

```
<a name="home">
</a>
<span style="font-family: Montserrat;"><br />
</span><div style="text-align: center;">
<span style="font-family: Montserrat;"><a
href="https://rindinaa203029.blogspot.com/p/communication-kembali-ke-menu.html">[KEMBALI KE
MENU SEBELUMNYA]</a></span></div><div style="text-align: center;"><span style="font-family:
Montserrat;"><br /></span></div><div style="text-align: center;"><br /></div>
<span style="font-family: Montserrat;"><br />
</span><center>
<div style="background-color: white; border: 2px dashed rgb(23, 128, 221); height: 240px; overflow:
auto; padding: 10px; text-align: center; width: 330px;"><span style="font-family: Montserrat;">
DAFTAR ISI
<br />
</span><div style="text-align: left;">
<a href="#kondisi"><span style="font-family: Montserrat;">1. Kondisi</span></a></div>
<div style="text-align: left;">
<a href="#rangkaian"><span style="font-family: Montserrat;">2. Rangkaian Simulasi</span></a></div>
<div style="text-align: left;"><span style="font-family: Montserrat;"><a href="#listing">3. Listing
Program</a><br />
</span><div style="text-align: left;">
<span style="font-family: Montserrat;"><a href="#video">4. Video</a><br />
</span><div style="text-align: left;">
<span style="font-family: Montserrat;"><a href="#Prinsip">5. Prinsip Kerja</a><br />
</span><div style="text-align: left;"><a href="#link"><span style="font-family: Montserrat;">6. Link
Download</span></a></div>
</div>
</div>
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#005c5f;">115200</span><span style="color: #434f54;"></span></div><div>&nbsp;<span
style="color: #d35400;">pinMode</span><span style="color: #434f54;"></span>buttonpin,INPUT<span
style="color: #434f54;"></span><span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> // Setting pin 2 as INPUT</span></div><div>&nbsp;<span style="color: #d35400;">pinMode</span><span style="color: #434f54;"></span>LEDpin,OUTPUT<span style="color: #434f54;"></span><span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> // Setting pin 7 as OUTPUT</span></div><div>&nbsp;<span style="color: #d35400;">pinMode</span><span style="color: #434f54;"></span>MISO,OUTPUT<span style="color: #434f54;"></span><span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> //Sets MISO as OUTPUT (Have</span></div><div>&nbsp;SPCR |= <span style="color: #d35400;">_BV</span><span style="color: #434f54;"></span>SPE<span style="color: #434f54;"></span><span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> //Turn on SPI in Slave Mode</span></div><div>&nbsp;received = <span style="color: #005c5f;">false</span></div><div>&nbsp;<span style="color: #d35400;">SPI</span>.<span style="color: #d35400;">attachInterrupt</span><span style="color: #434f54;">()</span><span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> //Interuupt ON is set for SPI commnucation </span></div><div><span style="color: #434f54;">}</span></div><div><span style="color: #d35400;">ISR</span> <span style="color: #434f54;"></span><span style="color: #434f54;"></span><span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> //Inerrrput routine function </span></div><div><span style="color: #434f54;">{</span></div><div>&nbsp;Slavereceived = SPDR;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> // Value received from master if store in variable slavereceived</span></div><div>&nbsp;received = <span style="color: #005c5f;">>true</span></div><div>&nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> //Sets received as True </span></div><div><span style="color: #434f54;">}</span></div><div><span style="color: #00979d;">void</span> <span style="color: #d35400;">loop</span><span style="color: #434f54;">()</span></div><div><span style="color: #434f54;">{</span> <span style="color: #728e00;">if</span><span style="color: #434f54;"></span>received<span style="color: #434f54;"></span><span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> //Logic to SET LED ON OR OFF depending upon the value recerived from master</span></div><div>&nbsp;&nbsp;<span style="color: #434f54;">{</span></div><div>&nbsp;&nbsp;<span style="color: #728e00;">if</span> <span style="color: #434f54;"></span>Slavereceived==<span style="color: #005c5f;">1</span><span style="color: #434f54;"></span></div><div>&nbsp;&nbsp;&nbsp;<span style="color: #434f54;">}</span></div><div>&nbsp;&nbsp;&nbsp;<span style="color: #d35400;">digitalWrite</span><span style="color: #434f54;"></span>LEDpin,HIGH<span style="color: #434f54;"></span><span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> &nbsp;<span style="color: #95a5a6;"> //Sets pin 7 as HIGH LED ON</span></div><div>&nbsp;&nbsp;&nbsp;&nbsp;<span style="color: #d35400;">Serial</span>.<span style="color: #d35400;">println</span><span style="color: #434f54;"></span><span style="color: #005c5f;">"Slave LED ON"</span><span style="color: #434f54;"></span></div></pre>

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#434f54;">"/span>"/div><div>&nbsp; &nbsp; &nbsp; <span style="color: #434f54;">"/span><span
style="color: #728e00;">else</span></div><div>&nbsp; &nbsp; &nbsp; <span style="color:
#434f54;">{</span></div><div>&nbsp; &nbsp; &nbsp; &nbsp; <span style="color:
#d35400;">digitalWrite</span><span style="color: #434f54;">{</span>LEDpin,LOW<span style="color:
#434f54;">}</span><span style="color: #95a5a6;"> &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; //Sets pin 7 as
LOW LED OFF</span></div><div>&nbsp; &nbsp; &nbsp; &nbsp; <span style="color:
#d35400;">Serial</span>.<span style="color: #d35400;">println</span><span style="color:
#434f54;">{</span><span style="color: #005c5f;">"Slave LED OFF"</span><span style="color:
#434f54;">}</span></div><div>&nbsp; &nbsp; &nbsp; <span style="color:
#434f54;">}</span></div><div>&nbsp; &nbsp; &nbsp; &nbsp; <span style="color:
#d35400;">digitalRead</span><span style="color: #434f54;">{</span>buttonpin<span style="color:
#434f54;">}</span><span style="color: #95a5a6;"> &nbsp; &nbsp; // Reads the status of the pin
2</span></div><div>&nbsp; &nbsp; &nbsp; <span style="color: #728e00;">if</span> <span style="color:
#434f54;">{</span>buttonvalue == HIGH<span style="color: #434f54;">}</span><span style="color:
#95a5a6;"> &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; //Logic to set the value of x to send to
master</span></div><div>&nbsp; &nbsp; &nbsp; <span style="color:
#434f54;">{</span></div><div>&nbsp; &nbsp; &nbsp; &nbsp; <span style="color:
#005c5f;">1</span></div><div>&nbsp; &nbsp; &nbsp; <span style="color: #434f54;">}</span><span
style="color: #728e00;">else</span></div><div>&nbsp; &nbsp; &nbsp; <span style="color:
#434f54;">{</span></div><div>&nbsp; &nbsp; &nbsp; &nbsp; <span style="color:
#005c5f;">0</span></div><div>&nbsp; &nbsp; &nbsp; <span style="color:
#434f54;">}</span></div><div>&nbsp; &nbsp; &nbsp; <span style="color: #d35400;">delay</span><span style="color:
#434f54;">{</span><span style="color: #005c5f;">500</span><span style="color:
#434f54;">}</span></div><div><span style="color: #434f54;">}</span></div><div><span style="color:
#434f54;">}</span></div></div></div></div></div><div style="background-color: white; color:
#222222; font-size: 13.2px;"><span style="font-family:
Montserrat;">-----</span></div></div><p><span style="font-family: Montserrat;"><a name="video">4. Video</a><a
href="#home">[Kembali]</a></span></p><p><br /></p><div class="separator" style="clear: both;
text-align: center;"><object class="BLOG_video_class" contentid="0abd95105df857d9" height="266"
id="BLOG_video-0abd95105df857d9" width="320"></object></div><div class="separator" style="clear:
both; text-align: center;"><br /></div><div class="separator" style="clear: both; text-align: center;"><br
/></div><span style="font-family: Montserrat;"><a name="Prinsip">5. Prinsip Kerja </a><a
href="#home">[Kembali]</a></span></div><div><span><p style="font-family: Montserrat;">Pada
rangkaiian percobaan, terdapat arduino master dan arduino slave, button, led, dan resistor. Pada
rangkaiian ini digunakan prinsip SPI yaitu serial synchronous dengan kecepatan tinggi. Terdapat 4 jalur
penting, yaitu MOSI, MISO, SCLK, dan SS. MOSI saat master maka pinnya sebagai output, namun pada
slave pinnya input. MISO saat master maka pinnya sebagai input, namun pada slave pinnya output. SCLK

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sebagai clock saat master untuk output dan saat slave untuk input. SS yaitu master yang memilih slave yang akan dikirimkan datanya. </p><p>Selanjutnya untuk program master pada SPI.setClockDivider sebagai mengatur clock. Pada keadaan void set up untuk digitalWrite sebagai menunjukkan nilai SS dengan kondisi high. Nilai button dalam keadaan high. Pada keadaan void loop terdapat byte master pengirim dan penerima. Nilai button dengan digitalWrite. Saat digitalWrite SS kondisi low, master pengirim ditandai dengan x, master penerima didapat dari nilai master pengirim.LED akan menyala dalam keadaan high dan akan mati dalam keadaan low.</p><p>Untuk program slave, pada keadaan void set up _BV untuk menghidupkan slave dan SPIInterrupt akan mengintruksikan untuk hidup. Slaverceived itu SPDR. Pada keadaan void loop slaverceived bernilai 1.LED akan menyala dalam keadaan high dan akan mati dalam keadaan low. Nilai button digitalWrite. Slavesend dengan nilai x dan SPDR sama dengan Slavesend.</p><p>Jika baud rate pada master dan slave berbeda, maka led tidak akan menyala.</p><div>
</div><p>6. Link Download[Kembali]</p>HTMLKlik disini</div><div>VideoKlik disini
</div><div>File Rangkaian Proteus Klik disini
<div>File Program Arduino MasterKlik disini</div><div>File Program Arduino SlaveKlik disini</div><div>Library Arduino Klik disini
<div>Datashet Arduino Klik disini</div><div>Datashet LEDKlik disini</div><div>Datashet ButtonKlik disini</div>
</div><div><div p=""></div></div></div></div>