Step-by-step: Install pgvector on Windows (PostgreSQL 17.5)

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1. Install Prerequisites

- **PostgreSQL 17.5**
- **Visual Studio Build Tools** (C++ tools)
  Download and install here:
  https://visualstudio.microsoft.com/visual-cpp-build-tools/
  During installation, **select "Desktop development with C++" workload** and **Windows SDK**.
- **Git** (optional but recommended)
  Download here: https://git-scm.com/download/win

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2. Open Developer Command Prompt

- Open **Start menu** → search for:
  `x64 Native Tools Command Prompt for VS 2022` (or your VS version)
- Right-click → **Run as Administrator**

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3. Set PostgreSQL Root Path

```
set PGROOT=C:\Program Files\PostgreSQL\17
```

Adjust path if your PostgreSQL is installed elsewhere.

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4. Download pgvector source code

Option A (recommended, if you have Git):

```
cd %TEMP%
git clone https://github.com/pgvector/pgvector.git
cd pgvector
```

Option B (without Git):

- Download ZIP: https://github.com/pgvector/pgvector/archive/refs/heads/main.zip
- Extract somewhere, e.g., `C:\temp\pgvector`

  Then open Developer Command Prompt and: `cd C:\temp\pgvector`

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5. Edit `Makefile.win` (important!)

Open `Makefile.win` in a text editor (Notepad or VS Code).

Look for the line starting with `INCLUDES =` and make sure it reads exactly like this:

```makefile
CopyEdit
INCLUDES = -I"$(PGROOT)/include/server" -I"$(PGROOT)/include"
-I"$(PGROOT)/include/server/port/win32_msvc"
```

Save and close the file.

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6. Build and Install pgvector

In the same Developer Command Prompt window, run:

`nmake /F Makefile.win clean`

`nmake /F Makefile.win`

`nmake /F Makefile.win install`

You should see compilation steps and then install messages.

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7. Restart PostgreSQL Service

Restart the PostgreSQL server to load the new extension files:

`net stop postgresql-x64-17`

`net start postgresql-x64-17`

8. Enable pgvector Extension in your Database

Open psql or pgAdmin query tool, connect to your database, and run:

```
CREATE EXTENSION vector;
```

To verify:

```
SELECT extversion FROM pg_extension WHERE extname = 'vector';
```

9. Test pgvector

Create a sample table:

```
CREATE TABLE items (
  id SERIAL PRIMARY KEY,
  embedding vector(3)
);

INSERT INTO items (embedding) VALUES ('[1, 2, 3]'), ('[4, 5, 6]');

SELECT * FROM items ORDER BY embedding <-> '[3, 1, 2]' LIMIT 5;
```