PWA 应用数据清除标准作业程序 (SOP)

文件编号：TEC-SOP-001
版本：1.1
主题：彻底清除渐进式网络应用 (PWA) 及其缓存数据
适用平台：安卓 (Android) / 苹果 (iOS) / 桌面版 (Desktop) Chrome

1.0 目的

本文件旨在提供一套标准化的操作流程，用于在安卓、苹果及桌面版 Chrome 上彻底删除 PWA 应用及其所有相关数据（包括缓存、Cookie、离线文件和设置），确保无残留。

2.0 安卓 (Android) 设备操作流程

此流程适用于通过 Chrome 浏览器安装或使用的 PWA。操作分为两步，必须全部完成才能确保彻底清除。

2.1 步骤一：在 Chrome 浏览器中清除网站数据（核心步骤）

1. 打开 **Chrome** 浏览器。
2. 点击右上角的 三个点 **"⋮"** 菜单，选择 **"设置 (Settings)"**。
3. 向下滑动，进入 **"网站设置 (Site settings)"**。
4. 点击 **"所有网站 (All sites)"**，进入已存储数据的网站列表。
5. 使用顶部的搜索框或通过滚动列表，找到并点击您想要清除的目标网址。
6. 在该网站的详情页面，点击蓝色的 **"清除和重置 (Clear & reset)"** 按钮。
7. 在弹出的确认对话框中，再次确认执行操作。

预期结果：此操作将删除该网站所有的本地存储数据、Cookie、权限设置，并注销其服务工作线程 (Service Worker)，从根本上清除了 PWA 的离线基础。

2.2 步骤二：从主屏幕移除应用图标

1. 返回到您的手机主屏幕（桌面）。
2. 找到该 PWA 的应用图标。
3. 长按 该图标，直到出现快捷菜单。
4. 选择 **"卸载 (Uninstall)"** 或 **"移除 (Remove)"**。
5. 确认卸载操作。

预期结果：PWA 的桌面快捷方式被移除。结合步骤 2.1，该应用已从您的安卓设备上被彻底清除。

3.0 苹果 (iOS / iPhone) 设备操作流程

iOS 系统对添加到主屏幕的 PWA 进行了沙盒化处理，删除方式更为直接。

3.1 情况一：PWA 已添加到主屏幕（首选方法）

此方法将一次性删除应用及其所有数据。

1. 在您的 iPhone 主屏幕上，找到您想要删除的 PWA 应用图标。
2. 长按 该图标，直到弹出快捷菜单。
3. 在菜单中，选择 **"删除书签 (Delete Bookmark)"** 或 **"删除 App (Delete App)"**。
4. 在系统弹出的最终确认窗口中，再次点击 **"删除 (Delete)"**。

预期结果：该 PWA 应用及其所有隔离存储的缓存、Cookie 和离线数据被立即、彻底地从设备中清除。

3.2 情况二：仅在 Safari 中使用，未添加到主屏幕

如果您从未将网站添加到主屏幕，可按此方法清除其在 Safari 中产生的数据。

1. 打开手机的 **"设置 (Settings)"** 应用。
2. 向下滚动，找到并点击 **"Safari 浏览器 (Safari)"**。
3. 在 Safari 设置页面滑到最底部，点击 **"高级 (Advanced)"**。
4. 点击顶部的 **"网站数据 (Website Data)"**。
5. 在列表中找到目标网址，向左滑动，然后点击红色的 **"删除 (Delete)"** 按钮。
   ○ 提示：您也可以使用顶部的搜索框快速定位。

预期结果：Safari 浏览器中存储的关于该特定网站的所有数据被清除。

4.0 桌面版 (Desktop) Chrome 浏览器操作流程

4.1 步骤一：清除网站数据和 Service Worker（核心步骤）

1. 打开您想要删除的 PWA 应用，或者在 Chrome 浏览器的一个标签页中打开对应的网址。
2. 按下 F12 键 (或者 Ctrl+Shift+I / Mac: Cmd+Opt+I) 打开 **"开发者工具 (Developer Tools)"**。
3. 在开发者工具面板中，找到并点击 **"应用 (Application)"** 标签页。
4. 在左侧菜单中，点击 **"存储 (Storage)"**。
5. 在主区域中，点击 **"清除网站数据 (Clear site data)"** 按钮。为确保清除彻底，可以勾选所有复选框。

预期结果：该网站的所有本地数据，包括缓存、数据库和 Service Worker 都被彻底清除。PWA 将恢复到未安装状态。

4.2 步骤二：从 Chrome 中卸载应用

1. 在 Chrome 浏览器的地址栏输入 chrome://apps 并按回车。
2. 找到您要卸载的 PWA 应用图标。
3. 在图标上 右键单击。
4. 在弹出的菜单中选择 **"从 Chrome 中移除... (Remove from Chrome...)"**。

5. 在确认对话框中点击 **"移除 (Remove)"**。

预期结果：PWA 应用本身被卸载，其快捷方式也会从您的操作系统（如 Windows 开始菜单或 Mac Launchpad）中移除。

Standard Operating Procedure (SOP) for PWA Application Data Clearing

Document ID: TEC-SOP-001
Version: 1.1
Subject: Completely Clearing Progressive Web Application (PWA) and its Cached Data
Applicable Platforms: Android / iOS / Desktop Chrome
1.0 Purpose

The purpose of this document is to provide a standardized procedure for completely deleting PWA applications and all their related data (including cache, cookies, offline files, and settings) on Android, iOS, and Desktop Chrome, ensuring no residue remains.

2.0 Android Device Procedure

This procedure applies to PWAs installed or used via the Chrome browser. The process is divided into two steps, both of which must be completed to ensure a thorough removal.

2.1 Step 1: Clear Website Data in Chrome Browser (Core Step)

1. Open the **Chrome** browser.
2. Tap the **three dots "⋮"** menu in the top-right corner and select **"Settings"**.
3. Scroll down and go to **"Site settings"**.
4. Tap **"All sites"** to see a list of websites with stored data.
5. Use the search bar at the top or scroll through the list to find and tap the target website URL you want to clear.
6. On the site's details page, tap the blue **"Clear & reset"** button.
7. Confirm the action in the pop-up dialog box.

Expected Outcome: This action will delete all of the site's locally stored data, cookies, permission settings, and unregister its Service Worker, fundamentally removing the PWA's offline foundation.

2.2 Step 2: Remove App Icon from Home Screen

1. Return to your phone's home screen (desktop).
2. Locate the PWA's application icon.

3. **Long-press** the icon until a context menu appears.
4. Select **"Uninstall"** or **"Remove"**.
5. Confirm the uninstall action.

Expected Outcome: The PWA's home screen shortcut is removed. Combined with Step 2.1, the application is now completely cleared from your Android device.

3.0 Apple (iOS / iPhone) Device Procedure

The iOS system sandboxes PWAs added to the Home Screen, making the deletion process more straightforward.

3.1 Case 1: PWA Has Been Added to the Home Screen (Preferred Method)

This method deletes the app and all its data at once.

1. On your iPhone's Home Screen, find the PWA icon you want to delete.
2. **Long-press** the icon until a context menu appears.
3. In the menu, select **"Delete Bookmark"** or **"Delete App"**.
4. In the final confirmation window that pops up, tap **"Delete"** again.

Expected Outcome: The PWA and all of its sandboxed cache, cookies, and offline data are immediately and completely removed from the device.

3.2 Case 2: Used Only in Safari, Not Added to the Home Screen

If you never added the website to your home screen, you can use this method to clear its data from within Safari.

1. Open the **"Settings"** app on your phone.
2. Scroll down and tap on **"Safari"**.
3. On the Safari settings page, scroll to the very bottom and tap **"Advanced"**.
4. Tap **"Website Data"** at the top.
5. Find the target website in the list, **swipe left** on it, and then tap the red **"Delete"** button.
   - *Tip: You can also use the search bar at the top to locate it quickly.*

Expected Outcome: All data stored by Safari for that specific website is cleared.

4.0 Desktop Chrome Browser Procedure

4.1 Step 1: Clear Site Data and Service Worker (Core Step)

1. Open the PWA you want to delete, or open its corresponding URL in a regular Chrome tab.
2. Press F12 (or Ctrl+Shift+I / Mac: Cmd+Opt+I) to open **Developer Tools**.

3. In the Developer Tools panel, find and click on the **"Application"** tab.
4. In the left-hand menu, click on **"Storage"**.
5. In the main area, click the **"Clear site data"** button. For a complete wipe, ensure all checkboxes are ticked.

Expected Outcome: All local data for the site, including cache, databases, and the Service Worker, is completely cleared. The PWA will revert to an uninstalled state.

4.2 Step 2: Uninstall the App from Chrome

1. In the Chrome address bar, type chrome://apps and press Enter.
2. Find the icon for the PWA you want to uninstall.
3. **Right-click** on the icon.
4. Select **"Remove from Chrome..."** from the context menu.
5. Click **"Remove"** in the confirmation dialog.

Expected Outcome: The PWA itself is uninstalled, and its shortcut will also be removed from your operating system (e.g., Windows Start Menu or Mac Launchpad).