

Installing or Updating an Extension

TimescaleDB supports a growing range of PostgreSQL-compatible extensions that add extra functionality to the core database system. Extensions like `pg_trgm` (for text search) and some UUID utilities are used to extend native capabilities. However, **not all PostgreSQL extensions are supported**, especially those requiring compiled C code like `uuid-oss` or `postgis`, unless TimescaleDB has explicitly implemented or emulated them. If you're running TimescaleDB on Elestio, many supported extensions can be enabled directly within your database. This guide explains how to enable, manage, and troubleshoot extensions in an Elestio-hosted TimescaleDB environment, with attention to compatibility concerns.

Installing and Enabling Extensions

TimescaleDB extensions can be installed in each database individually. Most common extensions are included in the TimescaleDB installation on Elestio. To enable an extension, you need to connect to your database using a tool like `psql`.

Start by connecting to your TimescaleDB database. You can follow the detailed documentation as provided [here](#).

Once connected, you can enable an extension using the `CREATE EXTENSION` command. For example, to enable the `uuid-oss` extension:

```
CREATE EXTENSION IF NOT EXISTS "uuid-oss";
```

To check which extensions are already installed in your current database, use the `\dx` command within `psql`. If you want to see all available extensions on the server, use:

```
SELECT * FROM pg_available_extensions ORDER BY name;
```

If the extension you need is not listed in the available extensions, it may not be installed on the server.

Checking Extension Compatibility

Each TimescaleDB extension is built for a specific TimescaleDB version. Not all extensions are compatible across major versions. Before upgrading TimescaleDB or deploying an extension, it is important to check whether the extension is compatible with the version you are using.

To check the installed version of an extension and the default version provided by the system, run:

```
SELECT name, default_version, installed_version
FROM pg_available_extensions
WHERE name = 'pg_trgm';
```

If you are planning to upgrade your TimescaleDB version, it is recommended to deploy a new instance with the target version and run the above query to see if the extension is available and compatible. Some extensions may require specific builds for each version of TimescaleDB. After upgrading your database, you may also need to update your extensions using:

```
ALTER EXTENSION <extension_name> UPDATE;
```

This ensures the extension objects in the database match the new database version.

Troubleshooting Common Extension Issues

There are some common issues users may encounter when working with extensions. These usually relate to missing files, permission problems, or version mismatches.

If you see an error like could not open extension control file, it means the extension is not installed on the server. This usually happens when the extension is not included in the TimescaleDB installation. If the error message says that the extension already exists, it means it has already been installed in the database. You can confirm this with the \dx command or the query:

```
SELECT * FROM pg_extension;
```

If you need to reinstall it, you can drop and recreate it. Be careful, as dropping an extension with CASCADE may remove objects that depend on it:

```
DROP EXTENSION IF EXISTS <extension_name> CASCADE;
CREATE EXTENSION <extension_name>;
```

Another common issue appears after upgrading TimescaleDB, where some functions related to the extension stop working. This is often due to the extension not being updated. Running the following command will usually fix this.

```
ALTER EXTENSION <name> UPDATE;
```

In some cases, you may get a permission denied error when trying to create an extension. This means your database role does not have the required privileges. You will need to connect using a superuser account like postgres, or request that Elestio enable the extension for you.

