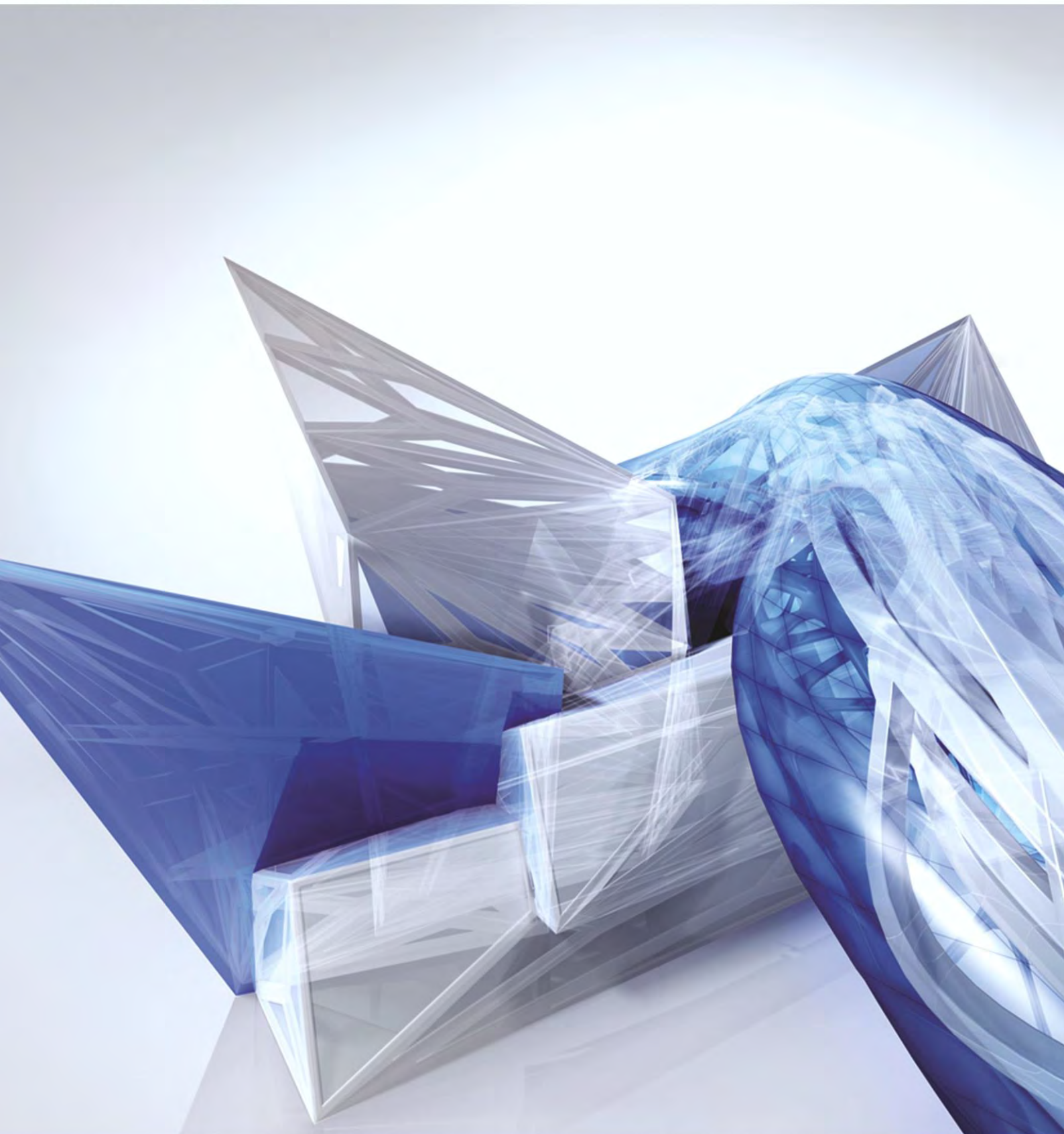


PORTFOLIO



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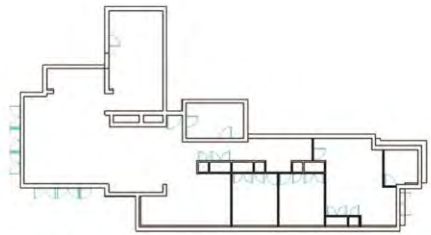
Lesson 1: Modeling Building Elements

Exercise 1.1.1: Modeling Exterior and Interior Walls

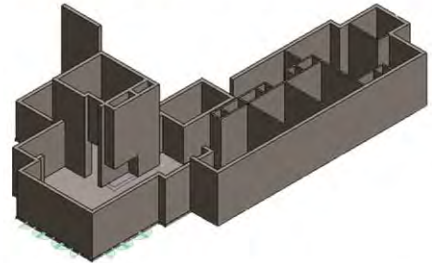
Exercise 1.1.2: Adding Doors and Windows

Exercise 1.1.3: Creating Floors and Roofs

In the first part of exercise, we are learning to create interior and exterior walls. We are creating walls by picking their location line and sketching them in a plan view. The structure and type of wall we chose in card PROPERTIES. Already created walls, we can afterward to change. (type, structure). At the time of drawing, we can decide how will the wall stand, by clicking on small arrows on ground floor or clicking on keyboard button SPACE. When we point on wall with mouse button, on screen shows TEMPORARY DIMENSIONS, which say us how much is the distance between two walls. If that distance is not appropriate to us, we can change it by clicking on temporary dimension and type the number we wanted. (used> Basic Interior - 31 8"Wall;Exterior Generic 8")

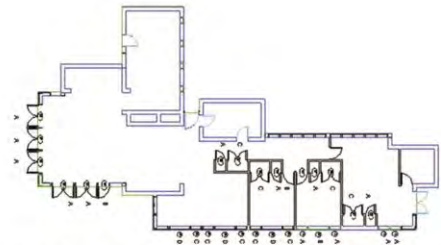


picture No.1 ground plan // walls in basic plan

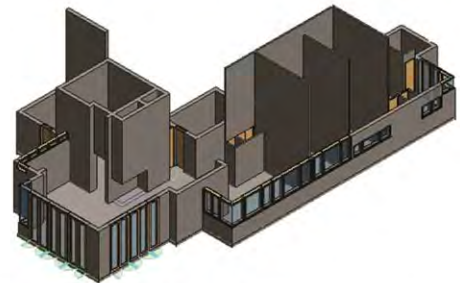


picture No.2 3d View - Walls (visual style - Shaded)

In the second part of exercise we add doors and windows. Both command we start by clicking the card ARCHITECTURE, than clicking on DOOR or WINDOW, depending of what we want to draw. As well as we changing the type of wall, in the same way we are changing type of doors and windows in card PROPERTIES. In card MODIFY there is option TAG ON PLACEMENT which we use if we want to have tag on drawing in ground plan view. Orientation of doors and windows we are changing with the same little arrows in ground plan.

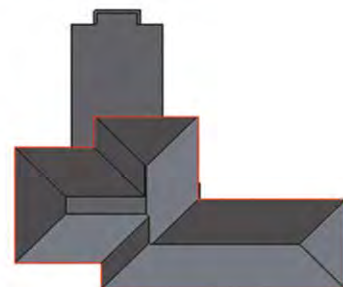


picture No.3 Windows and doors in ground floor

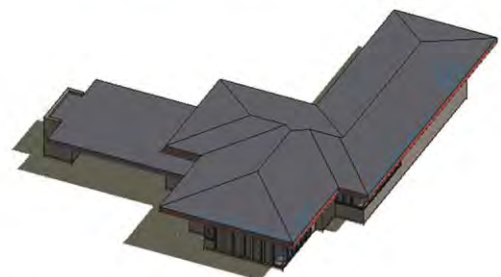


picture No.4 3d View- Doors and windows (visual style - Shaded)

In the third exercise we are setting up the flat or slant roof. The flat roof we draw on Carport Roof plan, and the slant roof we draw on Living Area Roof plan. To begin with draw of any Roof,we click on command ROOF on ARCHITECTURE card, than we define what we want to draw - flat or slant roof by clicking on DEFINE SLOPE command. After that, we chose limits of roof on PICK WALLS or PICK LINES option. When we get the surface that we want to cover, choosing the boundaries of the roof, we can define the slope of the roof plane. If there are walls that are greater than the height of the roof, we can select the option ATTACH TOP / BASE and roof as the extent to which we want to go to give the wall, then reduce the height of the walls to the roof.



picture No.5 Flat and slant roof



picture No.6 3d View- Flat and slant roof (visual style - Shaded)

Lesson 2: Building Envelope

Exercise 1.2.1: Modeling Wall Types, Structures, and Design Features

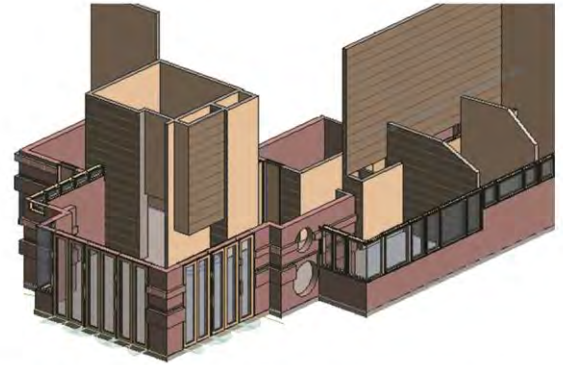
Exercise 1.2.2: Adding Doors, Windows, and Wall Openings

Exercise 1.2.3: Creating Roof Shapes

02

In the first part of exercise, we are learning to create a new type of internal wall over the existing exterior.

Then, on the outer wall, we add aesthetic elements on the outside of the facade, as well as the molding of the same. (hole punching, forming and cutting existing one)



picture No.7 3d View -Appearance of walls (visual style - Shaded)

In the second part of exercise, we set the doors and windows, through which we choose the card architecture> windows / doors> and in the properties tab, than we select the type. For ease of drawing, we use the option ARRAY, which allows us to multiplication of windows and doors. Under array, we can checkmark the box, if we want to - for example the doors are grouped. Gruper and ungruped doors can be edit via Edit type option. In this tab can alter the material, structure and size. At some point if we want to edit the one window, then it will be on all windows perform functions restatement. On existing windows, we can put a decorative fence.



picture No.8 3d View - Windows (visual style - Shaded)



picture No.9 3d View - Doors (visual style - Shaded)

The third part of the exercise involves creating a roof with a slope. In the tab ARCHITECTURE, we choose ROOF then we select the previously drawn boundaries of roof planes, adjust the angle and click OK. The ROOF is formed. The program additionally began to ask whether we want to tailor our walls which extend beyond the roof of the internal borders of the roof. Then, when selecting the edit option type, can subsequently modify the structure and the material of the roof, as well as its color at a given display. In addition, we can modify the ridge of the roof.



picture No.10 3d View - Roof (visual style - Shaded)

Lesson 3: Curtain Systems

Exercise 1.3.1: Creating Curtain Walls

Exercise 1.3.2: Adjusting Grid Lines

Exercise 1.3.3: Choosing and Creating Curtain Panel Types

Exercise 1.3.4: Placing Doors in Curtain Walls...

03

Creating the curtain wall - draw a plain wall, and change its type to the curtain wall. Divide the facade of the parts via the Edit tab type, the Fixed dimension to as many parts as we want to have partitions.



picture No.11 3d View // curtain wall

The division of the facade panels to size. Creating a new panel box drawing. Creating a new network using the options Grid lines and mullions.



picture No.12 3d view // curtain grid

Change existing panels - changing the color, structure and materials, depending on what kind of layout facade we want as the final result.



picture No.13 3d View // materialization

Draw a door to an existing curtain wall - selecting the panel and changing its type.



picture No.14 3d View // placing doors in curtain walls

Lesson 4: Interiors and Circulation

Exercise 1.4.1: Creating a Stair and Ramp

Exercise 1.4.2: Modeling Custom Stairs

Exercise 1.4.3: Creating a Floor Opening

Exercise 1.4.4: Creating an Elevator

04

Construction of the staircase and ramp - Construction of stairs via the Run sketch, then orientation staircase and installation of staircases in the correct place. Creating a staircase-shaped "L" or "U" .. Construction of the ramp, at a particular angle and a modification thereof ..

Modeling stairs - stairs can be modeled using the circular steps at the beginning of the arm. Later, every time we change the type of stairs and railings. Then, create a spiral staircase.

Drawing holes staircase - Selects the second floor, and draw the appropriate slot and selecting OK. We get the hole through which it is possible to climb the stairs. Already drawn opening can modify and convert it into a roundabout. Adding the rail to opening.

Creating elevator - create elevator on both floors, then form walls around the elevator, and finally open.



picture Non.15 3d View // stairs



Picture No.16 3d View //modeling custom stair



picture No.17 3d View // floor opening for stair



picture No.18 3d View // elevator



Lesson 5: Families and Components

Exercise 1.5.1: Modeling In-Place Components

Exercise 1.5.2: Modifying a Family Definition

Exercise 1.5.3: Creating New Families

05

Creating a new family with options extrusion, Blend, Revolve, Sweep, Sweep Blend and Void Forms. On beginning, drawing kitchen cabinet, creating a frame. Creating different forms. Draw a table against the wall with the corners, adding a chair. Drawing the bed against the wall where there are shelves.

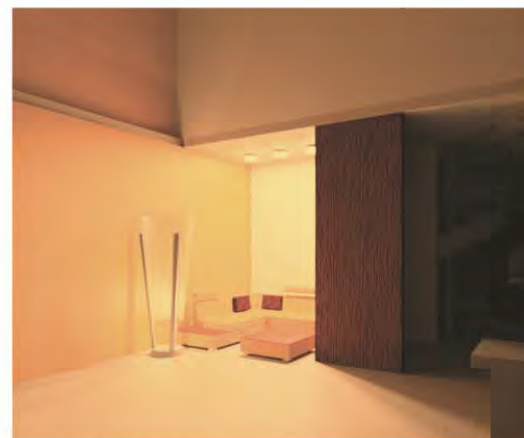


picture No.19 3d View // table and chairs



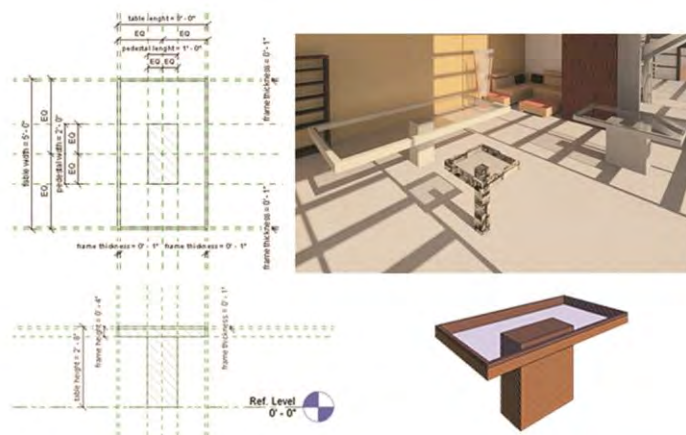
picture No.20 3d View // bed

Editing existing beds, lamps. Within the editing, changing size, shape and materials. Inserting light in the lamp.



picture No.21 3d View // modifying family

Create a new family (File> Open> New template> furniture). Drawing centerlines, quotation, changing dimensions. Creating table sections. Changing the material, size, creation of a new type. Keeping family and throw in any other project. Existing family can be subsequently edited.



picture No.22 3d View // creating new families

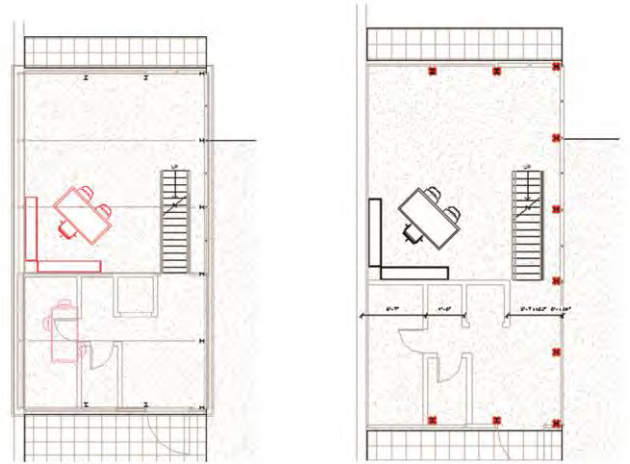
Lesson 6: Views and Visualization

Exercise 1.6.1: Creating Plan Views

Exercise 1.6.2: Creating Elevation and Section Views

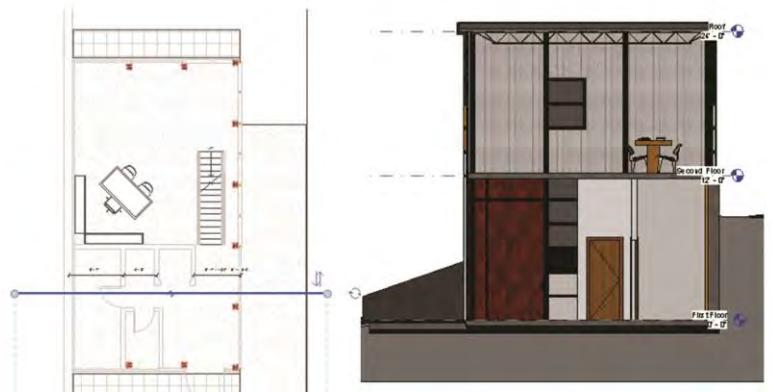
Through option Visibility Graphics, we create ground plans for different purposes. (plan with structural parts, plan with furniture,...) For specific purposes we can "crop" view as we needed by duplicating the base and move it to the crop view.

Ukoliko nam je potrebno preklapanje osnova koje se nalaze ispod ili iznad one na kojoj trenutno radimo, koristimo opciju View Range. If we need overlapping basis that are below or above the one on which we are currently working, use the View Range.

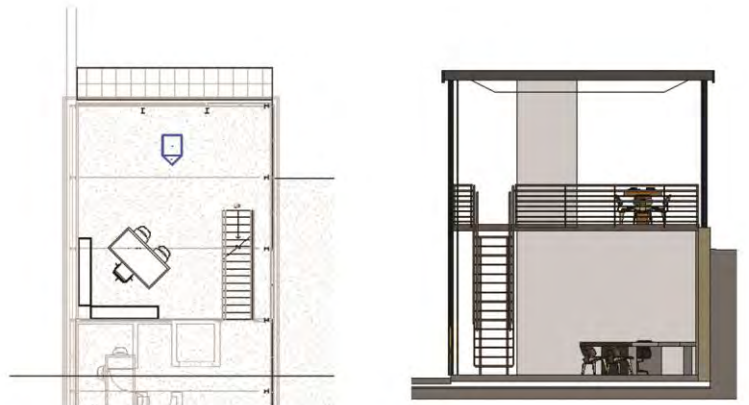


picture No.23 ground floors // ground floor with furniture; ground floor with constructive elements

Creating layouts and sectional in certain parts of the building as needed. Via the Section create sections by simply drawing a line on a section of the base, as well as create the look, by checking the position where we want to look at the object.



picture No.24 ground floor with section; section plan



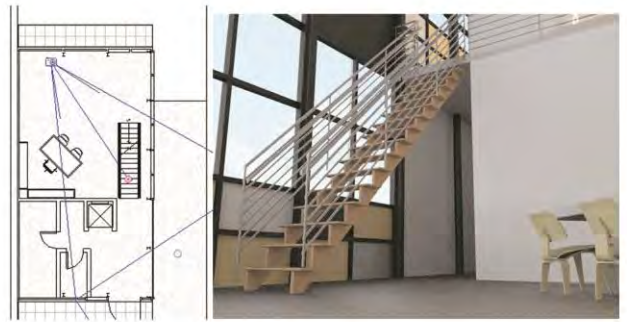
picture No.25 ground floor with appearance

Lesson 6: Views and Visualization

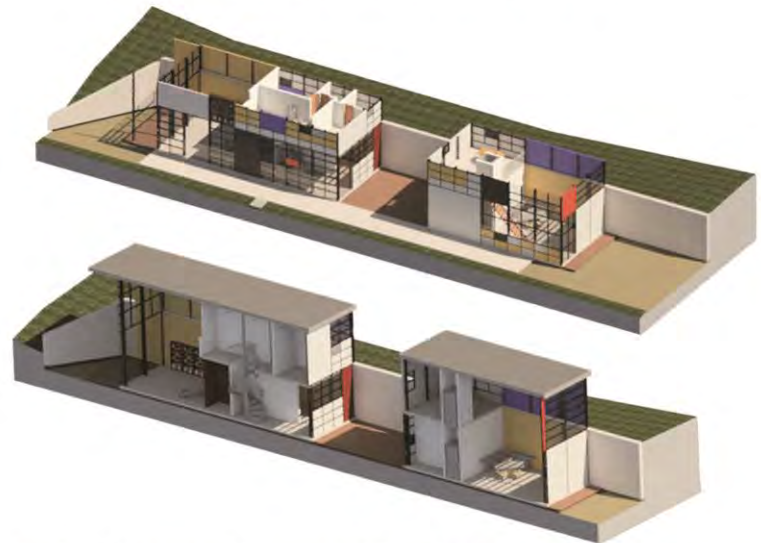
Exercise 1.6.3: Creating 3D Views

Exercise 1.6.4: Adjusting the Appearance of Elements in a View

In the option 3D> Camera to a particular section over again set the camera to where we want to have a perspective view. If we need a 3D cross-section, the 3D view-in, include the border looks like and how narrow it is we need. It just can not do it and in a section.



picture No.26 ground floor with camera; 3d view



slika br.27 perspective ground floor; perspective section view

In this exercise, we learn how we are all drawing, whether it is based, cross sections or 3D model. (Shaded, Wireframe, Hidden line, Realistic and Raytrace). Then, the settings for shadows, lighting and background.



picture No.28 3d views (Shaded,Wireframe,Hidden line,Realistic, rendering with background)

Lesson 7: Materials, Lighting, and Rendering

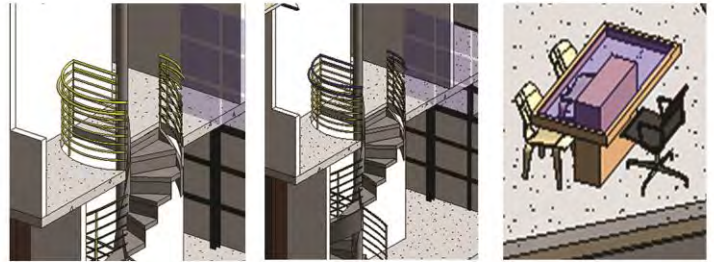
Exercise 1.7.1: Assigning Materials to a Component

Exercise 1.7.2: Creating New Materials

Exercise 1.7.3: Exterior Renderings

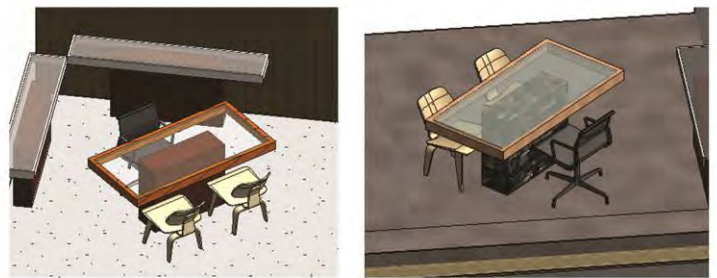
Exercise 1.7.4: Interior Renderings

Assign a material particular case by disability category structure; changing the type properties of an element, change the type by specifying the level properties.



picture No.29 3d View - different materialization of components

Creating new materials duplication of the same, and changing parameters such as color and material.



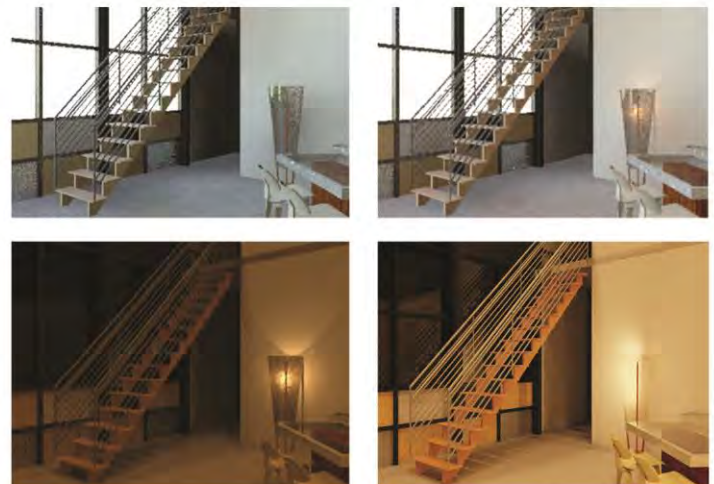
picture No.30 3d view (visual style - Shaded; Realistic)

Rendering: Choosing quality renders and adjust the output resolution. Labelling regions that are rendered. Setting sunlight and shadows. Selecting the background of the sky or dazzling images. Setting exposure.



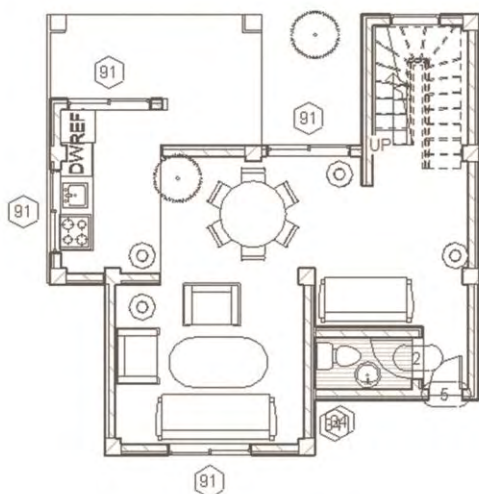
picture No.31 3d view - rendering with draft and medium quality.

Rendering of the interior: choice of lighting scheme to include interior lighting (by lamps light bulbs ...) Group certain lighting and adjust their volume.



picture No.32 3d View - renderings with different settings *day/night, light on/off

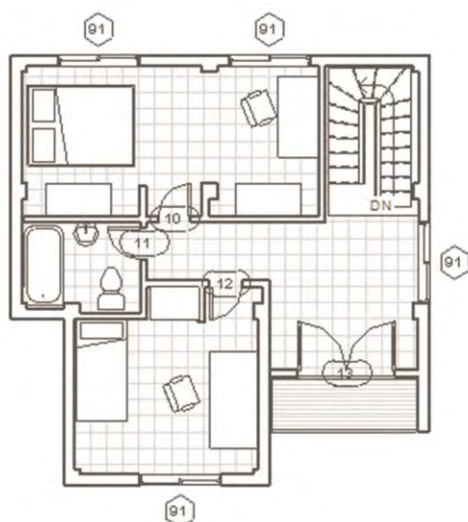
Stambeni objekat za tročlanu porodicu



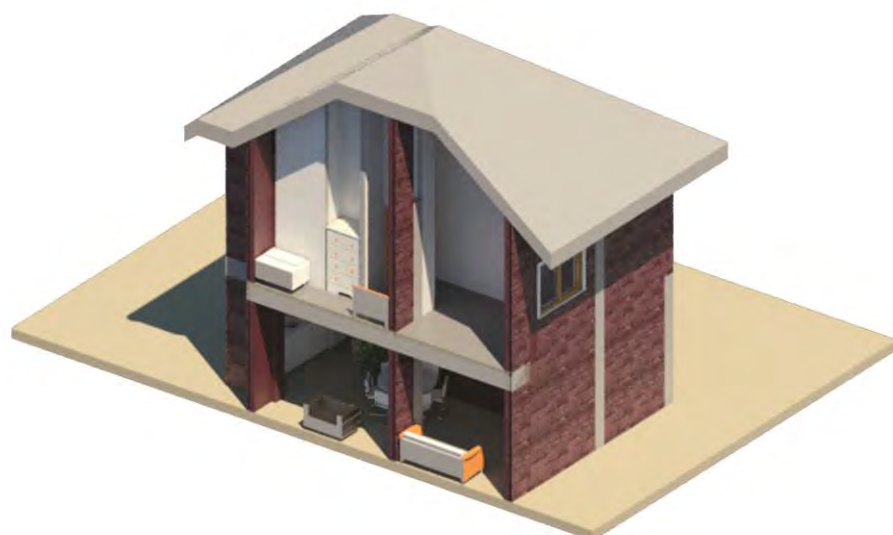
slika br.30 osnova prizemlja



picture No.33 3d view - interior



slika br.31 osnova sprata



picture No.34 perspective section view



slika br.32 presek kroz objekat



picture No.35 3d view - exterior

Once learned basic commands, the our task was to model a residential facility for three-member family.

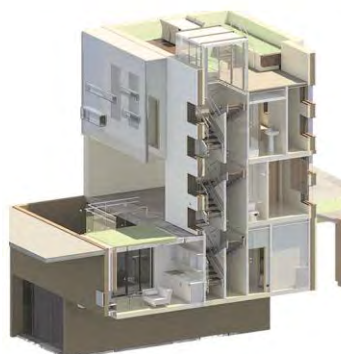
Projekat sa SP1



picture No.36 3d Izgled - exterior

picture No.37 3d view - Sections

picture No.38 3d view - Urban structure



slika br.39 3d Izgled - Enterijer i eksterijer



As a last final assignment this semester was our modeling of a house with SP1. My building has a basement, ground floor, first floor and roof terrace. The task was based on the presentation of the characteristic parts of the project using Revit.

picture No.40 3d view - Perspective section views; perspective ground floors



University of Belgrade, Faculty of Architecture

Undergraduated studies
Winter semester 2013/2014

Module 17- Integrated modeling Revit
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