconfiguration

### Error-message information disclosure · 12 endpoints

- `https://api.northwind-hr.example/api/v1/region/`
- `https://api.northwind-hr.example/api/v1/notifications/unread-count`
- `https://api.northwind-hr.example/api/v1/employees/reviews/summary`
- `https://demo.northwind-hr.example/api/auth/api-token`
- `https://demo.northwind-hr.example/api/auth/providers`
- `https://demo.northwind-hr.example/api/auth/session`
- `https://demo.northwind-hr.example/api/auth/session/bulk`
- `https://demo.northwind-hr.example/api/auth/session/count`
- `https://demo.northwind-hr.example/api/auth/session/export`
- `https://demo.northwind-hr.example/api/auth/session/import`
- `https://demo.northwind-hr.example/api/auth/session/me`
- `https://demo.northwind-hr.example/api/auth/session/search`

## A07 · Identification & Authentication Failures

### Default-credential and credential-stuffing resistance · 3 endpoints

- <https://demo.northwind-hr.example/api/auth/callback/credentials>
- <https://demo.northwind-hr.example/api/auth/login>
- <https://demo.northwind-hr.example/login>

### Password-reset poisoning via Host / forwarded headers · 1 endpoint

- <https://demo.northwind-hr.example/auth/forgot-password>

## API2 · Broken Authentication

### Rate limiting on authentication endpoints · 5 endpoints

- <https://demo.northwind-hr.example/api/auth/callback/credentials>
- <https://demo.northwind-hr.example/api/auth/login>
- <https://demo.northwind-hr.example/api/auth/register>
- <https://demo.northwind-hr.example/auth/forgot-password>
- <https://demo.northwind-hr.example/login>

## API3 · Broken Object Property Level Authorization

### Excessive property exposure / mass assignment · 2 endpoints

- <https://api.northwind-hr.example/api/v1/scheduled-reports/>
- <https://demo.northwind-hr.example/api/auth/api-token>

## API6 · Unrestricted Access to Sensitive Business Flows

### Business-flow abuse · 1 endpoint

- <https://demo.northwind-hr.example/api/auth/register>

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This report is confidential and intended only for the authorized recipient. All findings have been deterministically validated — every proof of concept shown above reproduced the issue at the time of scanning.