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The Claude Skills Cookbook: Anthropic's New Context Engine Outperforms MCP??

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Anthropic quietly released the **Claude Skills Cookbook** on GitHub. Initially, I assumed it was just another dull API document.

But after poking around for a few hours, I realized — this thing actually *alters* how Claude operates.

In short, **skills** are like providing Claude with a set of tools and some muscle memory.

They transform it from a chatty assistant into a practical worker that can actually *do* things — create spreadsheets, build PowerPoints, analyze data, even generate PDFs. And yeah, you can develop your **own** skills too.

Let me show you what I learned.



Image by — Anthropic

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Okay, What Are “Skills” Exactly?

Think of a Skill as a small bundle of instructions that tells Claude how to behave in a particular context.

It's part code, part playbook, part vibe.

Each Skill usually has three things:

- Some **instructions** (what Claude should do)
- A bit of **code** (so it can actually execute)
- Optional **resources** (like templates or datasets)

The idea is to give Claude *specific expertise*—similar to installing a small plugin.

For example:

- “xlsx” skill → makes Excel sheets, charts, and pivot tables
- “pptx” skill → builds presentation slides
- “pdf” skill → formats and exports PDFs
- “docx” skill → writes Word docs

You don't need to load all of these at once — Skills only load when required. That's what Anthropic refers to as **progressive disclosure**, and it helps limit the model's token usage.

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What's Inside the Cookbook

The Cookbook is divided into three main notebooks. Each one concentrates on a different part of the Skills workflow.

1. **Introduction to Skills** — a quick demo on how to set things up and generate your first Excel or PDF.
2. **Financial Applications** — this one's fun if you like dashboards, portfolio analysis, or anything data-heavy.
3. **Custom Skills Development** — this is where you learn to build your own Skill from scratch.

Here's how the folder structure looks once you clone it:

```
skills/
  └── notebooks/
      ├── 01_skills_introduction.ipynb
      ├── 02_skills_financial_applications.ipynb
      └── 03_skills_custom_development.ipynb
  └── sample_data/
      ├── financial_statements.csv
      ├── portfolio_holdings.json
      ├── budget_template.csv
      └── quarterly_metrics.json
```

Each notebook guides you through a specific workflow — from creating Excel dashboards to producing polished PDF reports.

And the sample datasets? They actually look pretty real.

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Setting It Up (Not as Scary as It Sounds)

You'll need a few things:

- Python 3.8 or newer
- Anthropic API key
- Jupyter Notebook or JupyterLab

Then just run this in your terminal:

```
git clone https://github.com/anthropics/clause-cookbooks.git
cd clause-cookbooks/skills
python -m venv venv
source venv/bin/activate # Windows: venv\Scripts\activate
pip install -r requirements.txt
cp .env.example .env
# add your ANTHROPIC_API_KEY to .env
jupyter notebook
```

Once you're in Jupyter, open `01_skills_introduction.ipynb` and you're good to go.

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A Closer Look Inside

Here's where it gets interesting.

Claude doesn't automatically "know" how to run code or download files — that's what the **beta headers** are for.

You essentially need to inform the API that it can use the Skills system and file features. Something like this:

```
from anthropic import Anthropic

client = Anthropic(
    api_key="your-api-key",
    default_headers={
        "anthropic-beta": "code-execution-2025-08-25,files-api-2025-04-14,skill
```

```
    }  
)  
}
```

Those headers unlock:

- **Code execution** (so Claude can run Python safely)
- **Files API** (so it can create and download actual files)
- **Skills framework** (the new part)

Once those are established, Claude essentially turns into an automation engine that can operate across documents.

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Example: Making an Excel File (With One Prompt)

Here's a demo I ran.

All I wanted was a basic budget spreadsheet.

```
from anthropic import Anthropic  
client = Anthropic(api_key="your-api-key")  
  
response = client.messages.create(  
    model="claude-sonnet-4-5-20250929",  
    max_tokens=4096,  
    container={  
        "skills": [  
            {"type": "anthropic", "skill_id": "xlsx", "version": "latest"}  
        ]  
    },  
    tools=[{"type": "code_execution_20250825", "name": "code_execution"}],  
    messages=[{  
        "role": "user",  
        "content": "Create an Excel file with a simple monthly budget spreadsheet"  
    }]  
)  
# extract file_id (you'll have a helper in the notebook)  
file_id = extract_file_id(response)  
# download it  
file_content = client.beta.files.download(file_id=file_id)  
with open("outputs/budget.xlsx", "wb") as f:
```

```
f.write(file_content.read())
print("Done. Check outputs/budget.xlsx")
```

No pandas, no openpyxl, no fórmulas.

Claude simply writes out the entire Excel file and returns it. I ran it locally, and yes, it's a genuine spreadsheet with rows, totals, and even formatting.

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Custom Skills: The Power Move

This is the part that caught my attention — you can *teach* Claude your own specialized workflow.

Let's say you want it to create branded financial reports every month. You can package that logic into a Skill like this:

```
my_skill/
└── SKILL.md
└── scripts/
    └── processor.py
└── resources/
    └── template.xls
```

Inside `SKILL.md`, you describe what the Skill does:

- Input type (e.g., CSV, JSON)
- Output type (Excel, PDF, etc.)
- What logic to follow (e.g., apply company colours, calculate margins)

Next time you call Claude with that skill, it already knows what to do — no need to restate all your instructions.

It's like giving Claude a shortcut to your brain.

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Some Handy Tips I Picked Up

- Don't load everything at once.

Use the progressive loading feature so Claude only grabs the skills it needs.

- Batch tasks.

You can have Claude process multiple datasets in a single run.

- Reuse containers.

When you create a session, reuse it instead of starting fresh every time. It saves time and tokens.

- Keep outputs clean.

Everything you generate goes into an `outputs/` folder. If you rerun a cell, it'll overwrite the file — which is fine, just something to note.

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Little Gotchas

You'll probably hit one or two snags early on.

Here are the ones I ran into:

Problem	What It Means	How I Fixed It
<code>'ValueError: ANTHROPIC_API_KEY not found'</code>	Forgot to update <code>'.env'</code>	Added <code>anthropic_api_key</code> to <code>.env</code>
<code>'Skills feature requires beta header'</code>	Missing the new header	Double-checked the <code>beta</code> header
<code>'Request exceeds token limit'</code>	Prompt too large	Broke up the prompt into smaller chunks

Once those are sorted, everything runs smoothly.

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Why This Actually Feels Different

If you've used GPTs, Plugins, or RAG-style workflows before, this is *not* the same.

Claude's Skills system seems more like providing the model with a **memory** and a **toolkit**.

It understands your goals and has the context to act on them — without constant prompting.

You could:

- Build a dashboard in Excel
 - Auto-generate a PowerPoint from it
 - Export the summary to a branded PDF
- All in one run.

That's not just a productivity trick — it's how AI gradually integrates into actual business workflows.

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Final Thoughts

Honestly, this Skills system is the missing piece between **chatbots** and **real automation**.

Claude can finally *do* things with structure, not just talk about them.

The cookbook is a good starting point if you want to explore that world. It's well-documented, and the examples are ready to use—finance-heavy but easily adaptable.

If you're a developer, analyst, or someone who runs weekly reports, it's worth trying over the weekend.

You'll walk away thinking, "*Wait, did Claude just automate my job?*"

Claude

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