

How to create a Virtual Tunnel

Create a New Maze

For this experiment, load the VirtualTunnel.maze file by clicking *load maze* in MazeMaster.

If you want to create your own maze, start the maze builder by clicking on the button in the top panel.

A maze should always have a starting point somewhere in the maze. Most often, a reward is also needed to start a new trial automatically.

Textures for the walls can be added by clicking on the background, ceiling or floor buttons on the lower right corner in the texture section. By clicking you can select a texture, which should be a square shaped image file.

If the maze is done, it should be named and saved by clicking on the save button. The Maze builder can now be closed.

The new maze has to be loaded by clicking on the load maze button in the top menu.

Configure Input Device

Go to *windows* → *Input devices* and select *ball* (or *wheel* if you want only one-dimensional movement).

there are two number indicating the id of the computer mice attached to the ball. They can be set by clicking the set button next to the number panel and afterwards moving the mouse. This should be done for both computer mice separately, so that there are two different ids for the two computer mice in the entry fields. After this is done close the window by clicking the save button.

Set General Settings

Either create a new configuration file for your settings, or load an existing one. For this example experiment, load the task setting *navigation* from the experiment *virtual tunnel*.

Set Maze settings

Open the window *windows* → *Maze Settings* in the top menu. Make sure, that *New Trial after Reward* is checked. Close the window by clicking *Save*.

Trial Control Settings

The settings should be adjusted automatically by loading the pre-settings.

Make sure that the tracking checkbox is checked and select a recording frequency (e.g. 1 Hz).

A new trial should start automatically after reaching the reward zone, so start trial directly should be marked. By reaching the reward zone a small water droplet should be given, this can be done by

enabling the reward supply together with setting a valve opening time. With this time setting the amount of water is set.

Start the Server

The graphical engine is ready to start. Click on the connect button in the server control panel to automatically start the engine. The server status should change to online, after a few seconds. When this is the case, the experiment can be started by clicking the start block of trials button in the trial control panel.