

# Restoring TeamCity Data from Backup

TeamCity administrators are able to restore [backed up data](#) using the `maintainDB` command-line utility.



## Previous versions

Note that restoration of the backup created with TeamCity versions earlier than 6.0 can only be performed with the same TeamCity version as the one which created the backup. Backups created with TeamCity 6.0+ can be restored using the same or more recent TeamCity versions.



## Server Copying


If you are creating a copy of the server, make sure to go through [copied server checklist](#) after restoration.

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You can restore backed up data into the same or a different database; from/to any of the [supported databases](#), e.g. you can restore data from a HSQL database to a PostgreSQL database, as well as restore a backup of a PostgreSQL database to a new PostgreSQL database.

During database restoration you might want to configure database-specific settings to make the bulk data changes faster (like setting SQL Server "Recovery Model" to "Simple").

 This document describes some of the `maintainDB` options. For the complete list of all available options, run `maintainDB` from the command line with no parameters. See also `maintainDB` [startup options](#).

A TeamCity backup file does not contain build artifacts, so to get the server with all the same important data you need to restore from a backup file (at least settings and database) and copy the build logs and artifacts (located in `<TeamCity Data Directory>/system/artifacts` by default) from an old to the new data directory manually.

When [external artifacts storage](#) is enabled, the [artifacts directory](#) of the TeamCity Data directory contains metadata about artifacts mappings, so make sure they are restored.

See also details on the directories in the [TeamCity Data Directory](#) description.

## Performing restore

To perform restore from a backup file:

1. Install the TeamCity server from a `tar.gz` or `.exe` installation package. Do not start the TeamCity server.
2. Create a new empty [TeamCity Data Directory](#).
3. Select one of the options:
  - a. To restore the backup into a new external database, [create and configure an empty database](#), configure a `database.properties` file with the database settings to be passed to the `restore` command later on and either place it into the `/config` subdirectory of the newly created [TeamCity Data Directory](#) or anywhere on your file system outside the TeamCity Data Directory.
  - b. To restore the data into the same database the backup was created from, proceed to the next step.
  - c. To restore the backup into the internal database:
    - TeamCity 10.0.5 and later: proceed to the next step.
    - prior to TeamCity 10.0.5:  
Save the code below to the `database.properties` file (this is a temporary file for the purposes of restoration) and place the file anywhere on your file system outside the TeamCity Data Directory.

```
# Database: HSQLDB (HyperSonic) version 2.x
connectionUrl=jdbc:hsqldb:file:$TEAMCITY_SYSTEM_PATH/buildserver
```

4. Place the required [database drivers](#) into the `lib/jdbc` subdirectory of the newly created [TeamCity Data Directory](#) directory.
5. Use the `maintainDB` utility located in the `<TeamCity Home>/bin` directory to run the `restore` command:
  - a. To restore the backup into a new external database
    - if the `database.properties` file is in the TeamCity Data Directory:

```
maintainDB.[cmd|sh] restore -A <absolute path to the newly created TeamCity Data Directory> -F <path to the TeamCity backup file> -T <config/database.properties>
```

- If the `database.properties` file is outside the TeamCity Data Directory:

```
maintainDB.[cmd|sh] restore -A <absolute path to the newly created TeamCity Data Directory> -F <path to the TeamCity backup file> -T <absolute path to the database.properties file of the target database on the file system outside data dir>
```

b. To restore the data into the same database the backup was created from:

```
maintainDB.[cmd|sh] restore -A <absolute path to the newly created TeamCity Data Directory> -F <path to the TeamCity backup file>
```

c. To restore the backup into the internal database:

- TeamCity 10.0.5 and later:

```
maintainDB.[cmd|sh] restore -A <absolute path to the newly created TeamCity Data Directory> -I -F <path to the TeamCity backup file>
```


- prior to TeamCity 10.0.5:

```
maintainDB.[cmd|sh] restore -A <absolute path to the newly created TeamCity Data Directory> -F <path to the TeamCity backup file> -T <absolute path to the database.properties file of the target database on the file system outside data dir>
```

6. If the process completes successfully, copy over `<TeamCity Data Directory>/system/artifacts` from the old directory.

Notes on the `restore` command options:

- The `-A` argument can be omitted if you have the `TEAMCITY_DATA_PATH` environment variable set.
- The `-F` argument can be an absolute path or a path relative to the `<TeamCity Data Directory>/backup` directory.
- The `-T` argument must point to the `database.properties` file created in step 3.
- If the `-T` argument is not specified and the `database.properties` file is present in the newly created `TeamCity Data Directory/config` and the backup file, the database is restored using the properties file in `TeamCity Data Directory/config`.
- By default, if no other option except `-F` is specified, all of the backed up scopes will be restored from the backup file. To restore only specific scopes from the backup file, use the corresponding options of the `maintainDB` utility: `-D`, `-C`, `-U`, `-L`, and `-P`.

 To get the reference for the available options of `maintainDB`, run the utility without any command or option.

## Restoring database only

Before restoring a TeamCity database to an existing server, make sure the TeamCity server is not running.

To restore a TeamCity database only from a backup file to an existing server:

1. **Create and configure the database**, placing the `database.properties` file into the `config` subdirectory of the `TeamCity`

Data Directory.

2. Ensure that the required database drivers are present in the [TeamCity Data Directory/lib/jdbc](#) sub directory.
3. Use the `maintainDB` utility located in the `<TeamCity Home>/bin` directory (only available in TeamCity `.tar.gz` and `.exe` distributions).
4. Use the `restore` command (The `-T` argument must point to the `database.properties` file created in step 1):

```
maintainDB.[cmd|sh] restore -A <absolute path to TeamCity Data Directory> -F <path to the TeamCity backup file> -T <path to the database.properties file of the target database> -D
```

5. See the `maintainDB` utility console output. You may have to copy the `database.properties` file manually if requested.

## Resuming restore after interruption

The restore may be interrupted due to the following reasons:

- Lack of space on the file system or in the database
- Insufficient permissions to the file system or the database.

The interruption occurs when one of tables or indexes failed to be restored, which is indicated in the `maintainDB` utility console output.

Before resuming the restore, manually delete the incorrectly restored object from the database.

To resume the backup restore after an interruption:

Run the `maintainDB` utility with the `restore` command with the required options and the additional `--continue` option:

```
maintainDB.[cmd|sh] restore <all previously used restore options> --continue
```

See also:

[Administrator's Guide: Creating Backup via maintainDB command-line tool](#)