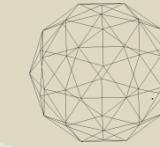


Basic 3D animation using Blender

SKANI101x



IIT BOMBAY

Key frame animation – Part II

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Nitin Ayer and Sneha Sanglikar

IIT Bombay

Outline

- Adding key frames for multiple transformation
 - LocRot (Location – Rotation)
 - LocScale (Location – Scale)
 - RotScale (Rotation – Scale)
 - LocRotScale (Location – Rotation – Scale)
- Render settings for animation

Adding key frames

Multiple transformation

Steps to add key frame

1. Set current frame
2. Apply transformation (Grab, rotate, scale)
3. Add key frame to lock transformation

Adding key frame

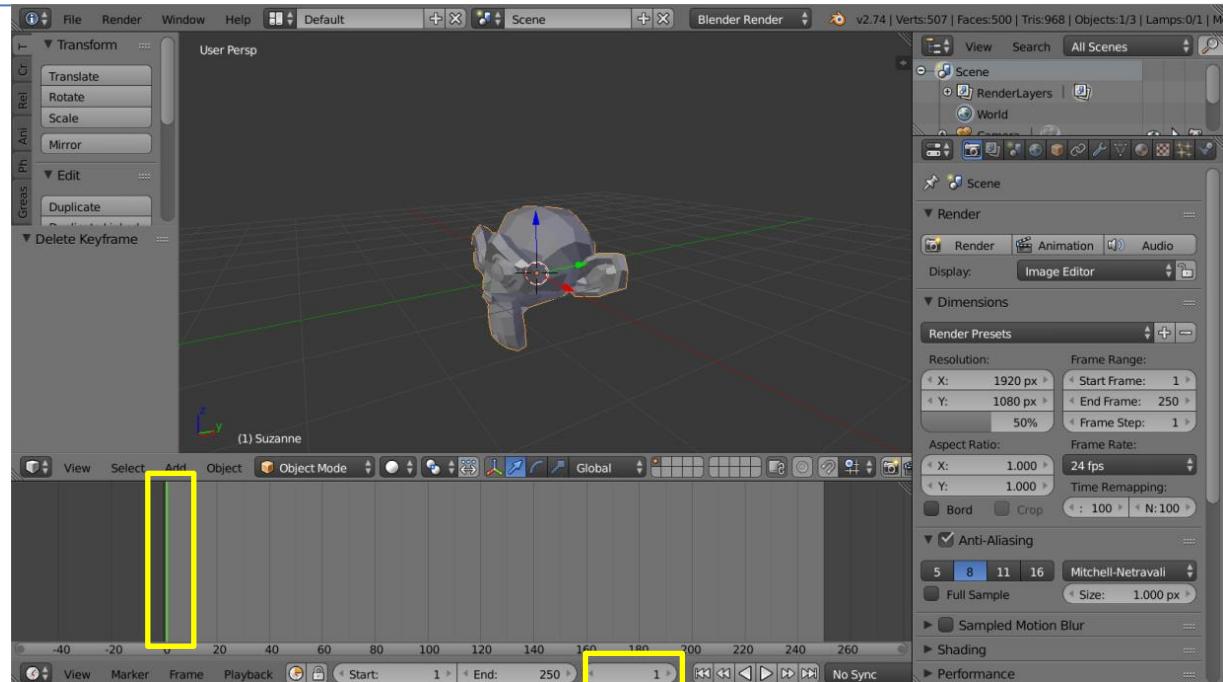
LocRot (Location – Rotation)

1. Set current frame (Initial state)

Animation will start from frame 1

- Set current frame as frame 1 ([Enter 1 in current frame box](#))

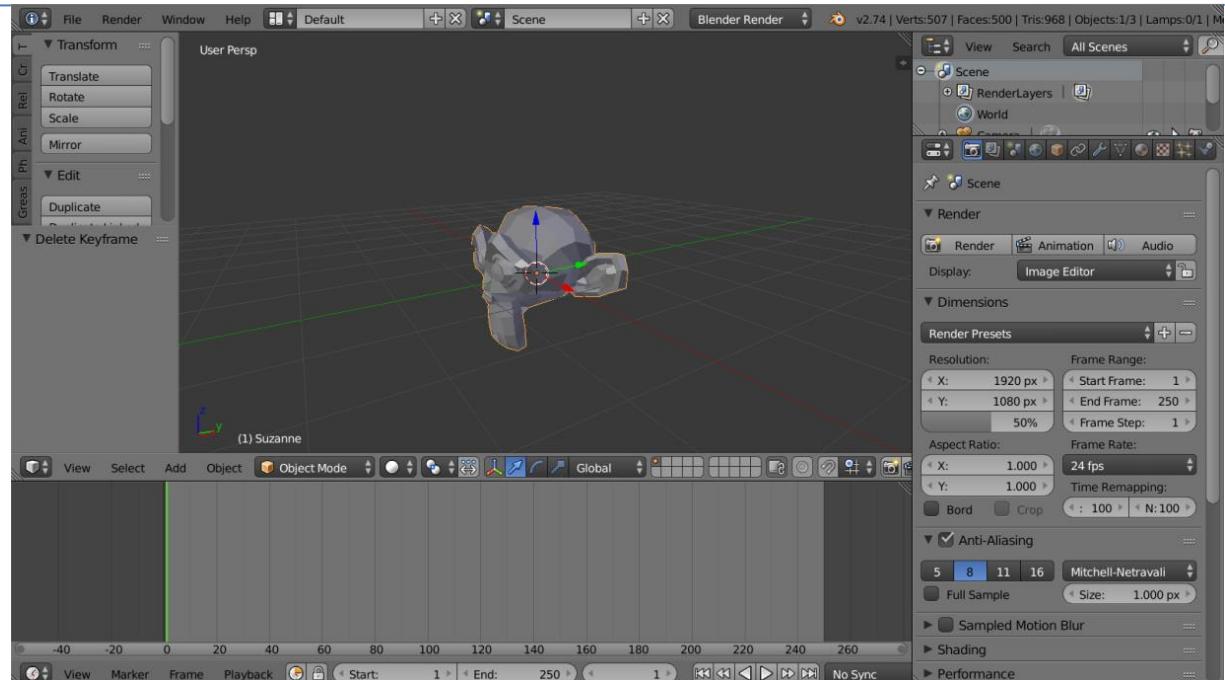
Setting current frame means defining the starting frame of the animation



2. Apply transformation (Initial state)

- Select object (**right click**)
- Set initial state of the object, use basic transformation (**S, R and G**)

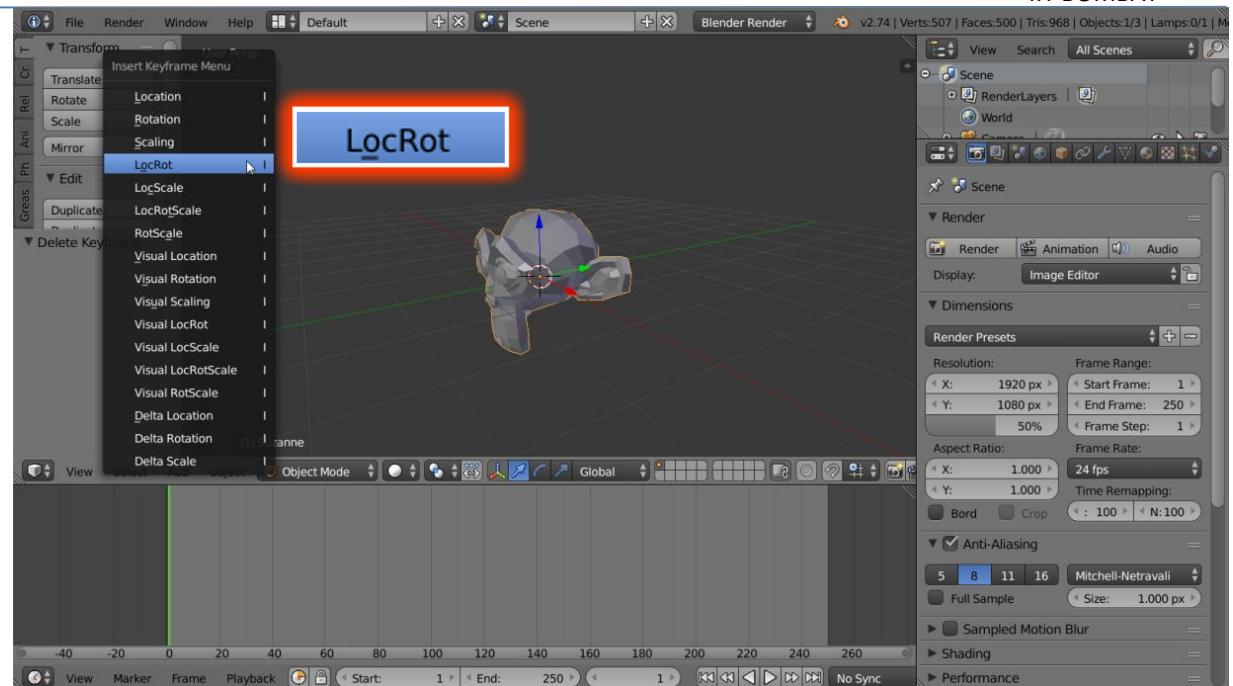
Setting initial state of the object means setting object state at the start of animation



3. Add key frame (Initial state)

- Enable key frame pop-up (I)
 - Pop-up ‘Insert key frame menu’ will appear
- Select ‘LocRot’ option to add key frame for object’s location and rotation

Adding key frame means locking the state of the object



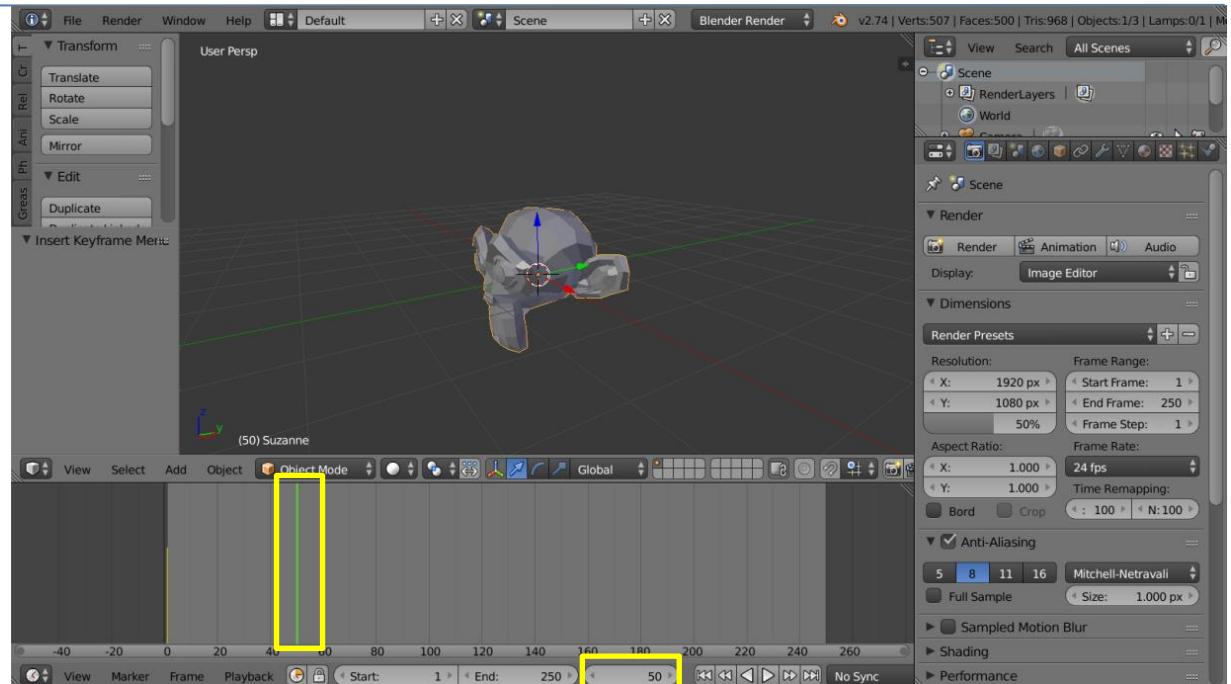
Set Final state

Initial state of the object is defined, now set final state of the object by repeating the same three steps

1. Set current frame (Final state)

- Set current frame to 50
(Enter 50 in current frame box)

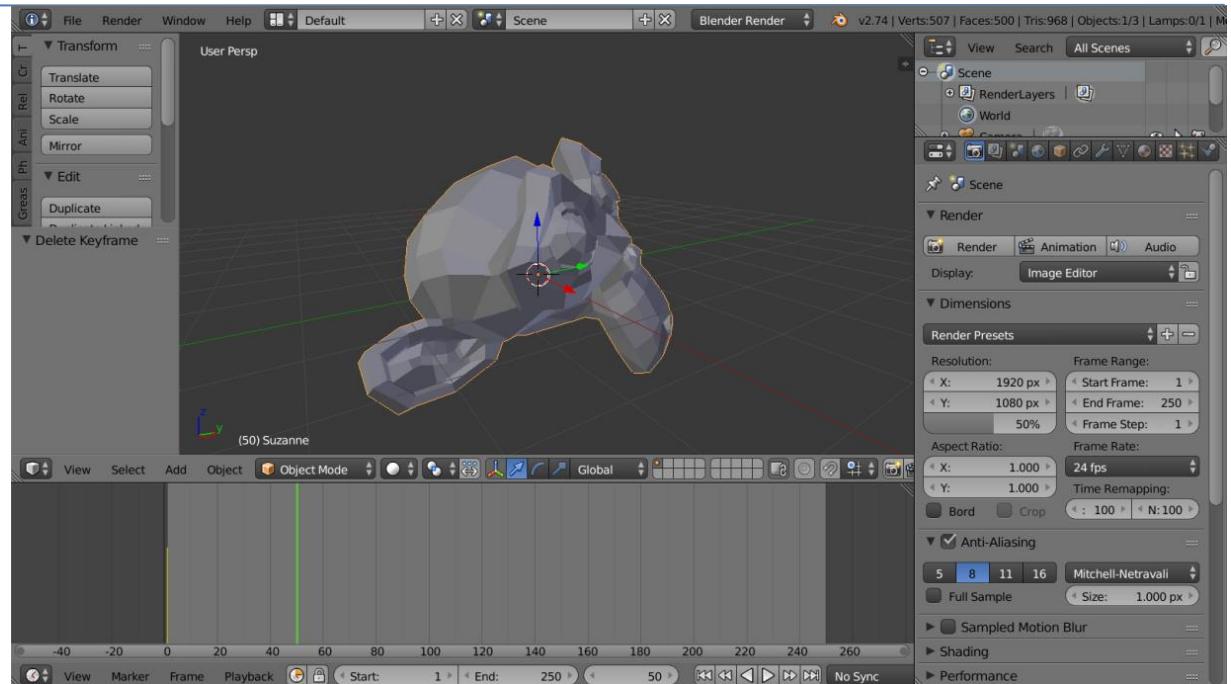
Changing the current frame means deciding the time of the animation



2. Apply transformation (Final state)

- Move and rotate object in any direction (**G** and **R** + mouse movement)

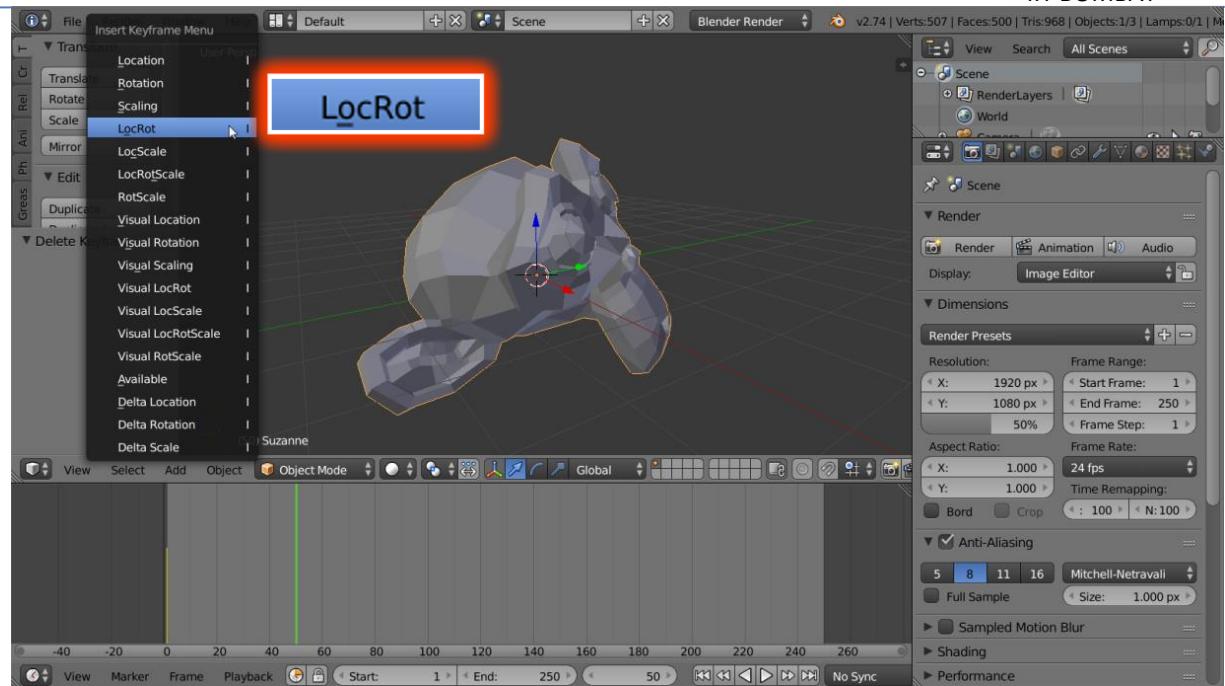
Applying transformation decides the action performed by object during the animation



3. Add key frame (Final state)

- Enable key frame pop-up (I)
 - Pop-up ‘Insert key frame menu’ will appear
- Select ‘LocRot’ option to add key frame for object’s location and rotation

Adding key frame means locking the final state of object



Adding key frame

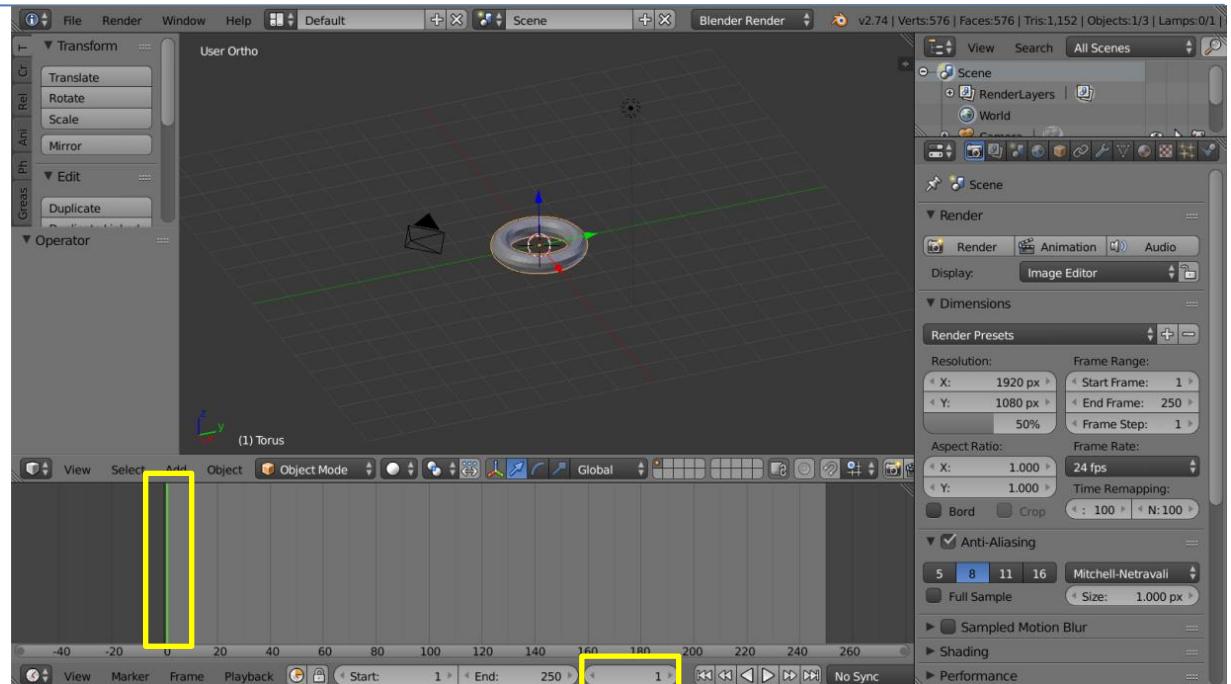
LocScale (Location – Scale)

1. Set current frame (Initial state)

Animation will start from frame 1

- Set current frame as frame 1 ([Enter 1 in current frame box](#))

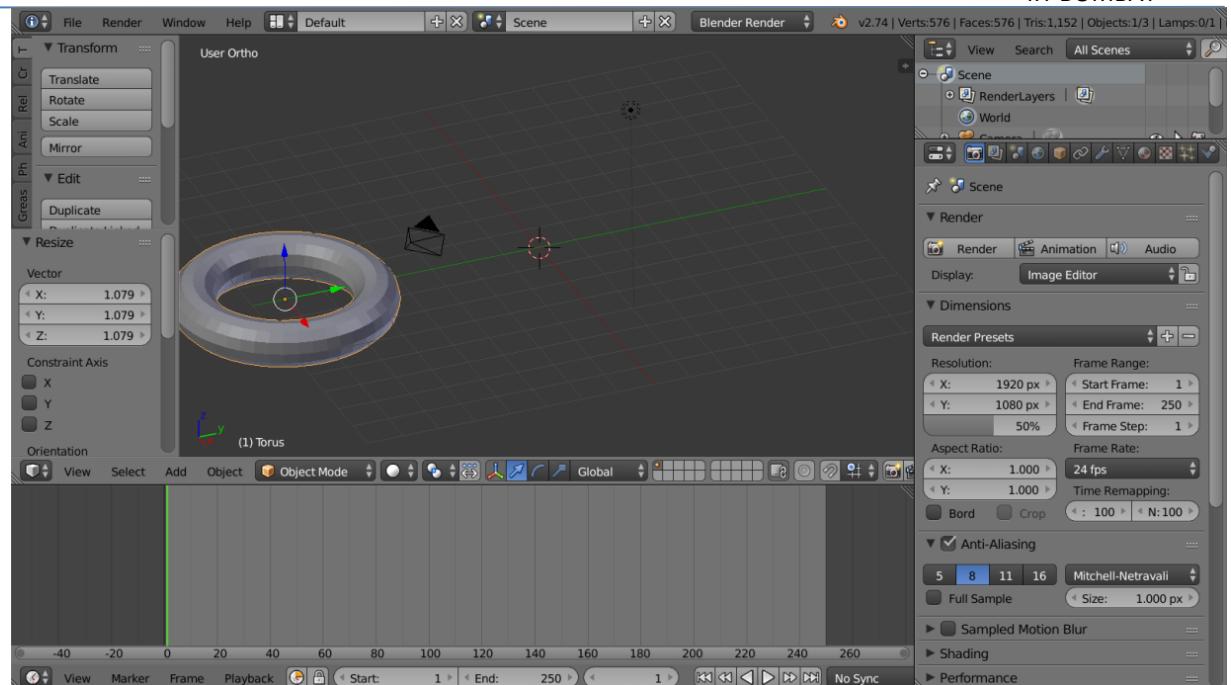
Setting current frame means defining the starting frame of the animation



2. Apply transformation (Initial state)

- Select object (right click)
- Set initial state of the object, use basic transformation (S, R and G)

Setting initial state of the object means setting object state at the start of animation



3. Add key frame (Initial state)

- Enable key frame pop-up (I)
 - Pop-up ‘Insert key frame menu’ will appear
- Select ‘LocScale’ option to add key frame for object’s location and scale

Adding key frame means locking the state of the object



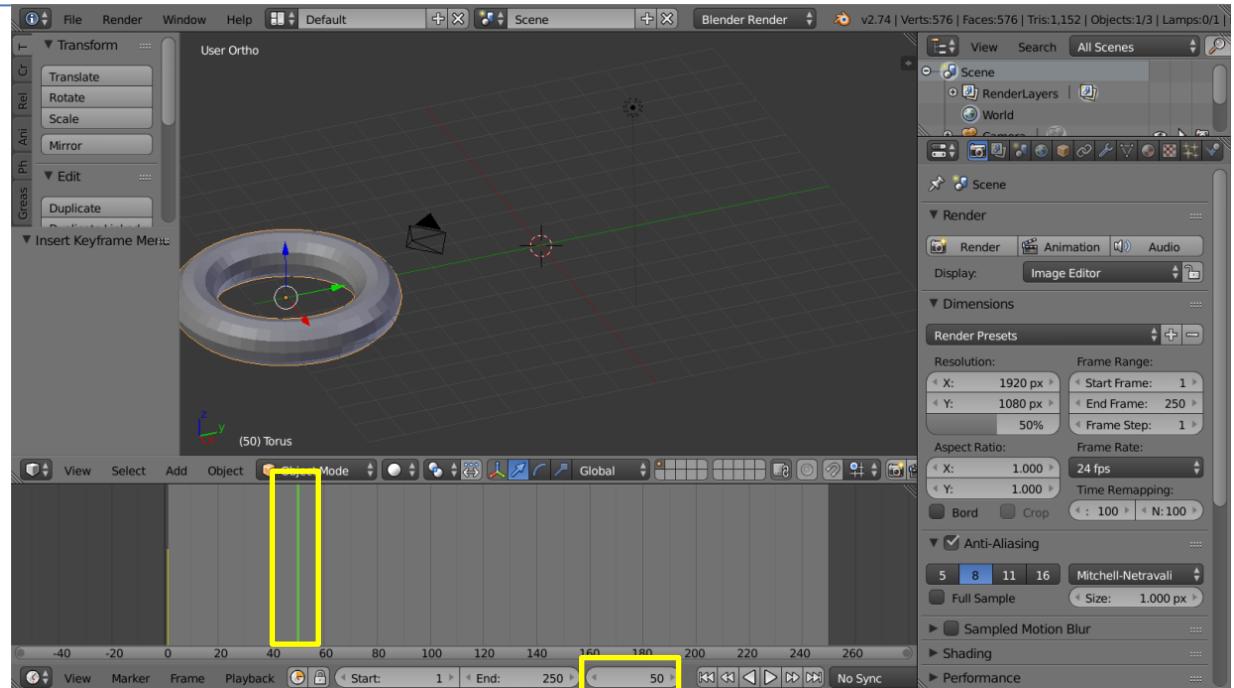
Set Final state

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1. Set current frame (Final state)

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(Enter 50 in current frame box)

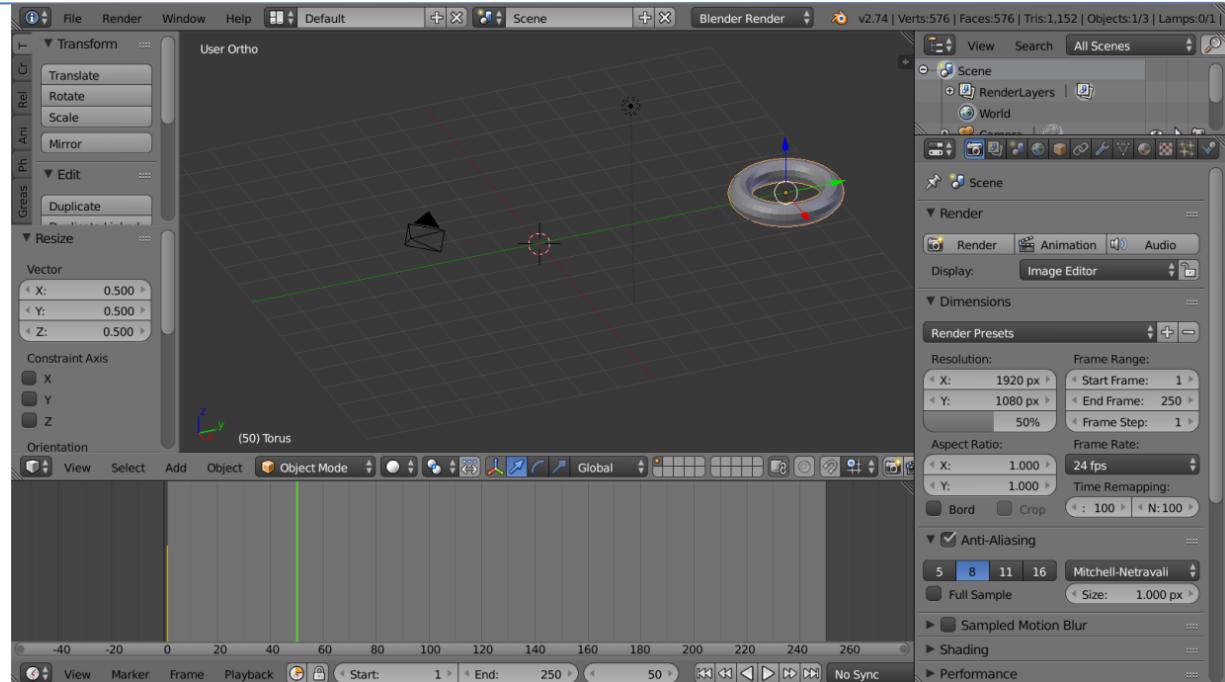
Changing the current frame means deciding the time of the animation



2. Apply transformation (Final state)

- Move and scale object in any direction (**G** and **S** + mouse movement)

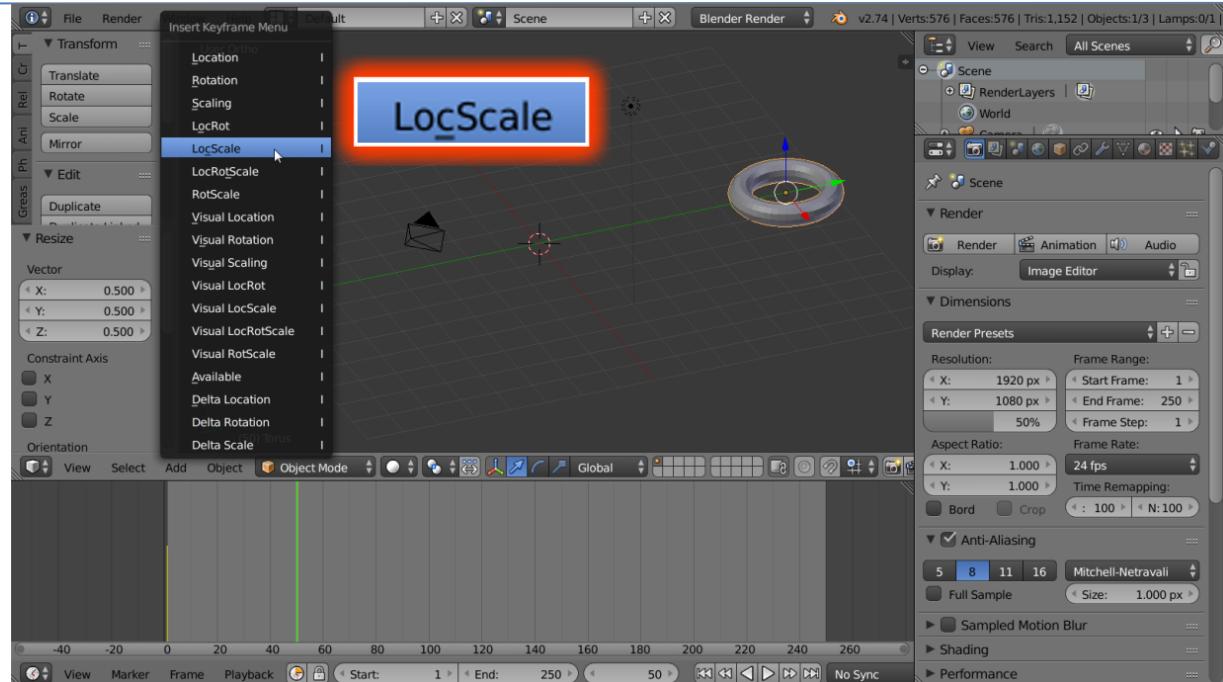
Applying transformation decides the action performed by object during the animation



3. Add key frame (Final state)

- Enable key frame pop-up (I)
 - Pop-up ‘Insert key frame menu’ will appear
- Select ‘LocScale’ option to add key frame for object’s location and scale

Adding key frame means locking the final state of object



Adding key frame

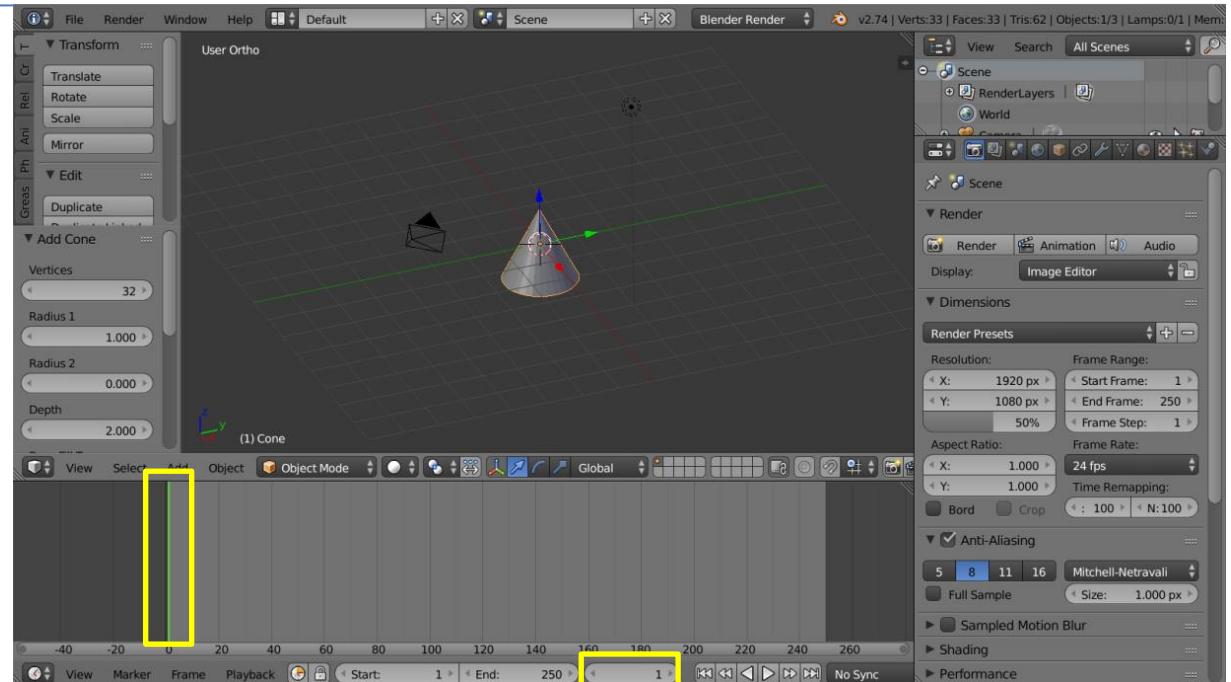
RotScale (Rotation – Scale)

1. Set current frame (Initial state)

Animation will start from frame 1

- Set current frame as frame 1 ([Enter 1 in current frame box](#))

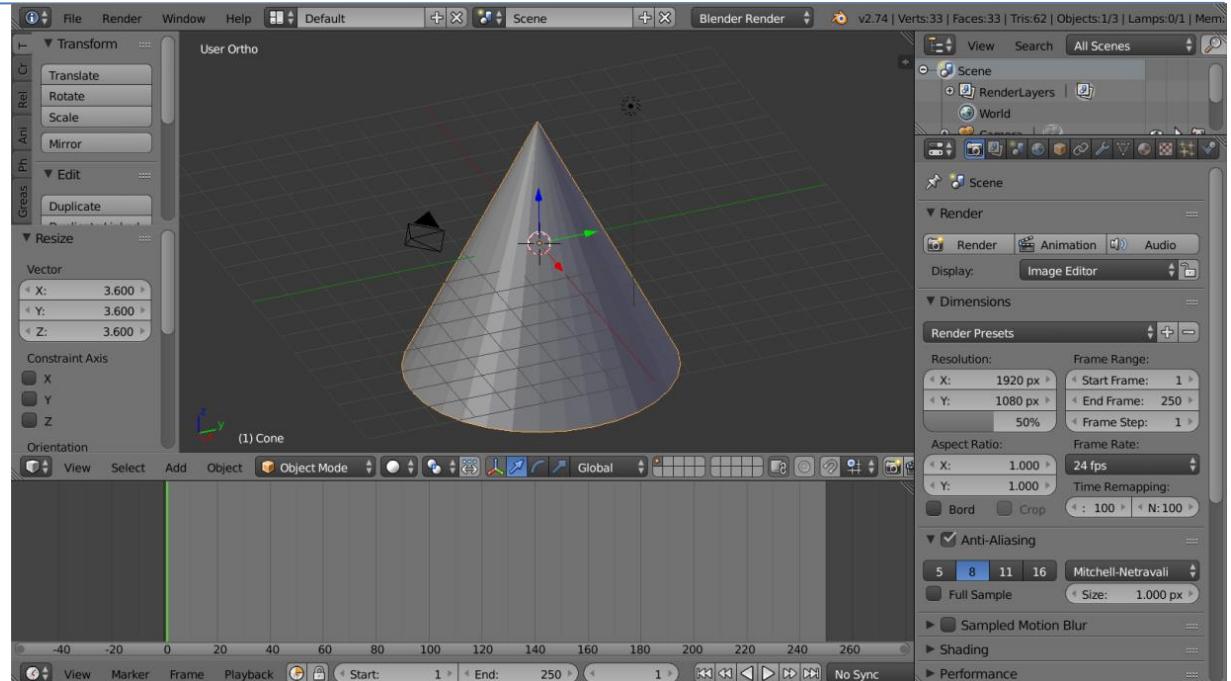
Setting current frame means defining the starting frame of the animation



2. Apply transformation (Initial state)

- Select object (right click)
- Set initial state of the object, use basic transformation (S, R and G)

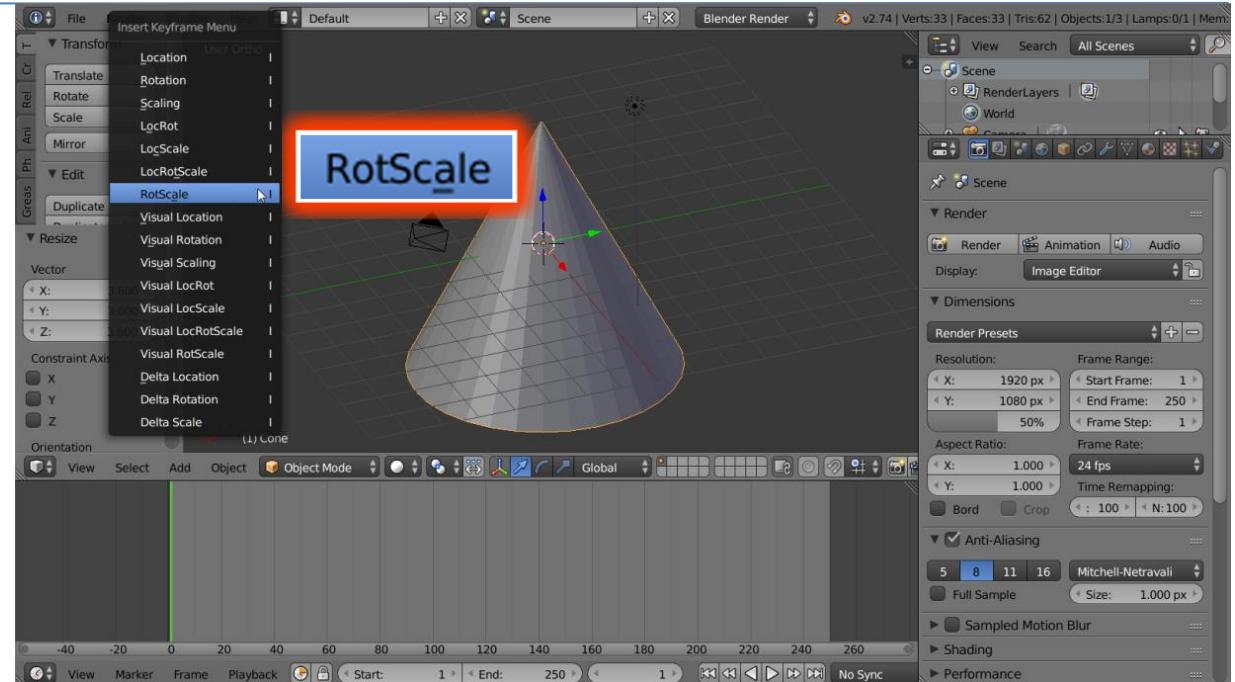
Setting initial state of the object means setting object state at the start of animation



3. Add key frame (Initial state)

- Enable key frame pop-up (I)
 - Pop-up ‘Insert key frame menu’ will appear
- Select ‘RotScale’ option to add key frame for object’s rotation and scale

Adding key frame means locking the state of the object



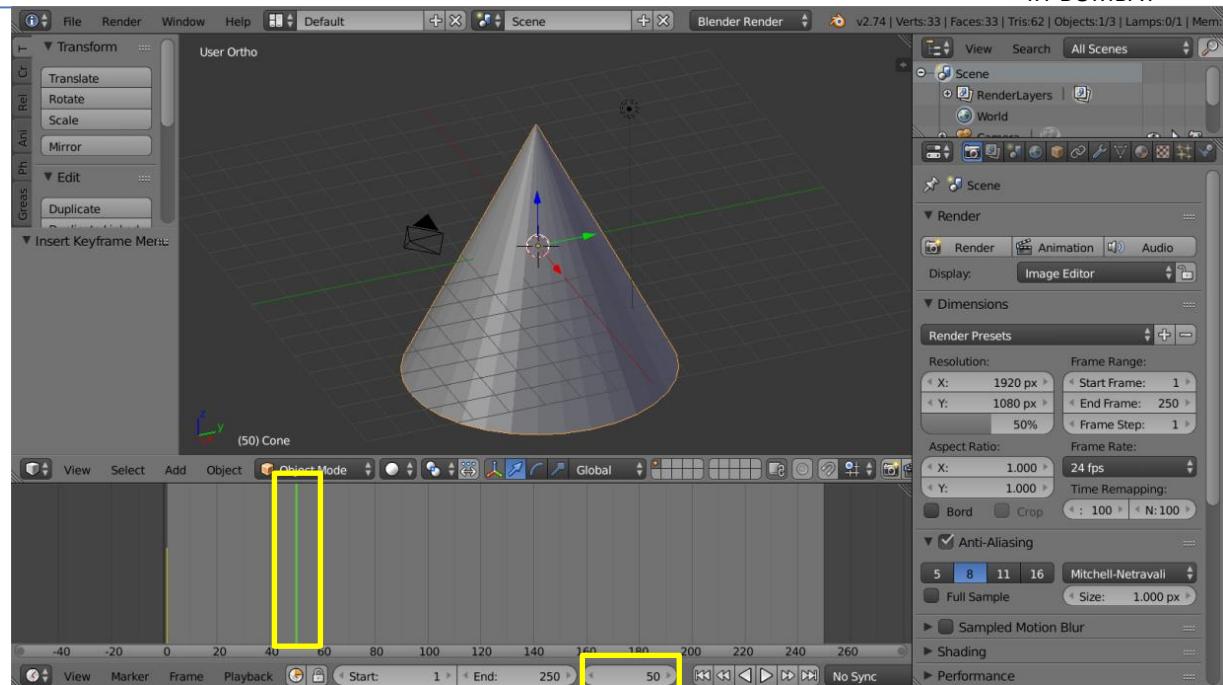
Set Final state

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1. Set current frame (Final state)

- Set current frame to 50
(Enter 50 in current frame box)

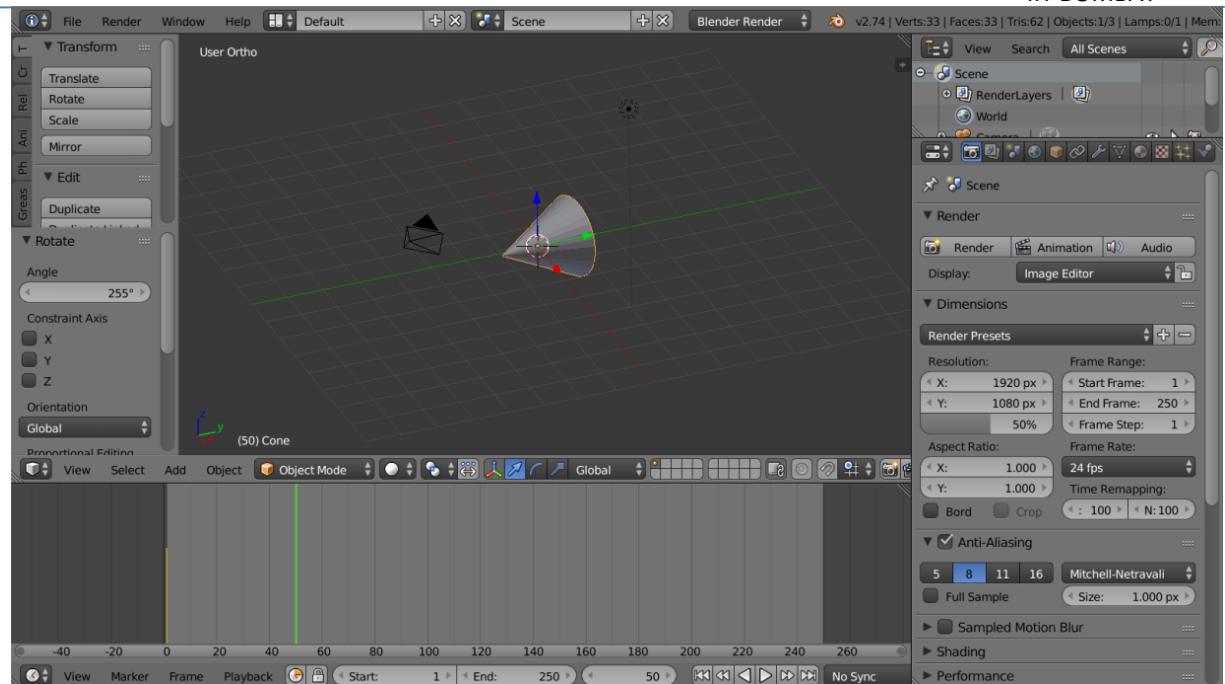
Changing the current frame means deciding the time of the animation



2. Apply transformation (Final state)

- Rotate and scale object in any direction (**R** and **S** + mouse movement)

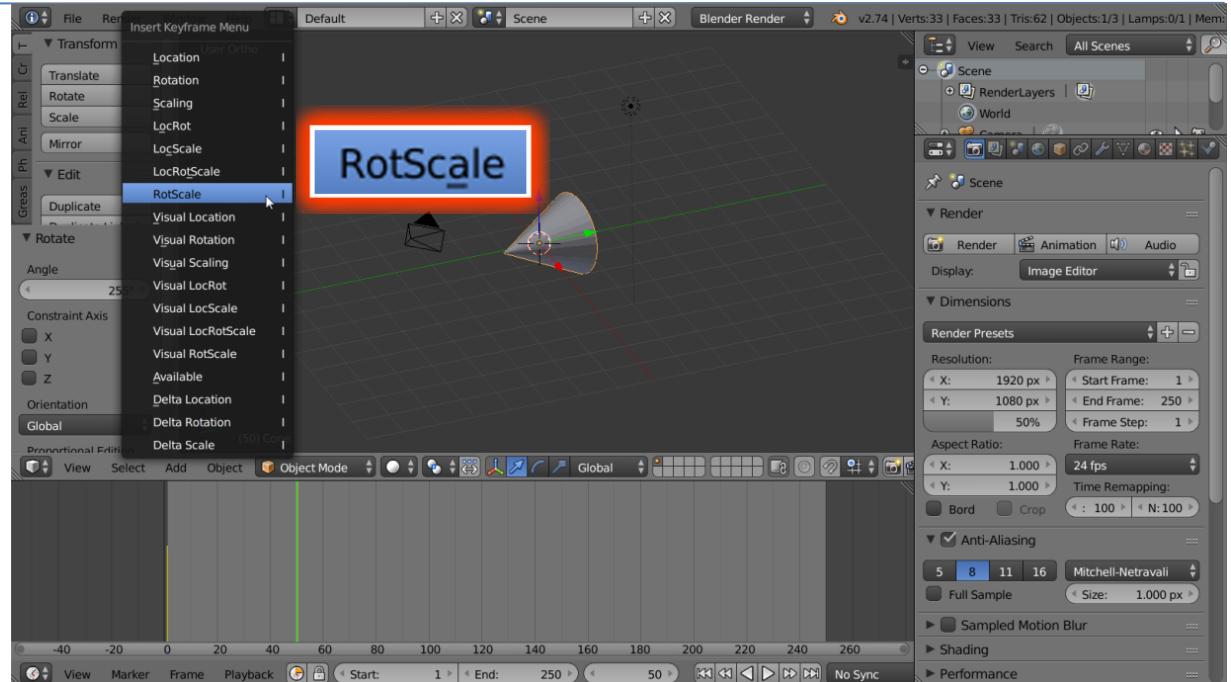
Applying transformation decides the action performed by object during the animation



3. Add key frame (Final state)

- Enable key frame pop-up (I)
 - Pop-up ‘Insert key frame menu’ will appear
- Select ‘RotScale’ option to add key frame for object’s rotation and scale

Adding key frame means locking the final state of object



Adding key frame

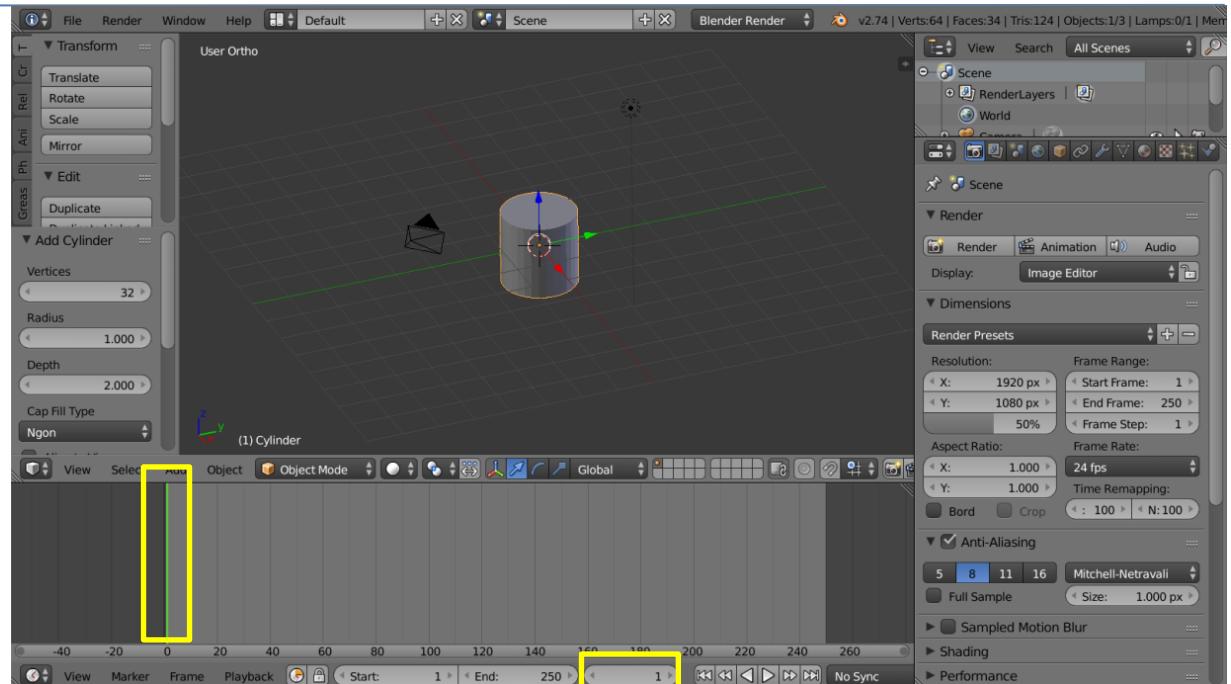
LocRotScale (Location - Rotation - Scale)

1. Set current frame (Initial state)

Animation will start from frame 1

- Set current frame as frame 1 ([Enter 1 in current frame box](#))

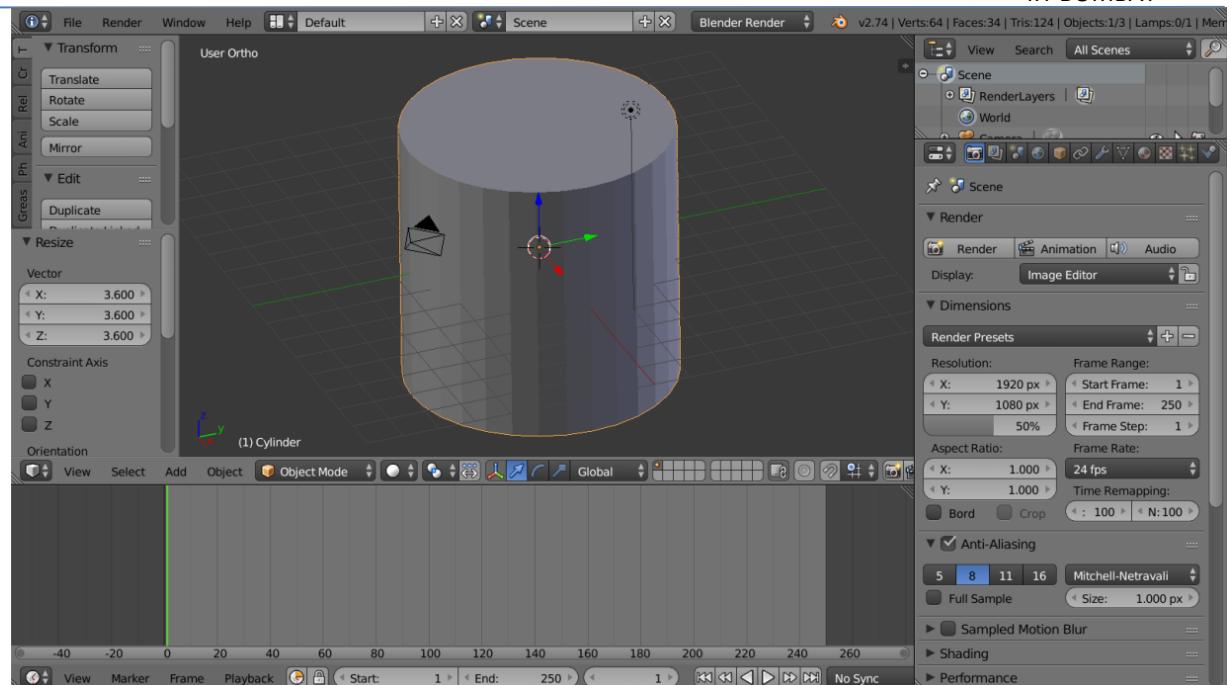
Setting current frame means defining the starting frame of the animation



2. Apply transformation (Initial state)

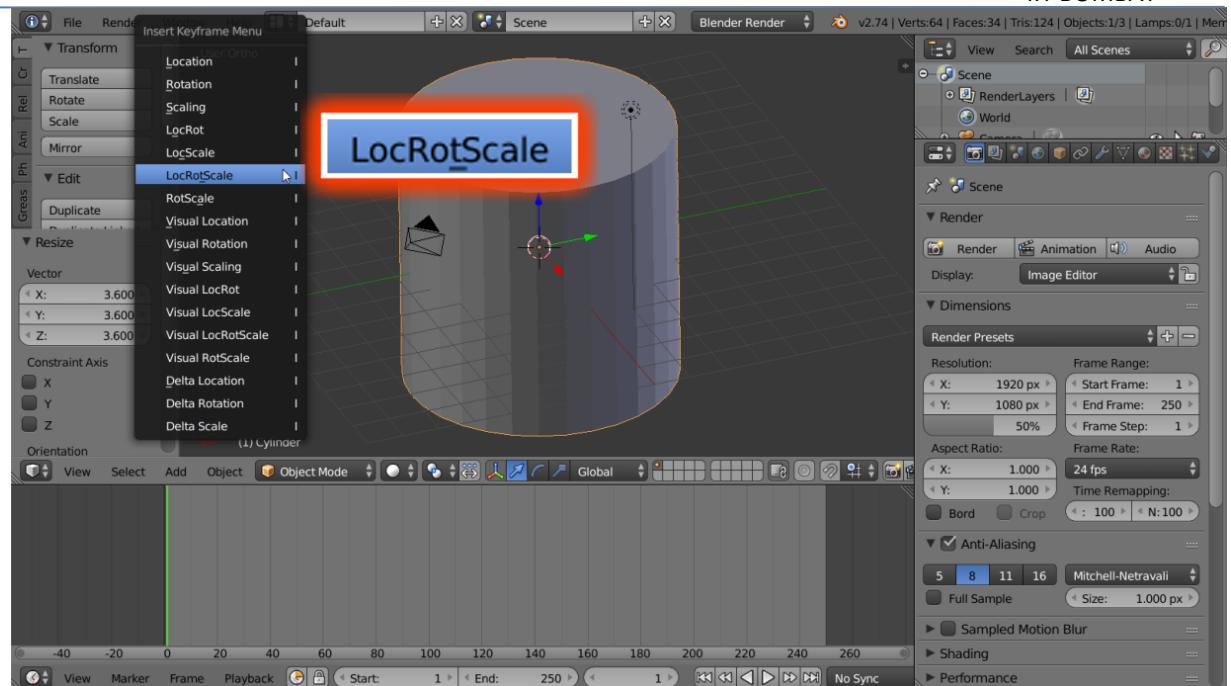
- Select object (right click)
- Set initial state of the object, use basic transformation (S, R and G)

Setting initial state of the object means setting object state at the start of animation



3. Add key frame (Initial state)

- Enable key frame pop-up (I)
 - Pop-up ‘Insert key frame menu’ will appear
- Select ‘LocRotScale’ option to add key frame for object’s location, rotation and scale



Adding key frame means locking the state of the object

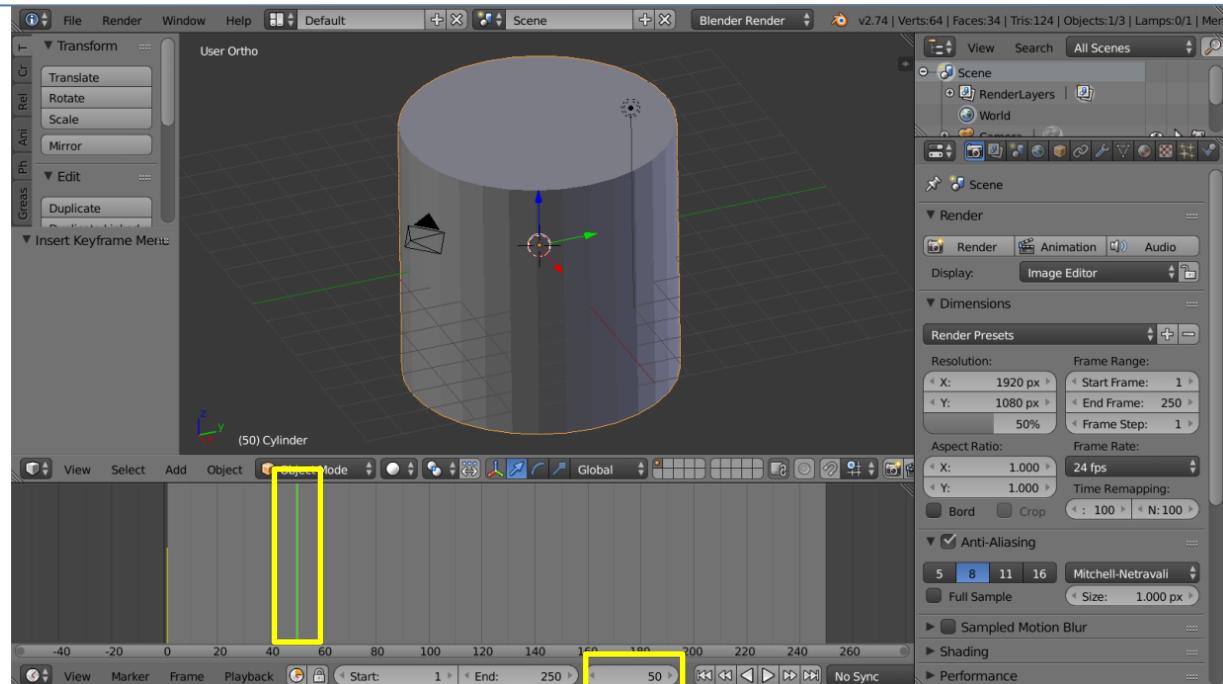
Set Final state

Initial state of the object is defined, now set final state of the object by repeating the same three steps

1. Set current frame (Final state)

- Set current frame to 50
(Enter 50 in current frame box)

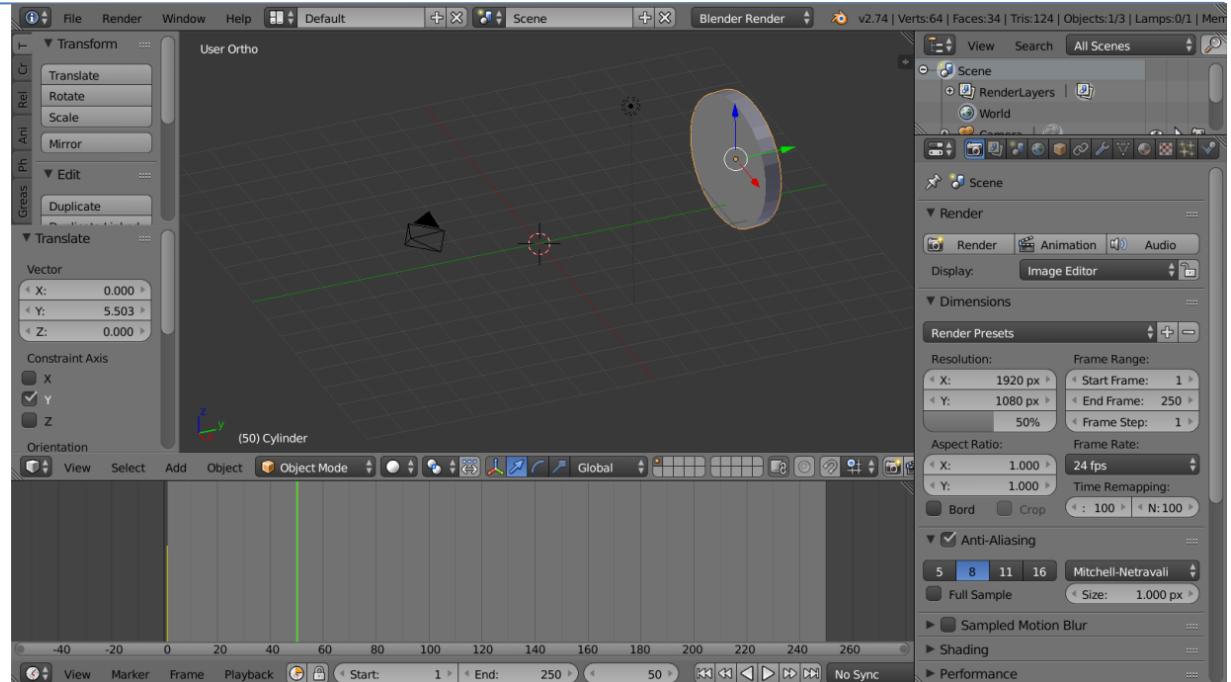
Changing the current frame means deciding the time of the animation



2. Apply transformation (Final state)

- Move, rotate and scale object in any direction (G, R and S + mouse movement)

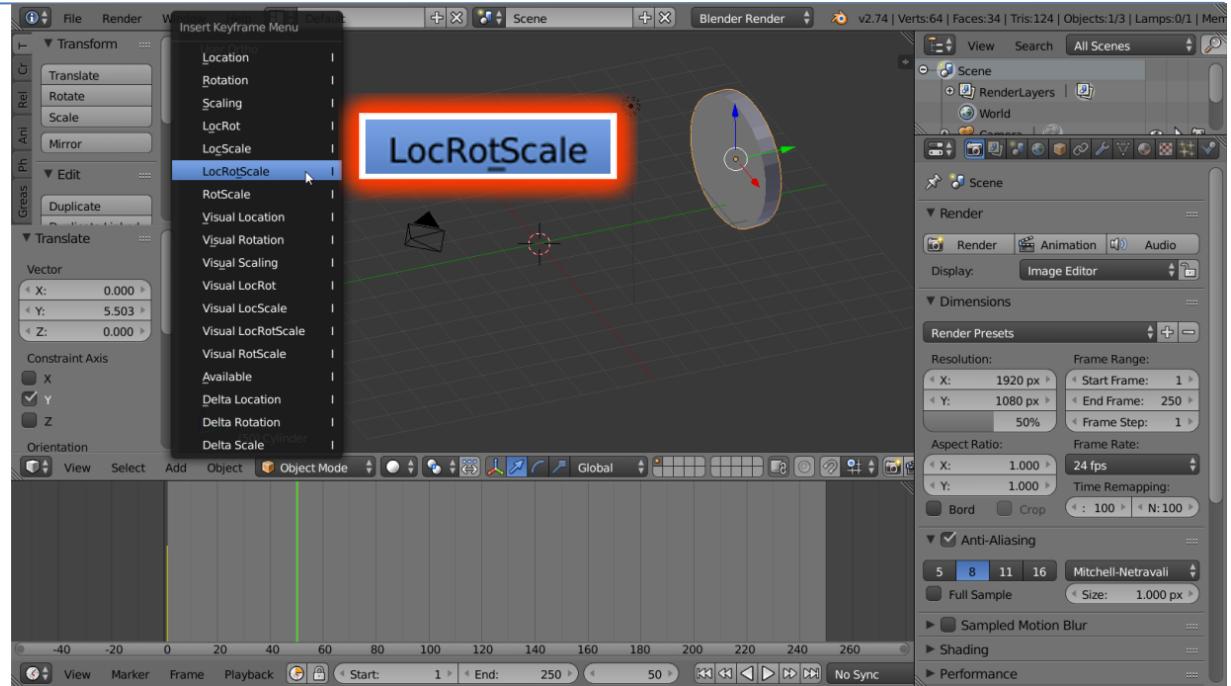
Applying transformation decides the action performed by object during the animation



3. Add key frame (Final state)

- Enable key frame pop-up (I)
 - Pop-up ‘Insert key frame menu’ will appear
- Select ‘LocRotScale’ option to add key frame for object’s location, rotation and scale

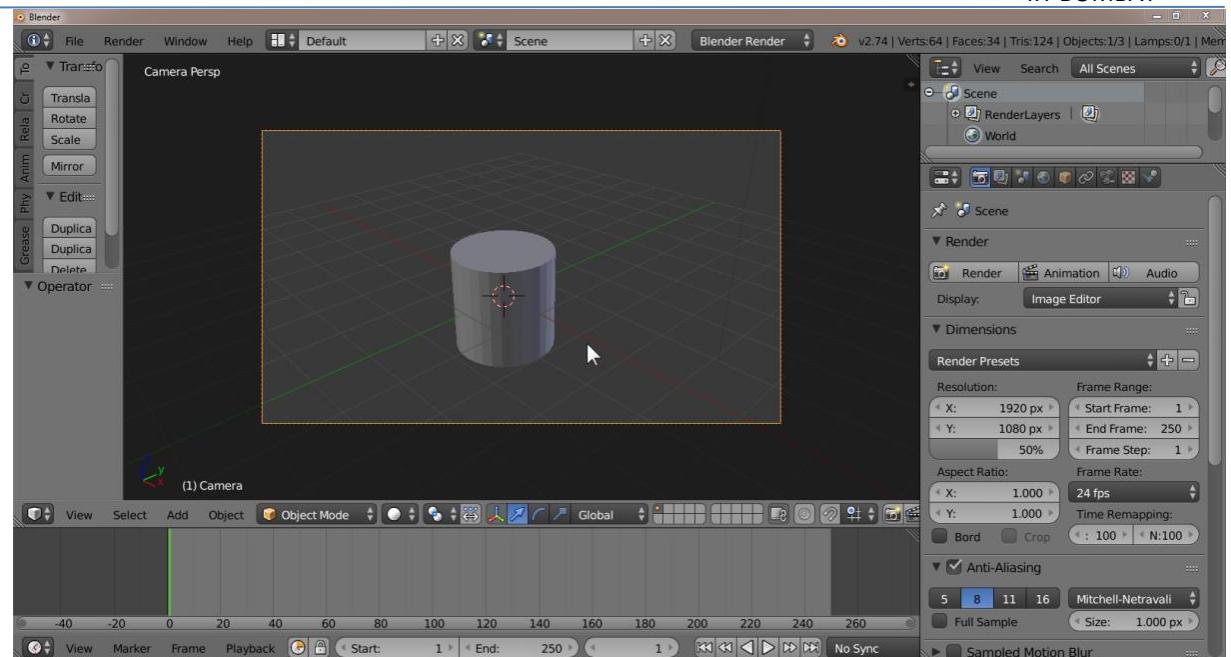
Adding key frame means locking the final state of object



Render settings for animation

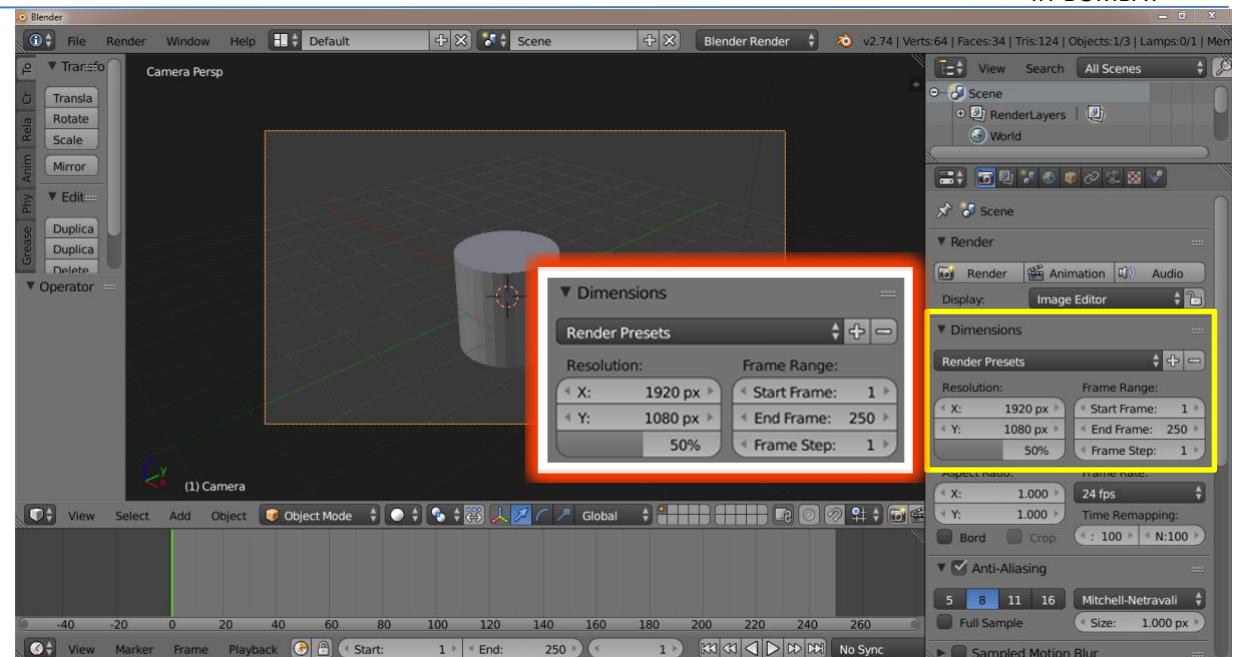
Set camera

- Select camera (right click).
- Set the camera
 - Camera as active view (Ctrl + Alt + 0)
 - Fine adjustment (G and R + mouse movement)



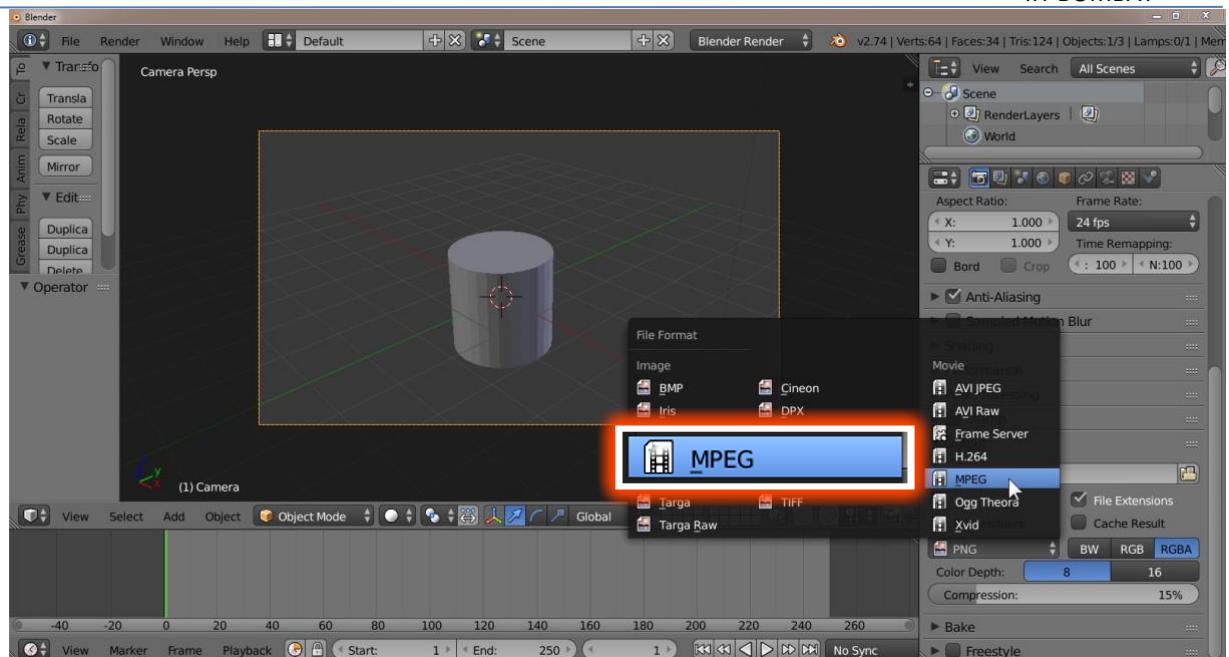
Render dimensions

- Set the resolution (Render size) according to your requirement
- Set the start and end frame of the animation



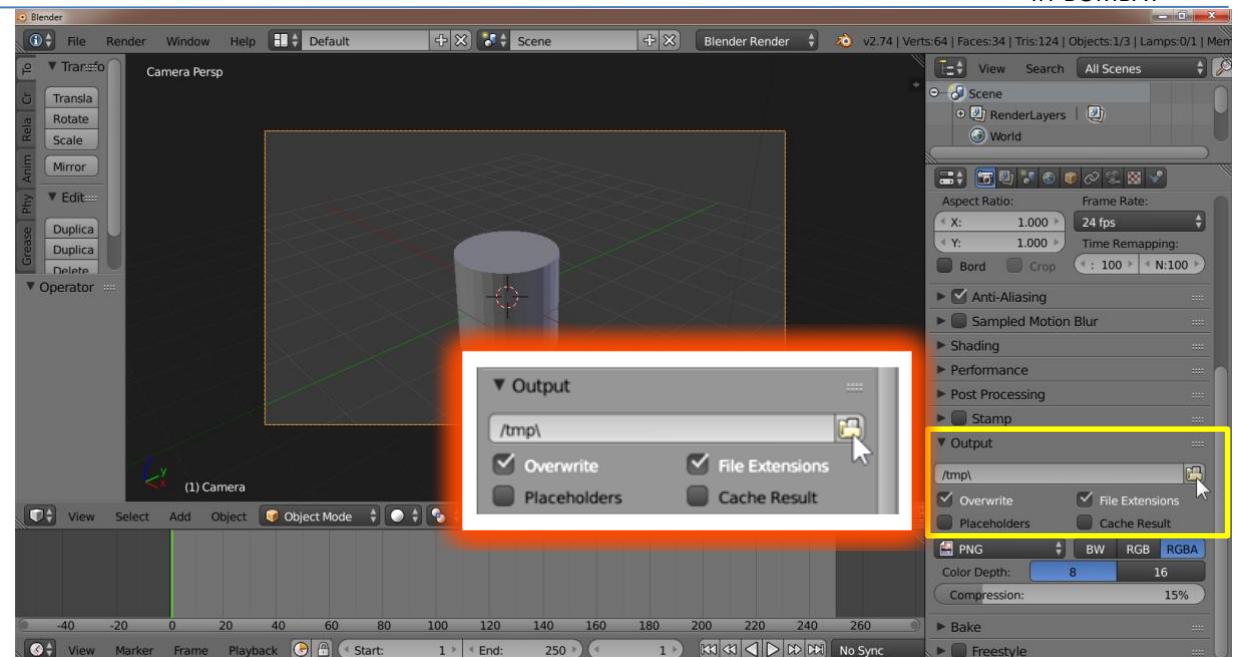
File format

- Select 'MPEG' format from movie category



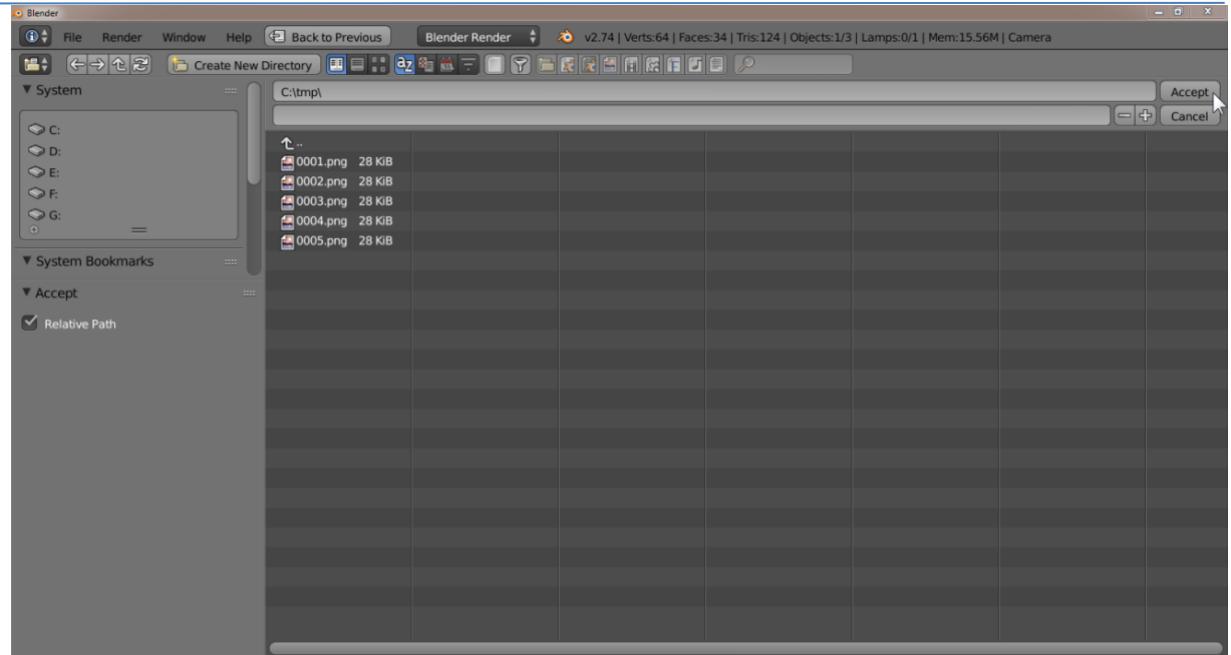
Output location

- Set output location, right click on file browser icon



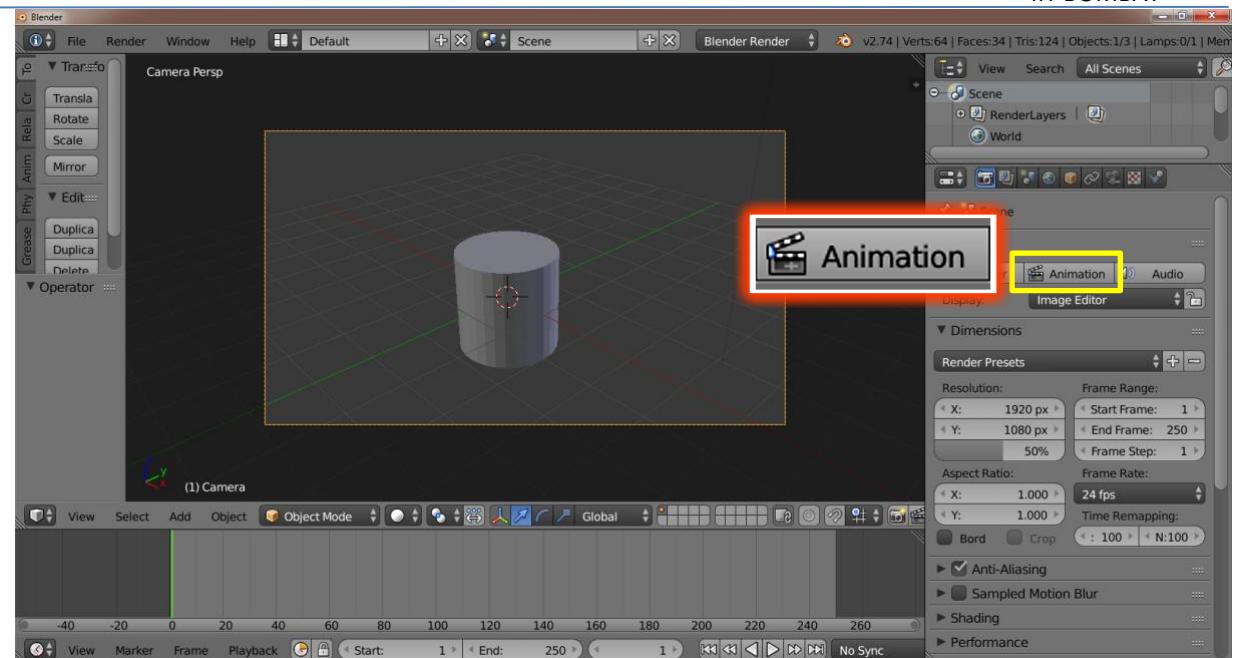
Set file path

- Set the file path
- Write file name
- Accept to save the file
(Right click)



Render animation

- Click on ‘Animation’ button to render the animation sequence (**Ctrl + F12**)



Next session

Ball animation