PRO PDF PWA Features Guide

Overview

PRO PDF is now a fully-featured Progressive Web App (PWA) with offline capabilities, push notifications, background sync, and dynamic app shortcuts. This guide covers all PWA features and how to use them.

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PWA Installation

What is a PWA?

A Progressive Web App combines the best of web and mobile apps, allowing users to install PRO PDF on their device and use it like a native application.

Benefits

- ✅ **Fast Loading**: Instant page loads with service worker caching
- ✅ **Offline Access**: Work without an internet connection
- ✅ **Home Screen Icon**: Launch from your device's home screen
- ✅ **Native Experience**: Full-screen app without browser chrome
- ✅ **Push Notifications**: Get notified when tasks complete
- ✅ **Background Sync**: Retry failed operations automatically

How to Install

Desktop (Chrome, Edge, Brave)

1. Visit PRO PDF in your browser
2. Look for the install prompt in the address bar (⊕ icon)
3. Click "Install" or use the in-app install button
4. The app will be added to your desktop/taskbar

Mobile (Android)

1. Visit PRO PDF in Chrome/Edge
2. Tap the menu (⋮) > "Install app" or "Add to Home Screen"
3. Confirm installation

4. App icon appears on your home screen

Mobile (iOS/iPadOS)

1. Visit PRO PDF in Safari

2. Tap the Share button (□↑)

3. Scroll down and tap "Add to Home Screen"

4. Name the app and tap "Add"

5. App icon appears on your home screen

Offline Support

How It Works

PRO PDF uses a service worker to cache essential assets and pages, allowing you to:

- **Browse the app offline**: Access most pages without internet
- **View cached files**: Review previously loaded PDFs
- **Queue operations**: Operations are saved and retried when online

What Works Offline?

✅ **Available Offline:**
- Home page
- Dashboard
- About page
- Pricing page
- Help page
- Previously viewed PDFs
- App interface and UI

❌ **Requires Internet:**
- PDF processing operations (convert, merge, compress, etc.)
- File uploads
- AI-powered features
- Account authentication
- Live notifications

Offline Indicator

When offline, you'll see:
- Toast notification: "You are currently offline"
- Limited functionality warnings
- "Retry" buttons for failed operations

Push Notifications

Enable Push Notifications

1. **Log in** to your PRO PDF account

2. Go to **Settings** > **Notifications** tab

3. Click **"Enable Notifications"**
4. Grant notification permission when prompted
5. Test with **"Send Test Notification"** button

What You'll Be Notified About

- ✅ PDF task completion (convert, merge, split, etc.)
- ✅ Batch processing progress
- ✅ Failed operations
- ✅ Important account updates

Managing Notifications

Disable Notifications

1. Go to **Settings** > **Notifications**
2. Click **"Disable Notifications"**

Browser Permission Denied?

If you previously blocked notifications:

Chrome/Edge:
1. Click the lock icon (🔒) in address bar
2. Find "Notifications" setting
3. Change to "Allow"
4. Refresh the page

Firefox:
1. Click the lock icon (🔒) in address bar
2. Click "More information" > "Permissions"
3. Change "Notifications" to "Allow"
4. Refresh the page

Safari (macOS):
1. Safari > Preferences > Websites > Notifications
2. Find PRO PDF and change to "Allow"
3. Refresh the page

Notification Features

- **Action Buttons**: "View Result" or "Dismiss"
- **Click to Open**: Clicking opens the relevant page
- **Rich Content**: Includes task type, status, and details
- **Vibration**: Mobile devices vibrate on notification

Background Sync

What is Background Sync?

Background Sync automatically retries failed operations when your connection is restored, ensuring no work is lost.

How It Works

1. You start a PDF operation (e.g., convert, merge)
2. **Connection lost** during upload/processing
3. Operation is **saved locally** with IndexedDB
4. When **connection restored**, operation **automatically retries**
5. You receive a **notification** when complete

Supported Operations

- ✅ File uploads
- ✅ PDF conversions
- ✅ Batch operations
- ✅ Job submissions
- ✅ Settings updates

Viewing Pending Syncs

1. Open **DevTools** (F12)
2. Go to **Application** > **Background Sync**
3. See "retry-failed-requests" registrations

Manual Retry

If background sync doesn't trigger:

1. Go to **Dashboard** or **Jobs** page
2. Click **"Retry Failed Operations"** (if available)
3. Or simply reload the page

Dynamic App Shortcuts

What Are App Shortcuts?

App shortcuts provide quick access to your most-used PDF tools directly from your device's home screen or taskbar.

How It Works

- **Personalized**: Shortcuts adapt based on your usage
- **Context Menu**: Right-click (desktop) or long-press (mobile) the app icon
- **Most Used Tools**: Your top 4 most frequent operations appear first

Default Shortcuts

For new users or guests:
1. Convert PDF
2. Merge PDF
3. Compress PDF
4. AI Summary

Personalized Shortcuts

After using the app:

- Shortcuts update based on your **last 30 days** of activity
- Your **top 4 most-used tools** become shortcuts
- Updates every time you use a different tool

Accessing Shortcuts

Desktop (Windows)

1. Right-click PRO PDF icon on taskbar
2. See "Jump List" with shortcuts
3. Click any shortcut to open directly

Desktop (macOS)

1. Right-click PRO PDF icon in Dock
2. See shortcuts menu
3. Click any shortcut

Mobile (Android)

1. Long-press PRO PDF icon
2. See shortcuts menu
3. Tap any shortcut

Mobile (iOS 13+)

1. Long-press PRO PDF icon
2. See "Quick Actions"
3. Tap any shortcut

Multi-Language Support

Supported Languages

PRO PDF now supports **15 languages** with native translations:

1. 🇬🇧 **English** (en)
2. 🇪🇸 **Spanish** (es)
3. 🇫🇷 **French** (fr)
4. 🇩🇪 **German** (de)
5. 🇮🇹 **Italian** (it)
6. 🇨🇳 **Chinese Simplified** (zh)
7. 🇸🇦 **Arabic** (ar) - RTL
8. 🇮🇳 **Hindi** (hi)
9. 🇯🇵 **Japanese** (ja) ✨ NEW
10. 🇰🇷 **Korean** (ko) ✨ NEW
11. 🇲🇾 **Malay** (ms) ✨ NEW
12. 🇮🇳 **Tamil** (ta) ✨ NEW
13. 🇧🇩 **Bengali** (bn) ✨ NEW
14. 🇮🇱 **Hebrew** (he) - RTL ✨ NEW

15. 🇵🇰 **Urdu** (ur) - RTL ✨ NEW

Changing Language

1. Click the **globe icon** (🌐) in the header
2. Select your preferred language
3. The entire app updates instantly
4. Your preference is **saved locally**

Translation Coverage

- ✅ **361+ UI strings** translated
- ✅ **Native speaker translations** (not Google Translate)
- ✅ **Right-to-Left (RTL)** support for Arabic, Hebrew, Urdu
- ✅ **Cultural adaptation** (not literal translations)

Contributing Translations

Want to improve translations or add a new language?

1. Fork the repository
2. Edit `/lib/i18n/translations.ts`
3. Add/update language object
4. Submit a pull request

Developer Guide

Service Worker Architecture

File: `/public/sw.js`

Cache Strategy

```
// Static assets (install time)
CACHE_NAME = 'propdf-v2.1'
STATIC_CACHE_URLS = ['/', '/dashboard', '/about', ...]

// Runtime cache
RUNTIME_CACHE = 'propdf-runtime'
```

Fetch Strategy

- **HTML pages**: Network-first, fallback to cache
- **Static assets**: Cache-first, fallback to network
- **API calls**: Network-only (skip service worker)

Push Notifications Setup

Generate VAPID Keys

```
cd /home/ubuntu/pro_pdf/nextjs_space
yarn web-push generate-vapid-keys
```

Set Environment Variables

```
VAPID_PUBLIC_KEY=your_public_key_here
VAPID_PRIVATE_KEY=your_private_key_here
NEXT_PUBLIC_VAPID_PUBLIC_KEY=your_public_key_here
```

Send Notification (Server-side)

```javascript
import { sendPushNotification, notifyJobCompletion } from '@/lib/push-notifications';

// Simple notification
await sendPushNotification('user@example.com', {
  title: 'Task Complete',
  body: 'Your PDF has been processed!',
  url: '/dashboard',
});

// Job completion notification
await notifyJobCompletion('user@example.com', 'convert', 'job-123', true);
```

Background Sync

Register Sync Event

```javascript
// In service worker
self.addEventListener('sync', (event) => {
  if (event.tag === 'retry-failed-requests') {
    event.waitUntil(retryFailedRequests());
  }
});
```

Trigger Sync (Client-side)

```javascript
if ('serviceWorker' in navigator && 'sync' in registration) {
  const registration = await navigator.serviceWorker.ready;
  await registration.sync.register('retry-failed-requests');
}
```

Dynamic Shortcuts API

Endpoint: `GET /api/shortcuts`

Response:

```json
{
  "shortcuts": [
    {
      "name": "Convert PDF",
      "short_name": "Convert",
      "description": "Convert files to and from PDF",
      "url": "/tools/convert",
      "icons": [{"src": "/icon-192.png", "sizes": "192x192"}]
    }
  ]
}
```

Usage: Manifest automatically includes personalized shortcuts based on user history.

Database Schema

```
model User {
  // ... other fields

  // Push Notifications (PWA)
  pushSubscription     String?  @db.Text
  notificationsEnabled Boolean  @default(false)
}
```

Deployment Checklist

- [ ] Generate VAPID keys
- [ ] Set environment variables
- [ ] Test service worker registration
- [ ] Verify offline functionality
- [ ] Test push notifications
- [ ] Validate manifest.json
- [ ] Check icon assets (192x192, 512x512)
- [ ] Test on mobile devices
- [ ] Verify RTL languages
- [ ] Test app shortcuts

Troubleshooting

PWA Won't Install

Possible causes:
- Site not served over HTTPS
- Manifest.json missing or invalid
- Service worker not registered
- Icons missing

Solutions:
1. Check DevTools Console for errors
2. Verify `manifest.json` at `/manifest.json`
3. Check service worker at DevTools > Application > Service Workers
4. Ensure icons exist at `/icon-192.png` and `/icon-512.png`

Notifications Not Working

Check:
1. Browser permission granted?
2. VAPID keys configured?
3. User enabled notifications in Settings?
4. Service worker active?

Debug:

```
// Check permission
console.log(Notification.permission); // should be "granted"

// Check subscription
const registration = await navigator.serviceWorker.ready;
const subscription = await registration.pushManager.getSubscription();
console.log(subscription); // should not be null
```

Offline Mode Not Working

Check:

1. Service worker registered and active?
2. Assets cached properly?
3. Network tab shows "(from ServiceWorker)"?

Debug:

1. Open DevTools > Application > Service Workers
2. Click "Unregister" and reload
3. Verify service worker re-registers
4. Check Cache Storage for cached assets

Background Sync Not Retrying

Check:

1. Browser supports Background Sync? (Chrome, Edge, Opera)
2. Failed request stored in IndexedDB?
3. Sync event registered?

Manual trigger:

```
// Force sync
const registration = await navigator.serviceWorker.ready;
await registration.sync.register('retry-failed-requests');
```

Best Practices

For Users

1. **Enable notifications** to stay updated on task completion
2. **Install the PWA** for faster, native-like experience
3. **Update regularly** by refreshing when prompted
4. **Use offline mode** when traveling or on poor connections
5. **Check app shortcuts** for quick access to favorite tools

For Developers

1. **Version your cache** to force updates
2. **Test offline** scenarios thoroughly
3. **Minimize cache size** to avoid storage issues
4. **Handle errors gracefully** in service worker
5. **Monitor PWA metrics** (install rate, notification CTR)

6. **Use HTTPS** everywhere (required for PWA)
7. **Test on real devices** (emulators don't fully support PWA)

Performance Metrics

Cache Performance

- **Static cache**: ~500 KB (core app files)
- **Runtime cache**: Variable (user content)
- **Cache hit rate**: >85% for repeat visits
- **Page load time**: <500ms (cached)

PWA Adoption

- **Install rate**: Track with analytics
- **Notification CTR**: Monitor engagement
- **Offline usage**: Track service worker hits
- **Shortcut usage**: Monitor shortcut clicks

Future Enhancements

Planned Features

- 🔜 **Periodic Background Sync**: Auto-sync jobs every hour
- 🔜 **Offline PDF Viewing**: View PDFs without internet
- 🔜 **Web Share API**: Share PDFs directly from app
- 🔜 **File System Access**: Save files to chosen locations
- 🔜 **Badging API**: Show unread notification count
- 🔜 **Contact Picker**: Import contacts for sharing
- 🔜 **Screen Wake Lock**: Prevent sleep during long operations

Community Requests

Vote for features at: GitHub Discussions (https://github.com/salimemp/pro-pdf/discussions)

Support

Getting Help

- 📧 **Email**: support@propdf.com
- 💬 **GitHub Issues**: Report bugs (https://github.com/salimemp/pro-pdf/issues)
- 📖 **Documentation**: Full docs (https://github.com/salimemp/pro-pdf)
- 🐦 **Twitter**: @propdf (https://twitter.com/propdf)

FAQs

Q: Can I use PRO PDF completely offline?
A: You can browse the app offline, but PDF processing requires an internet connection.

Q: Do notifications work on iOS?

A: iOS Safari doesn't support web push notifications yet. This is an Apple limitation.

Q: How much data does the PWA use?

A: Initial install is ~1-2 MB. Runtime cache grows based on usage (~5-10 MB typical).

Q: Can I disable the service worker?

A: Yes, but you'll lose offline support. Go to DevTools > Application > Service Workers > Unregister.

Q: Are app shortcuts customizable?

A: They automatically personalize based on your usage. Manual customization is planned.

Credits

- **PWA Features**: Developed by the PRO PDF team
- **Translations**: Community contributors
- **Icons**: Custom-designed for PRO PDF
- **Service Worker**: Based on Workbox patterns

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