

QA CASE STUDY: EXCELSIOR GENETICS REBUILD

Ensuring System Reliability through Rigorous Testing of SMTP Integrations and Data Validation Logic

```
JS server.js > app.post('/contact') callback > adminMailOptions > to
87
88 // --- 3. CONTACT FORM LOGIC ---
89 app.post('/contact', (req, res) => {
90   // 1. Honeypot Trap
91   if (req.body.honeypot && req.body.honeypot !== '') {
92     console.log('Bot submission blocked (honeypot).');
93     return res.send('success');
94   }
95
96   // 2. UPDATED: Math Captcha Validation
97   const { math_a, math_b, math_answer } = req.body;
98   const expectedSum = parseInt(math_a) + parseInt(math_b);
99
100   if (parseInt(math_answer) !== expectedSum) {
101     console.log('Bot submission blocked (math fail).');
102     return res.send('captcha_error');
103   }
104
105   // 3. Setup Mailer
106   const transporter = nodemailer.createTransport({
107     host: 'smtp.zoho.com',
108     port: 465,
109     secure: true,
110     auth: {
111       user: process.env.HI_EMAIL,
112       pass: process.env.HI_EMAIL_PASSWORD,
113     },
114   });
115
116   const selectedJoke = getRandomJoke();
117   const type = req.body.partnerType;
118
119   // 4. DEFINE CUSTOM MESSAGES
120   const responseMap = {
121     dispensary: 'We are excited about the potential of bringing Northern Legacy's craft genetics to your shelves. Our wholesale te
122     vendor: 'We believe in building a robust local ecosystem in the North Country. We are reviewing your information now to see ho
123     community: 'We are more than just a brand; we are 1000 Islands locals. The support of our neighbors drives everything we do. T
124     default: 'Our leadership team is currently reviewing your message to determine how we can best collaborate to bring world-clas
```

Prepared by: Gregory Farrell

Role: Lead Developer & QA

Tech Stack: Node.js, Express, EJS, SMTP

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TECHNICAL QA CASE STUDY: PARTNERSHIP PORTAL AND LEAD CAPTURE

Scope: Lead Developer & Quality Assurance | **Environment:** Node.js, Express, EJS, SMTP Integration

1. QA Strategy & Objectives

The primary objective of the QA cycle for the Excelsior Genetics rebuild was to ensure the integrity of the **Partnership Portal** and the reliability of **Automated Communication Channels**. Given the regulatory nature of the industry, zero-failure in lead capture and verification was a non-negotiable requirement.

2. Feature Focus: Partnership Portal & Lead Capture

The portal utilizes a custom-built lead capture form that triggers an automated workflow. Testing focused on data validation and the successful handoff between the server and the SMTP relay.

Test Case ID: TC-001 | Automated Response Validation

- **Test Objective:** Verify that a successful form submission triggers a "Thank You" email within 60 seconds.
- **Pre-conditions:** SMTP relay configured; User is on the /partnership route.
- **Test Steps:**
 1. Enter valid alphanumeric data into all required fields.
 2. Submit form.
 3. Monitor target inbox for incoming response.
- **Expected Result:** Server returns a 200 OK status; User receives formatted EJS-templated email.
- **Actual Result: PASS.**

Test Case ID: TC-002 | Input Sanitization & Error Handling

- **Test Objective:** Ensure the system rejects invalid email formats and prevents empty submissions.
- **Test Steps:** 1. Leave "Email" field blank. 2. Input a malformed email (e.g., "test@@test.com").
- **Expected Result:** Frontend validation blocks submission; User receives a specific error toast/message.
- **Actual Result: PASS.**

3. Resolved Defect Log (Bug Report)

During development, a high-severity security and functional failure was identified and resolved.

Defect ID: BUG-001

Title: SMTP Handshake Failure / Unsecured Credential Exposure

Severity: High (Blocked automated communications)

Description: The application failed to establish a secure connection with the SMTP server, resulting in authentication timeouts and exposed credentials in the source code.

Root Cause: The application was configured for non-secure port connections, and authentication credentials were hardcoded in the primary source file.

Resolution:

- **Protocol Alignment:** Reconfigured the transport layer to utilize Port 465 with SSL/TLS to meet security requirements.
- **Security Hardening:** Migrated sensitive credentials to protected environment variables (.env) to prevent exposure.

Status: RESOLVED / VERIFIED