OAKWOOD UNIVERSITY CHURCH

ACCESS CONTROL SYSTEM

SendGrid Email Configuration Instructions

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SENDGRID API KEY SETUP GUIDE

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Document Version: 1.0

Created: January 2025

Purpose: Configure email notifications for OUC Access Control System

Contact: OUC Information Technology Department

Email: ouc-it@oucsda.org

Phone: (256) 837-1255 x 199

Recovery Code: CFPSG1LBVS7PYVHL37U9YVG7

API Key: SG.VDuAnQjwSoGgSmg-gZ\_KQw.lmiEq3Ijtnem6dRX4WodHOZtlMijcsgEqIA4zlnn84g

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OVERVIEW

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This document provides step-by-step instructions for setting up SendGrid email

service for the OUC Access Control System. SendGrid will handle automated email

notifications when users submit facility access requests.

Benefits of SendGrid:

• Professional email delivery service

• Free tier: 100 emails per day (sufficient for OUC needs)

• Reliable email delivery with detailed analytics

• Branded email templates with OUC styling

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STEP 1: CREATE SENDGRID ACCOUNT

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1.1 Navigate to SendGrid Website

• Open web browser

• Go to: https://sendgrid.com/

• Click "Start for Free" or "Sign Up"

1.2 Complete Registration Form

• Email Address: Use your OUC email address

• Password: Create a strong password

• Company: Oakwood University Church

• Click "Create Account"

1.3 Verify Email Address

• Check your email inbox

• Click the verification link from SendGrid

• Return to SendGrid dashboard

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STEP 2: COMPLETE ACCOUNT SETUP

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2.1 Answer Setup Questions

SendGrid will ask several questions to customize your experience:

Question: "What's your role?"

Answer: Select "Developer" or "IT Professional"

Question: "Tell us about your company"

Answer: Fill in Oakwood University Church details

Question: "How do you plan to send email?"

Answer: Select "Integrate with my app"

Question: "What type of emails do you send?"

Answer: Select "Transactional" (for system notifications)

2.2 Choose Pricing Plan

• Select "Free" plan

• Provides 100 emails per day

• No credit card required

• Sufficient for OUC access request notifications

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STEP 3: GENERATE API KEY

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3.1 Navigate to API Keys Section

• Login to SendGrid Dashboard

• Click "Settings" in the left sidebar

• Click "API Keys" from the dropdown menu

3.2 Create New API Key

• Click "Create API Key" (blue button)

• Name: Enter "OUC Access System"

• API Key Permissions: Choose one option:

Option A (Recommended): Full Access

• Select "Full Access"

• Provides all necessary permissions

Option B (Restricted): Limited Access

• Select "Restricted Access"

• Enable "Mail Send" permission

• Click checkboxes for mail send capabilities

3.3 Generate and Copy API Key

• Click "Create & View"

• IMPORTANT: Copy the API key immediately

• Format: SG.xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

• Store securely - you cannot view it again

• Click "Done" when finished

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STEP 4: SENDER AUTHENTICATION (REQUIRED)

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CRITICAL: SendGrid requires sender verification before emails can be sent.

4.1 Navigate to Sender Authentication

• Go to "Settings" → "Sender Authentication"

• Choose one of the following options:

4.2 OPTION A: Single Sender Verification (Quickest)

• Click "Verify a Single Sender"

• Complete the form:

From Name: OUC Access System

From Email: noreply@oucsda.org

Reply To: ouc-it@oucsda.org

Company: Oakwood University Church

Address: 7000 Adventist Blvd

City: Huntsville

State: Alabama

Zip: 35896

Country: United States

• Click "Create"

• Check email and click verification link

4.3 OPTION B: Domain Authentication (More Professional)

• Click "Authenticate Your Domain"

• Enter domain: oucsda.org

• Follow DNS configuration instructions

• Requires domain administrator access

• More complex but provides better deliverability

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STEP 5: CONFIGURE ENVIRONMENT VARIABLES

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5.1 Create Environment File

• Navigate to your OUC Access project root directory

• Create file named: .env.local

• Add the following configuration:

5.2 Environment Variables

Copy and paste the following, replacing with your actual values:

# SendGrid Configuration

SENDGRID\_API\_KEY=SG.your\_actual\_api\_key\_here

FROM\_EMAIL=noreply@oucsda.org

NOTIFICATION\_EMAIL=ouc-it@oucsda.org

# Existing Database Configuration (keep these)

DB\_HOST=localhost

DB\_USER=your\_db\_user

DB\_PASSWORD=your\_db\_password

DB\_NAME=your\_db\_name

# Existing NextAuth Configuration (keep these)

NEXTAUTH\_SECRET=your\_nextauth\_secret

NEXTAUTH\_URL=http://localhost:3000

GOOGLE\_CLIENT\_ID=your\_google\_client\_id

GOOGLE\_CLIENT\_SECRET=your\_google\_client\_secret

5.3 Update API Key

• Replace "SG.your\_actual\_api\_key\_here" with your copied API key

• Ensure no spaces before or after the key

• Save the file

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STEP 6: TEST EMAIL CONFIGURATION

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6.1 Restart Development Server

• Open command prompt/terminal

• Navigate to project directory

• Stop server if running (Ctrl+C)

• Run: npm run dev

• Wait for server to start

6.2 Test Email System

Method A: Test Endpoint

• Open web browser

• Go to: http://localhost:3000/api/test-email

• Check for success/error message

Method B: Submit Access Request

• Fill out access request form

• Click "Save"

• Check browser console for email status

6.3 Verify Success

Look for these messages in browser console:

• Success: "✅ Email notification sent successfully"

• Failure: "⚠️ Email notification failed"

• Error details will be displayed if issues occur

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TROUBLESHOOTING

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Common Issues and Solutions:

Issue: "Unauthorized" Error

Solution:

• Verify API key is correct

• Ensure FROM\_EMAIL is verified in SendGrid

• Complete sender authentication

Issue: "Email service not properly configured"

Solution:

• Check environment variables are set correctly

• Restart development server

• Verify .env.local file is in project root

Issue: Emails not receiving

Solution:

• Check sender authentication is complete

• Verify notification email address is correct

• Check spam/junk folders

Issue: API key not working

Solution:

• Regenerate API key in SendGrid

• Ensure key starts with "SG."

• Update .env.local file with new key

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SECURITY CONSIDERATIONS

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Important Security Notes:

1. API Key Protection

• Never commit .env.local files to version control

• Store API keys securely

• Regenerate keys if compromised

2. Environment Variables

• Use .env.local for development only

• Use proper environment variable management in production

• Never hardcode API keys in source code

3. Email Authentication

• Always verify sender domains

• Use official oucsda.org email addresses

• Monitor email delivery reports

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PRODUCTION DEPLOYMENT

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For Production Server Deployment:

1. Environment Variables

• Set variables through server configuration

• Use Docker environment files if applicable

• Configure cloud platform environment settings

2. Domain Authentication

• Complete full domain authentication for oucsda.org

• Improves email deliverability

• Provides professional appearance

3. Monitoring

• Monitor SendGrid dashboard for delivery statistics

• Set up alerts for delivery failures

• Regular review of email logs

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SUPPORT INFORMATION

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OUC Information Technology Department

Phone: (256) 837-1255 x 199

Email: ouc-it@oucsda.org

SendGrid Support

Documentation: https://docs.sendgrid.com/

Support Portal: https://support.sendgrid.com/

System Requirements:

• Node.js development environment

• Access to OUC network and systems

• Administrative access to email configuration

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APPENDIX: EMAIL TEMPLATE PREVIEW

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The system sends professional HTML emails containing:

• OUC branding and official colors

• Formatted user information table

• Action indicators (NEW/UPDATED records)

• Timestamp and contact information

• Professional footer with OUC copyright

Email recipients: ouc-it@oucsda.org

Email frequency: Per access request submission

Email format: HTML with fallback text

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