

■ 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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