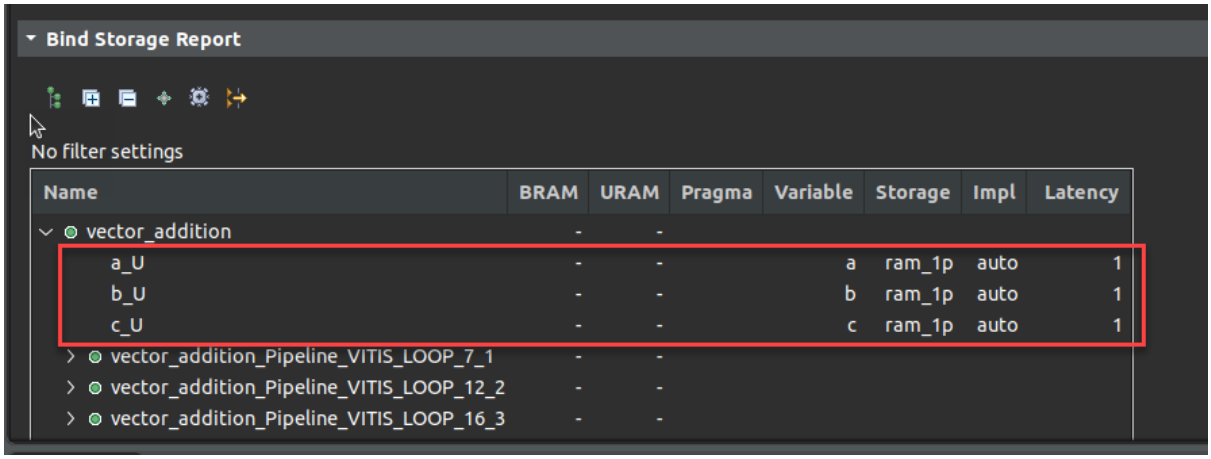
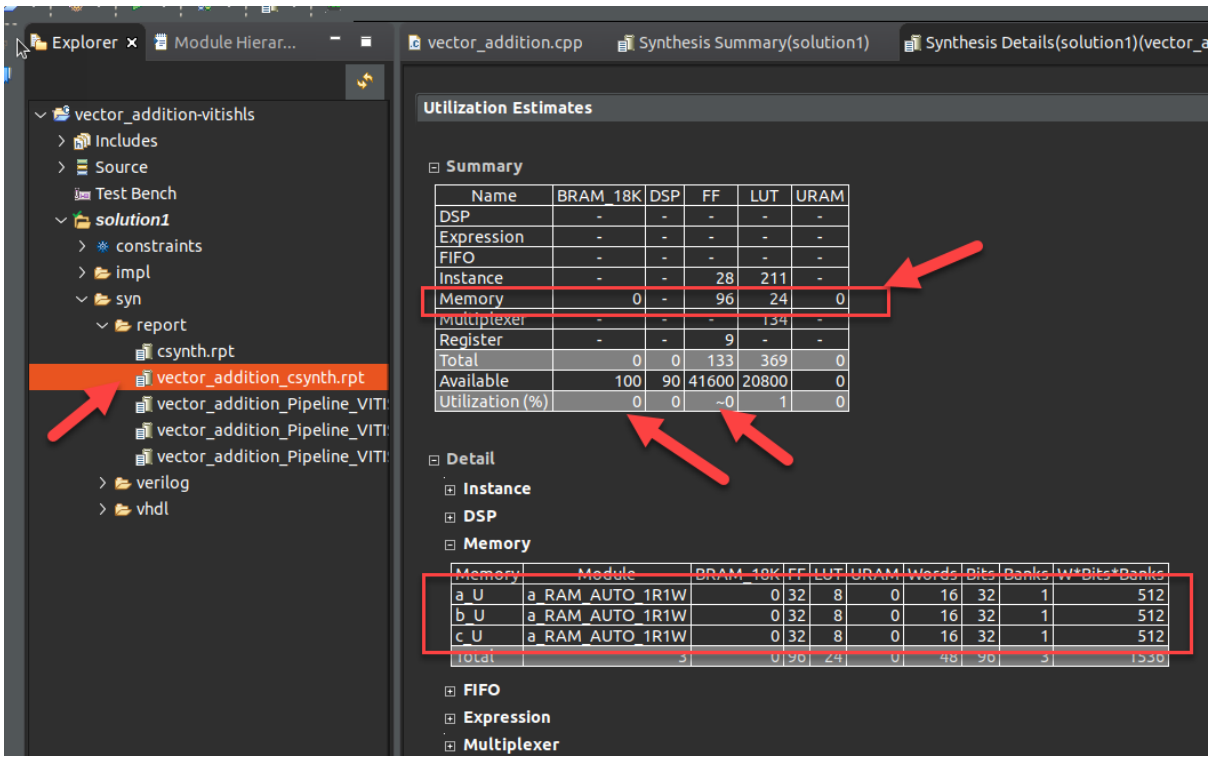
If N = 16, then the following figures show the synthesis reports. As can be seen, internal arrays are not mapped to BRAM. Instead, shift registers (formed by flip-flops) implement the memories.





If N = 64, then the following figures show the synthesis reports. As can be seen, internal arrays are mapped to BRAMs.