Chapter 1: Relational Databases
Chapter 2: PostgreSQL in Action

Frontend (PostgreSQL APIs, JDBC and ODBC drivers)

Process manager

Vacuum
Analayze
Logging
Cluster

Utilities

Parser
Traffic cop
Rewriter
Planner
Executor
Query processor

Storage manager

OS (kernel disk buffer cache, fsync)
To use the apt repository, follow these steps:

- Bionic (18.04)

- Create the file `/etc/apt/sources.list.d/pgdg.list` and add a line for the repository
  
  ```
  deb http://apt.postgresql.org/pub/repos/apt/ bionic-pgdg main
  ```

- Import the repository signing key, and update the package lists
  
  ```
  wget --quiet --output-document=pgdg.asc https://www.postgresql.org/media/keys/ACCC4CF8.asc | sudo apt-key add -
  sudo apt-get update
  ```
Select Components

Select the components you want to install; clear the components you do not want to install. Click Next when you are ready to continue.

- PostgreSQL Server
- pgAdmin 4
- Stack Builder
- Command Line Tools

Click on a component to get a detailed description.
Chapter 3: PostgreSQL Basic Building Blocks
Chapter 5: SQL Language

[Diagram showing relations between Table A and Table B]
Chapter 6: Advanced Query Writing

GROUP BY
Table data  Result set

Window functions
Table data  Result set
Chapter 10: Transactions and Concurrency Control

```
<table>
<thead>
<tr>
<th>Conflicting?</th>
<th>ACCESS SHARE</th>
<th>ROW SHARE</th>
<th>ROW EXCLUSIVE</th>
<th>SHARE UPDATE EXCLUSIVE</th>
<th>SHARE</th>
<th>SHARE ROW EXCLUSIVE</th>
<th>EXCLUSIVE</th>
<th>ACCESS EXCLUSIVE</th>
</tr>
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Chapter 12: The PostgreSQL Catalog
Chapter 16: Scalability