

# HOUSE ONE

## DIY WOOD CLOTHES RACK

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If you're short on closet space, a freestanding clothes rack is the perfect solution. It's easy to build with a few basic tools, can be moved anywhere, and takes up very little space. That's because it's made up of just two side legs with a support shelf and hanging rod in between.

For this project, I'm using stock boards and a dowel from the home center, a miter saw to cut them to length, and a drill/driver to assemble the pieces with fasteners and polyurethane glue.

*This project is sponsored by Gorilla Glue. All opinions are our own.*

### CUT LIST

1x2 Leg Pieces – 4 @ 72"  
1 x 2 Shelf Slats – 12 @ 18"  
2x2 Shelf Front – 1 @ 35½"  
2x2 Shelf Back – 1 @ 34"  
2x2 Shelf Sides – 1 @ 18"  
¾ x ¾ Cleat – 2 @ 31"  
1" Hanging Rod – 1 @ 34"

### MATERIALS

(5) 1x2x6 Boards  
(2) 2x2x6 Boards  
(2) ¾x¾x36" Square  
Dowels  
(6) ¼-inch Insert Nuts  
(4) 1½-inch Connecting Bolt  
(2) 2¼-inch Connecting Bolt  
Latex Gloves, Cloth or Rag  
Sandpaper/Sanding  
Sponge  
Paint, Stain or  
Polyurethane

### TOOLS

Original Gorilla Glue  
Miter Saw  
Drill/Driver  
Random Orbital Sander  
Hammer  
Bar Clamps  
Hand Clamps

## **STEPS**

### **STEP 1 - MARK THE LEGS**

To begin, we'll mark the height of the shelf and location of the hanging rod on each of the four 1×2 Legs. To do so, make a mark 8 inches from each end of the boards. Mark the center-point on each line.

### **STEP 2 - PREP THE LEGS FOR ASSEMBLY**

Using a drill/driver, drill a ¼-inch pilot hole through crosshair marked on each board.

### **STEP 3 - MITER THE BASE OF EACH LEG**

To allow the Legs to tilt to create an A-frame on each side of the rack, miter the bottom of each leg at 10-degrees using a miter saw.

### **STEP 4 - CUT THE REMAINING PARTS**

Using a miter saw and the downloadable cut list above cut the 1×2, 2×2, and the square and round dowels to length.

### **STEP 5 - UNDERSTANDING INSERT NUTS**

To assemble the pieces, we need to screw into end grain, which isn't very sturdy. To make a stronger connection we'll add insert nuts to the connection points where the shelf and hanging rod meet the legs. Insert nuts are a threaded metal tube that the bolt can screw into securely so you don't have to worry about the bolt tearing out of the end

### **STEP 6 - PREP THE SHELF PIECES FOR ASSEMBLY**

To give the connection between the Legs and Shelf added strength, we'll install insert nuts into the end of the Shelf Front and Back boards. To install the insert nuts, first drive an 11/16-inch hole into the ends of each board using a drill/driver.

### **STEP 7 - INSTALL THE INSERT NUTS INTO THE SHELF**

Place the insert nut into the hole, and then tap in into place with a hammer.

### **STEP 8 - PREP THE HANGING ROD FOR ASSEMBLY**

Drive a centered 11/16-inch hole into the ends of the hanging rod using a drill/driver.

### **STEP 9 - INSTALL THE INSERT NUTS INTO THE HANGING ROD**

Place the insert nut into the hole, and then tap in into place with a hammer.

## **STEP 10 - LAYOUT THE SHELF FRAME**

Place the 2×2 Shelf Frame pieces on the work surface. Place the sides between the front and back pieces. The front piece will overhang the sides by ¾-inch on each side to reach the outer legs once the pieces are assembled.

## **STEP 11 - PREP THE 2X2'S AND CLEATS**

To assemble the Shelf without fasteners, we're using a polyurethane glue called Original Gorilla Glue. It's a polyurethane glue that activates with water and expands into the wood and creates an incredibly strong bond. To apply the glue, first dampen a cloth with water. Next, run the cloth over one of the surfaces. In this case I'll dampen one side of the 2×2.

## **STEP 12 - APPLY THE GLUE**

Wearing gloves, apply a thin bead of Original Gorilla Glue to the dry surface—in this case, our cleat. Spread the glue with a scrap brush or rag (i.e. not your finger).

## **STEP 13 - POSITION THE CLEAT**

Center the Cleat on the Front 2×2, flush with its bottom edge. Use the end of a 2×2 plus a 1×2 as a spacer at each end of the cleat to check the placement.

## **STEP 14 - CLAMP THE CLEAT TO THE 2X2**

Using hand clamps, hold the cleat in place. Wipe away any excess glue with a rag or cloth.

## **STEP 15 - ATTACH THE CLEAT TO THE REMAINING 2X2**

Repeat to assemble the remaining Cleat and 2×2 Shelf Back Board, noting that the end of a 2 x 2 should fit at each end of the Cleat once the Cleat is centered on the 2×2.

## **STEP 16 - ADD THE SHELF SIDES**

Clamp the Sides between the Front and Back of the Shelf. Set the assembled shelf frame aside to dry for 1-2 hours. Note Original Gorilla Glue will continue to cure and to its maximum strength over a period of 24 hours.

## **STEP 17 - POSITION THE LEGS FOR ASSEMBLY**

Overlap the Legs so that their mitered ends face opposite directions, and the back Leg sets under the front Leg. Place individual 1½-inch Connection Bolts through the two lower holes where the Legs will connect to the Shelf.

## **STEP 18 - INSERT THE UPPER BOLTS**

Place a 2¼-inch Connection Bolt through the upper hole, extending through both boards.

### **STEP 19 - SECURE THE SHELF BETWEEN THE LEGS**

Place the Shelf between the Legs. Dampened the inside face of each Leg, and then apply Original Gorilla Glue to the end of connection point on the Shelf. Insert and tighten connection bolts through each Leg and into the Shelf.

### **STEP 20 - ASSEMBLE THE LEGS AND HANGING ROD**

Wet the inside face of each Leg, and apply a dab of Original Gorilla Glue to end of the Hanging Rod, and outside face of the sandwiched Leg face. Insert a connection bolt through the hole in each Leg and into the Hanging Rod. Thread the bolt into the insert nut. Position the base of the Legs to align with the holes in the Shelf before tightening the bolt into the Hanging Rod. Repeat to assemble the remaining Legs.

### **STEP 21 - PREP THE SHELF SLATS**

To prep the shelf for slats, dampen the top edge of each cleat with a wet cloth. Apply a small amount of Original Gorilla Glue to the ends and underside of each Slat near its ends where it will rest on the Cleat.

### **STEP 22 - INSTALL THE SHELF SLATS**

Place the Slats one-by-one onto the cleats using a scrap block to create  $\frac{3}{4}$ -inch spacing. To "clamp" the Slats in place, we placed heavy books or box on the shelf for 1-2 hours. Once the glue is dry, remove the heavy object. Allow the glue to fully cure for 24 hours before using the assembled clothes rack.

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