CTRL

PCWriteCond
PCWrite
IorD
MemWrite
MemRead
MemtoReg
IRWrite

PCSource
AluOP
AluSrcA
AluSrcB
RegWrite
RegDst

Step #4: IorD = 1
Step #4: MemWrite = 0
Step #4: MemRead = 1

Instruction [25 0]

26   28

Shift left 2   Jump addresse [31 0]

PC [31 28]

Instruction Register

Instruction [31 26]
Instruction [25 21]
Instruction [20 16]
Instruction [15 0]

Step#4: Pour LW, lecture data à l'adresse activée. Sauvegarde dans le MDR

PC

Instruction & Data memory

Read Address

Write Data

Read Data or Instruction [31-0]

Memory data Register

Instruc [15 11]

REGISTERS

Read Register 1
Read Register 2
Write Register
Write Data

Read data 1
Read data 2

A

B

0
1
MUX

in 1
Zero
result
in 2

Alu Operation

ALUOut

4

16   32

Sign Extend   Shift left 2

Instruct [5 0]

ALU control

ALU Operation

Step#4: Adresse calculée en entrée de la mémoire "data" (IorD = 1)

	op	rs	rt	adresse relative / offset
	31 26	25 21	20 16	15 0
Lw rt, offset (rs)	100011	#reg rs	#reg rt	offset
Sw rt, offset (rs)	101011	#reg rs	#reg rt	offset
Beq rs, rt, PC relative address	000100	#reg rs	#reg rt	PC relative adress