PDF Margin Fix Summary

Issues Identified and Fixed

Problems Found:

1. **Pandoc Geometry Syntax**: Using incorrect format `margin=2mm 2mm 2mm 2mm`
2. **Missing CSS Overrides**: No `@page` CSS rule to enforce margins
3. **Default Margins**: CSS `.document` had `margin: 0 auto` which could interfere
4. **PDF Tool Defaults**: No explicit settings to prevent default margins

Solutions Applied:

1. Fixed Pandoc Geometry Syntax

```
// Before (incorrect)
$geometry = "margin={$margins['top']} {$margins['right']} {$margins['bottom']} {$margins['left']}";


// After (correct)
$geometry = "top={$margins['top']}, bottom={$margins['bottom']}, left={$margins['left']}, right={$margins['right']}"
```

2. Added CSS @page Rules

```
@page {
    margin: 2mm !important;
    size: A4;
}


@media print {
    @page {
        margin: 2mm !important;
    }
}
```

3. Enhanced wkhtmltopdf Settings

```
'--disable-smart-shrinking',  // Prevents automatic margin adjustments
'--dpi', '300',              // Better quality
'--minimum-font-size', '6',    // Prevents font-based margin changes
```

4. Removed Conflicting CSS

```
/ Before /
.document {
    margin: 0 auto;  / Could interfere with tool margins /
}


/ After /
.document {
    margin: 0;      / Clean, no interference /
}
```

Debug Output Added

- Verbose logging shows exact margin parameters passed to tools
- Easy to verify if configuration is being applied correctly

Testing Results

Pandoc: Now correctly receives `top=2mm, bottom=2mm, left=2mm, right=2mm`
wkhtmltopdf: Receives individual margin parameters correctly
CSS: Enforces margins with `!important` declarations
Debug: Can see exact margin values in verbose output

Configuration Example

```
{
   "styling": {
      "margins": {
         "top": "2mm",
         "right": "2mm",
         "bottom": "2mm",
         "left": "2mm"
      }
   }
}
```

Verification

- Created test document `docs/margin-test.md`
- Generated PDF with 2mm margins on all sides
- Debug output confirms correct margin parameters
- CSS overrides prevent tool defaults from interfering

The 2mm margins should now be properly applied to all generated PDFs!