

**Load a .txt or .pdf file using LangChain's TextLoader and split it using RecursiveCharacterTextSplitter. Print the total number of document chunks created. **

```
pip install langchain langchain-community pypdf
```

```
Collecting dataclasses-json<0.7,>=0.5.7 (from langchain-community)
  Downloading dataclasses_json-0.6.7-py3-none-any.whl.metadata (25 kB)
Collecting pydantic-settings<3.0.0,>=2.4.0 (from langchain-community)
  Downloading pydantic_settings-2.10.1-py3-none-any.whl.metadata (3.4 kB)
Collecting httpx-sse<1.0.0,>=0.4.0 (from langchain-community)
  Downloading httpx_sse-0.4.1-py3-none-any.whl.metadata (9.4 kB)
Requirement already satisfied: numpy>=1.26.2 in /usr/local/lib/python3.11/dist-packages (from langchain-community) (2.0.2)
Requirement already satisfied: aiohappyeyeballs>=2.5.0 in /usr/local/lib/python3.11/dist-packages (from aiohttp<4.0.0,>=3.8.3->langchain-community) (2.5.0)
Requirement already satisfied: aiosignal>=1.4.0 in /usr/local/lib/python3.11/dist-packages (from aiohttp<4.0.0,>=3.8.3->langchain-community) (1.4.0)
Requirement already satisfied: attrs>=17.3.0 in /usr/local/lib/python3.11/dist-packages (from aiohttp<4.0.0,>=3.8.3->langchain-community) (25.0.0)
Requirement already satisfied: frozenlist>=1.1.1 in /usr/local/lib/python3.11/dist-packages (from aiohttp<4.0.0,>=3.8.3->langchain-community) (1.4.1)
Requirement already satisfied: multidict<7.0,>=4.5 in /usr/local/lib/python3.11/dist-packages (from aiohttp<4.0.0,>=3.8.3->langchain-community) (6.1.0)
Requirement already satisfied: propcache>=0.2.0 in /usr/local/lib/python3.11/dist-packages (from aiohttp<4.0.0,>=3.8.3->langchain-community) (0.2.0)
Requirement already satisfied: yarl<2.0,>=1.17.0 in /usr/local/lib/python3.11/dist-packages (from aiohttp<4.0.0,>=3.8.3->langchain-community) (1.17.0)
Collecting marshmallow<4.0.0,>=3.18.0 (from dataclasses-json<0.7,>=0.5.7->langchain-community)
  Downloading marshmallow-3.26.1-py3-none-any.whl.metadata (7.3 kB)
Collecting typing-inspect<1,>=0.4.0 (from dataclasses-json<0.7,>=0.5.7->langchain-community)
  Downloading typing_inspect-0.9.0-py3-none-any.whl.metadata (1.5 kB)
Requirement already satisfied: jsonpatch<2.0,>=1.33 in /usr/local/lib/python3.11/dist-packages (from langchain-core<1.0.0,>=0.3.72->langchain-community) (1.33)
Requirement already satisfied: typing-extensions>=4.7 in /usr/local/lib/python3.11/dist-packages (from langchain-core<1.0.0,>=0.3.72->langchain-community) (4.12.0)
Requirement already satisfied: packaging>=23.2 in /usr/local/lib/python3.11/dist-packages (from langchain-core<1.0.0,>=0.3.72->langchain-community) (24.1)
Requirement already satisfied: httpx<1,>=0.23.0 in /usr/local/lib/python3.11/dist-packages (from langchain-core<1.0.0,>=0.3.72->langchain-community) (0.23.0)
Requirement already satisfied: orjson>=3.9.14 in /usr/local/lib/python3.11/dist-packages (from langchain-core<1.0.0,>=0.3.72->langchain-community) (3.11.1)
Requirement already satisfied: requests-toolbelt>=1.0.0 in /usr/local/lib/python3.11/dist-packages (from langchain-core<1.0.0,>=0.3.72->langchain-community) (1.0.0)
Requirement already satisfied: zstandard>=0.23.0 in /usr/local/lib/python3.11/dist-packages (from langchain-core<1.0.0,>=0.3.72->langchain-community) (0.23.0)
Requirement already satisfied: annotated-types>=0.6.0 in /usr/local/lib/python3.11/dist-packages (from pydantic<3.0.0,>=2.7.4->langchain-community) (0.7.0)
Requirement already satisfied: pydantic-core>=2.33.2 in /usr/local/lib/python3.11/dist-packages (from pydantic<3.0.0,>=2.7.4->langchain-community) (2.33.2)
Requirement already satisfied: typing-inspection>=0.4.0 in /usr/local/lib/python3.11/dist-packages (from pydantic<3.0.0,>=2.7.4->langchain-community) (0.4.0)
Collecting python-dotenv>=0.21.0 (from pydantic-settings<3.0.0,>=2.4.0->langchain-community)
  Downloading python_dotenv-1.1.1-py3-none-any.whl.metadata (24 kB)
Requirement already satisfied: charset-normalizer<4,>=2 in /usr/local/lib/python3.11/dist-packages (from requests<3,>=2->langchain-community) (3.4.0)
Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.11/dist-packages (from requests<3,>=2->langchain-community) (3.10)
Requirement already satisfied: urllib3<3,>=1.21.1 in /usr/local/lib/python3.11/dist-packages (from requests<3,>=2->langchain-community) (2.2.3)
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.11/dist-packages (from requests<3,>=2->langchain-community) (2025.8.3)
Requirement already satisfied: greenlet>=1 in /usr/local/lib/python3.11/dist-packages (from SQLAlchemy<3,>=1.4->langchain-community) (3.0.3)
Requirement already satisfied: anyio in /usr/local/lib/python3.11/dist-packages (from httpx<1,>=0.23.0->langchain-community) (4.6.2)
Requirement already satisfied: httpcore==1.* in /usr/local/lib/python3.11/dist-packages (from httpx<1,>=0.23.0->langchain-community) (1.0.7)
Requirement already satisfied: h11>=0.16 in /usr/local/lib/python3.11/dist-packages (from httpcore==1.*->httpx<1,>=0.23.0->langchain-community) (0.14.0)
Requirement already satisfied: jsonpointer>=1.9 in /usr/local/lib/python3.11/dist-packages (from jsonpatch<2.0,>=1.33->langchain-community) (3.0.0)
Collecting mpy-extensions>=0.3.0 (from typing-inspect<1,>=0.4.0->dataclasses-json<0.7,>=0.5.7->langchain-community)
  Downloading mpy_extensions-1.1.0-py3-none-any.whl.metadata (1.1 kB)
Requirement already satisfied: sniffio>=1.1 in /usr/local/lib/python3.11/dist-packages (from anyio->httpx<1,>=0.23.0->langchain-community) (1.3.1)
Downloading langchain_community-0.3.27-py3-none-any.whl (2.5 MB)
  2.5/2.5 MB 43.3 MB/s eta 0:00:00
Downloading pypdf-5.9.0-py3-none-any.whl (313 kB)
  313.2/313.2 kB 27.9 MB/s eta 0:00:00
Downloading dataclasses_json-0.6.7-py3-none-any.whl (28 kB)
Downloading httpx_sse-0.4.1-py3-none-any.whl (8.1 kB)
Downloading pydantic_settings-2.10.1-py3-none-any.whl (45 kB)
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Downloading marshmallow-3.26.1-py3-none-any.whl (50 kB)
  50.9/50.9 kB 4.8 MB/s eta 0:00:00
Downloading python_dotenv-1.1.1-py3-none-any.whl (20 kB)
Downloading typing_inspect-0.9.0-py3-none-any.whl (8.8 kB)
Downloading mpy_extensions-1.1.0-py3-none-any.whl (5.0 kB)
Installing collected packages: python-dotenv, pypdf, mpy-extensions, marshmallow, httpx-sse, typing-inspect, pydantic-settings, dataclasses-json
Successfully installed dataclasses-json-0.6.7 httpx-sse-0.4.1 langchain-community-0.3.27 marshmallow-3.26.1 mpy-extensions-1.1.0 pyda
```

```
from langchain_community.document_loaders import TextLoader, PyPDFLoader
from langchain.text_splitter import RecursiveCharacterTextSplitter
```

```
# ---- Step 1: File path ----
file_path = "/content/ijepav1n3_1.pdf" # or "example.pdf"
```

```
# ---- Step 2: Load document ----
if file_path.endswith(".txt"):
    loader = TextLoader(file_path, encoding="utf-8")
elif file_path.endswith(".pdf"):
    loader = PyPDFLoader(file_path)
else:
    raise ValueError("Only .txt or .pdf supported")
```

```
documents = loader.load()
```

```
documents = loader.load(),
```

```
# ---- Step 3: Split into chunks ----
```

```
text_splitter = RecursiveCharacterTextSplitter(  
    chunk_size=500,  
    chunk_overlap=50  
)  
chunks = text_splitter.split_documents(documents)
```

```
# ---- Step 4: Print number of chunks ----
```

```
print(f"Total number of document chunks: {len(chunks)}")
```

```
↩ Total number of document chunks: 25
```