

■ Fix Black Login Screen Issue

Problem: Display shows black login screen instead of moOde web UI

■ Diagnosis Steps

Run these commands **directly on the Pi** (via SSH or console):

1. Check Chromium Status

```
# Check if Chromium is running  
ps aux | grep chromium | grep -v grep  
  
# Check Chromium process count  
pgrep -f chromium | wc -l
```

2. Check Display Service

```
# Check localdisplay service status  
sudo systemctl status localdisplay.service  
  
# Check if service is enabled  
systemctl is-enabled localdisplay.service
```

3. Check Web Server

```
# Check Apache status  
sudo systemctl status apache2  
  
# Test if web server responds  
curl -I http://localhost/
```

4. Check X11 Display

```
# Check X11 is running  
DISPLAY=:0 xdpinfo | head -5  
  
# Check what windows are open  
DISPLAY=:0 xwininfo -root -tree | head -20
```

5. Check Chromium Logs

```
# View recent Chromium logs  
tail -50 /var/log/chromium-clean.log  
  
# Check for errors  
grep -i error /var/log/chromium-clean.log | tail -10
```

6. Check for Login Screen

```
# Check if login manager is running  
systemctl status lightdm 2>/dev/null  
systemctl status gdm 2>/dev/null  
  
# Check what's on display  
DISPLAY=:0 xwininfo -root -tree | grep -i "login\|lightdm\|gdm"
```

■ Fix Solutions

Fix 1: Restart Display Service

```
sudo systemctl restart localdisplay.service  
sudo systemctl status localdisplay.service
```

Fix 2: Manually Start Chromium

```
# Kill existing Chromium (if stuck)  
pkill -9 chromium  
  
# Start Chromium manually  
DISPLAY=:0 /usr/local/bin/start-chromium-clean.sh  
  
# Check if it started  
ps aux | grep chromium | grep -v grep
```

Fix 3: Disable Login Screen (if blocking)

```
# Disable lightdm (if installed)  
sudo systemctl disable lightdm  
sudo systemctl stop lightdm  
  
# Disable gdm (if installed)  
sudo systemctl disable gdm  
sudo systemctl stop gdm  
  
# Restart display service  
sudo systemctl restart localdisplay.service
```

Fix 4: Fix Web Server (if not running)

```
# Restart Apache  
sudo systemctl restart apache2  
sudo systemctl status apache2  
  
# Test web server  
curl http://localhost/
```

Fix 5: Re-enable Display Service

```
# Enable and start service  
sudo systemctl enable localdisplay.service  
sudo systemctl start localdisplay.service  
  
# Check status  
sudo systemctl status localdisplay.service
```

Fix 6: Check .xinitrc Configuration

```
# Check user's .xinitrc  
cat ~/.xinitrc  
  
# Should contain Chromium start command  
# If missing, check default:  
cat /home/andre/xinitrc.default
```

■ Most Common Causes

1. Login Screen Blocking

Symptom: Black screen with login prompt
Fix: Disable login manager (lightdm/gdm)

2. Chromium Not Starting

Symptom: No Chromium process running
Fix: Restart localdisplay.service or start manually

3. Web Server Not Ready

Symptom: Chromium starts but shows error page
Fix: Restart Apache and wait for it to be ready

4. X11 Not Running

Symptom: Cannot access DISPLAY=:0
Fix: Check X11 service, restart if needed

5. Chromium Crashed

Symptom: Chromium process exists but no window
Fix: Kill and restart Chromium

■ Quick Fix Sequence

Run these commands in order:

```
# 1. Kill stuck processes
pkill -9 chromium
pkill -9 Xorg

# 2. Disable login screen
sudo systemctl disable lightdm gdm 2>/dev/null
sudo systemctl stop lightdm gdm 2>/dev/null

# 3. Restart web server
sudo systemctl restart apache2

# 4. Wait for web server
sleep 3

# 5. Restart display service
sudo systemctl restart localdisplay.service

# 6. Wait and check
sleep 5
ps aux | grep chromium | grep -v grep
```

■ Verify Fix

After applying fixes, verify:

```
# 1. Chromium is running
ps aux | grep chromium | grep -v grep
# Should show chromium process
```

```
# 2. Web server is running
curl -I http://localhost/
# Should return HTTP 200

# 3. Display shows content
DISPLAY=:0 xwininfo -root -tree | grep -i chromium
# Should show Chromium window

# 4. Check logs for errors
tail -20 /var/log/chromium-clean.log
# Should not show critical errors
```

■ Notes

- ****Login Screen:**** If a login manager (lightdm/gdm) is enabled, it can block Chromium from starting
- ****Web Server:**** Chromium waits for web server to be ready, but if it times out, it may show a blank page
- ****X11:**** X11 must be running before Chromium can start
- ****Permissions:**** Chromium needs to run as the correct user (usually `andre`)

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