Twilio Setup Instructions for 2FA

> 📝 **Note:** This guide will help you set up Twilio SMS for two-factor authentication on your DCSS LLC website.

1️⃣ Twilio Account Setup

1 Sign up for Twilio

- Visit:

  https://www.twilio.com/try-twilio

- Create a free account (includes **$15.50 trial credit**)
- Verify your email address and phone number

2 Get Your Credentials

- Login to Twilio Console:

  https://console.twilio.com/

- Copy your **Account SID** (starts with 'AC...')
- Copy your **Auth Token** (click the eye icon to reveal)

> ⚠️ **Important:** Keep these credentials secure! Never commit them to GitHub or share them publicly.

3 Get a Phone Number

- In Twilio Console, go to: **Phone Numbers** → **Manage** → **Buy a number**

- Select a number with **SMS capabilities** (~$1/month)

- Verify the number can send SMS messages

- Copy your Twilio phone number (format: `+12345678901`)

2️⃣ Cloudflare Pages Configuration

1 Navigate to Pages Settings

- Go to your **Cloudflare Dashboard**

- Select your Pages project: `dcsswebdev`

- Go to: **Settings → Environment variables**

2 Add Twilio Credentials

Add the following three environment variables:

```
Variable 1: Name: TWILIO_ACCOUNT_SID Value: [Your Account SID from
step 1.2] Environment: ✓ Production and Preview Variable 2: Name:
TWILIO_AUTH_TOKEN Value: [Your Auth Token from step 1.2] Environment:
✓ Production and Preview Variable 3: Name: TWILIO_PHONE_NUMBER Value:
[Your Twilio phone number from step 1.3] Environment: ✓ Production
and Preview
```

3 Add JWT Secret (if not already set)

```
Name: JWT_SECRET Value: [Random secure string - see note below]
Environment: ✓ Production and Preview
```

💡 **Generate JWT Secret:** You can generate a secure random string by running this command in PowerShell:

```
node -e
"console.log(require('crypto').randomBytes(32).toString('hex'))"
```

4 Save and Redeploy

- Click **"Save"** button in Cloudflare

- Trigger a new deployment:
  - Either push changes to your GitHub repository, or
  - Use "Retry deployment" in Cloudflare Pages

3️⃣ Database Migration

Run the 2FA schema migration to add necessary database tables:

```
npx wrangler d1 execute DB --file=./schema-2fa.sql --remote
```

This command adds:

- `phone_number`, `phone_verified`, `two_factor_enabled`, `backup_codes` columns to users table

- `verification_codes` table for SMS codes

- `trusted_devices` table for device fingerprints

✅ Verification

To verify everything is working:

1. Visit your personal login page
2. Try creating a new account with 2FA enabled
3. You should receive an SMS with a 6-digit code
4. Enter the code to complete authentication

> 🔢 **Trial Account Limitation:** Twilio trial accounts can only send SMS to verified phone numbers. You'll need to verify test numbers in the Twilio Console first, or upgrade to a paid account for unrestricted sending.

💰 Costs

- **Phone Number:** ~$1.00/month

- **SMS Messages (US):** $0.0079 per message

- **Free Trial Credit:** $15.50 (enough for ~1,900 messages)

🔧 Troubleshooting

If SMS messages aren't being received:

1. Check Twilio account has sufficient credit

2. Verify phone number is in correct format (+12345678901)

3. For trial accounts, verify recipient number in Twilio Console

4. Check Twilio Console → Logs for delivery status

5. Verify environment variables are set correctly in Cloudflare