# Program Schedule Update

**Complete Workflow for Future Updates**

**Step 1: Make Changes Locally**

1. **Edit your local files** (just like we did today)
2. **Test locally first** to make sure everything works
3. **Make your changes** (layout, new features, data updates, etc.)

**Step 2: Update Excel File (if needed)**

If you need to add more data:

1. **Edit your Class Cancellation App.xlsx file locally**
2. **Add new rows, columns, or sheets**
3. **Test the data loads correctly** in your local backend

**Step 3: Deploy Changes to GitHub**

1. **Commit your changes:**

bash

git add .

git commit -m "Add new feature: [describe what you added]"

git push origin main

1. **Or use GitHub web interface** (like we did today):

* Go to your repository
* Edit files directly
* Commit changes

**Step 4: Automatic Deployment**

* ✅ **Backend:** Render automatically redeploys when you push to GitHub
* ✅ **Frontend:** Render automatically redeploys when you push to GitHub
* ⏱️ **Deployment time:** Usually 2-5 minutes

**🎨 Common Types of Updates You Can Make**

**Layout Changes:**

* **Modify CSS** in frontend/src/App.css
* **Change table structure** in frontend/src/App.tsx
* **Add new UI components** (buttons, forms, etc.)
* **Update styling** and colors

**New Features:**

* **Add new filter options** (date ranges, program types, etc.)
* **Add sorting functionality** (click column headers to sort)
* **Add export features** (download data as CSV/PDF)
* **Add user preferences** (save filter settings)

**Data Structure Changes:**

* **Add new columns** to your Excel file
* **Add new data fields** in the backend
* **Create new API endpoints** for different data views
* **Add data validation** and error handling

**📁 Files You'll Commonly Edit**

**Frontend (UI/UX):**

* frontend/src/App.tsx - Main app logic and layout
* frontend/src/App.css - Styling and appearance
* frontend/src/index.css - Global styles

**Backend (Data/API):**

* backend.py - API endpoints and data processing
* Class Cancellation App.xlsx - Your data source
* requirements.txt - Python dependencies (if adding new features)

**🚀 Quick Update Examples**

**Example 1: Add a New Filter**

1. **Edit frontend/src/App.tsx** - Add new filter input
2. **Edit backend.py** - Handle new filter parameter
3. **Push to GitHub** - Automatic deployment

**Example 2: Change Table Layout**

1. **Edit frontend/src/App.tsx** - Modify table structure
2. **Edit frontend/src/App.css** - Update styling
3. **Push to GitHub** - Automatic deployment

**Example 3: Add New Data Column**

1. **Edit Excel file** - Add new column
2. **Edit backend.py** - Process new column
3. **Edit frontend/src/App.tsx** - Display new column
4. **Push to GitHub** - Automatic deployment

**🔧 Best Practices for Updates**

**Before Making Changes:**

1. **Test locally first** - Make sure it works on your computer
2. **Backup your Excel file** - Keep a copy before major changes
3. **Make small, incremental changes** - Easier to debug

**During Development:**

1. **Use the debug logs** we added - Check backend logs in Render
2. **Test API endpoints** - Use the /api/test endpoint
3. **Check browser console** - Look for errors in frontend

**After Deployment:**

1. **Test the live app** - Make sure changes work online
2. **Check Render logs** - Verify no errors
3. **Test all features** - Ensure nothing broke

**📋 Your Update Checklist**

Every time you make changes:

* [ ] **Test locally first**
* [ ] **Commit to GitHub**
* [ ] **Wait for Render to redeploy** (2-5 minutes)
* [ ] **Test live app**
* [ ] **Check for errors**

**🎯 Quick Start for Your Next Update**

1. **Make your changes locally**
2. **Test that they work**
3. **Push to GitHub** (same way we did today)
4. **Wait for automatic deployment**
5. **Your app is updated!**

**�� Pro Tips**

* **Keep your Excel file structure consistent** - Don't change column names without updating the code
* **Test one change at a time** - Easier to identify what breaks
* **Use the debug logs** - They'll help you troubleshoot issues
* **Backup before major changes** - Excel file and code

**Your app is now fully maintainable and easy to update!** 🚀Any specific changes you're thinking about making in the future?