Connect processes: flow, bounded FIFO or supermarket

Select a provisional connection between processes from identity, sequence and replenishment evidence, and specify what happens when the connection is full or blocked.

Three handoffs need three different controls

Fictional mixed-products workshop: planner Omar reviews adjacent assembly and test, a custom-nameplate queue before curing, and repeat fasteners supplied to several benches. Management proposes putting every item into the same open storage rack.

Your role and the reference condition

Material-flow designer with operators from both sides of each handoff.
Normal: The connection preserves identity, appropriate sequence and response to demand without uncontrolled accumulation.
Gap: A generic rack does not say which item moves next, how much may wait or what authorizes replenishment.

Work within these conditions

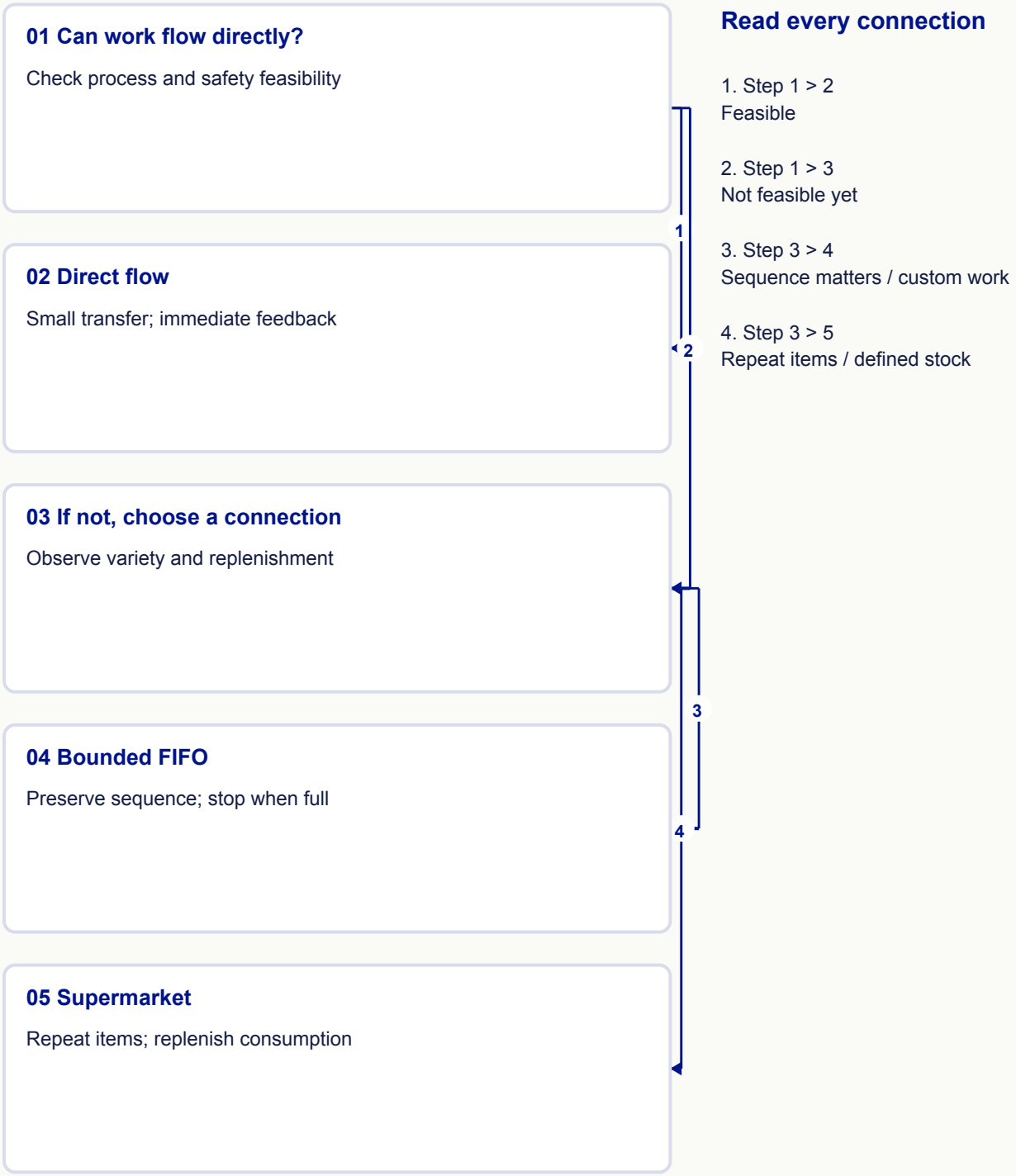
1. Direct flow requires feasible process, safety and quality conditions.

2. A bounded FIFO preserves its agreed sequence; a supermarket uses controlled stock and replenishment, not unlimited storage.

Fictional teaching case. Supplied observations support the exercise; proposed actions are not verified customer results.

See how the method works

Connect adjacent work directly when the process can safely support it. When that is not feasible, make the waiting mechanism explicit. A bounded FIFO lane preserves arrival sequence and creates a clear response when full. A supermarket holds defined quantities of repeat items and replenishes what is consumed. Neither is a license for unlimited stock. Consider product variety, required sequence, replenishment reliability and quality status before choosing. In custom administrative work, a finite sequenced queue may be more useful than pretending every possible request can be stocked. Review end-to-end delay after the connection changes.



Connected method map: Can work flow directly?, Direct flow, If not, choose a connection, Bounded FIFO, Supermarket. Every authored connection is shown with a numbered arrow and named legend.

Follow the evidence and decisions

Inspect the supplied case inputs

Handoff	Observed condition
Assembly > test	Adjacent stations; one verified unit can move when test is ready
Custom nameplates > cure	Unique customer identities; curing prevents immediate direct flow
Fasteners > benches	Repeat items with defined identities and regular consumption
Proposed rack	No maximum, sequence rule or response owner

01 / Check direct flow first

Omar asks whether assembly can hand one eligible unit directly to a ready test position while preserving the approved method. He checks both process timing and safe access.

Why: Direct connection removes a separate waiting location only when the work can genuinely move. Proximity alone is insufficient.

Evidence / check: Provisional assembly/test choice: direct flow, subject to verified feasibility.

02 / Use sequence where identity matters

For custom nameplates, he proposes a four-position FIFO lane with visible oldest-to-newest order and traceable customer identity. The exact limit is an illustrative local trial setting.

Why: Making stock for unknown custom orders would not create useful availability. A bounded sequence makes both age and excess release visible.

Evidence / check: Custom lane: four defined positions; downstream takes the next eligible ordered item.

03 / Define replenishment for repeat items

For repeat fasteners, he records each item's location, eligible stock boundary and consumption signal before proposing a supermarket. Quantity parameters require separate usage and lead-time evidence.

Why: A supermarket is a controlled connection for replenishment. Calling any shelf a supermarket does not supply its missing authorization rules.

Evidence / check: Repeat-item proposal names identity, location, replenishment signal and parameter owner.

04 / Write the full or blocked response

When all four FIFO positions are occupied, upstream does not put a fifth item beside the lane. The owner checks downstream blockage and follows an explicit release/exception rule. A held item retains its quality status.

Why: The limit loses meaning if overflow is hidden. Sequence and eligibility are separate; a local rule must govern any held item rather than silently bypassing it.

Evidence / check: Full-lane record names the blocked handoff, owner and next review time.

05 / Test the selected connection

Observe demand, WIP, waiting age, stockouts and quality after a limited trial. Keep alternative connection choices open if product variety or process constraints change.

Why: The diagram is a design decision based on observed conditions, not a permanent label attached to a department.

Evidence / check: Connection review links the choice and limit to actual operating evidence.

Completed connection decision

Route	Provisional control	Required response
Assembly/test	Direct flow	Do not hand into an unready/unsafe process
Custom nameplates	FIFO, trial limit 4	Stop ordinary release at full lane
Repeat fasteners	Supermarket candidate	Replenish defined consumption
Generic overflow rack	Rejected	No bounded authority or sequence

A FIFO item is on quality hold

The first custom nameplate becomes held while the other three positions remain occupied.

Decision

Retain identity and hold status, notify the owner and apply the approved hold/sequence rule; do not assume moving it away opens an ordinary release slot.

Reasoning

Physical movement, eligibility and commitment are different facts. The response must preserve all three.

What would change the decision?

Hold disposition and any authorized resequencing are traceable.

Practise with a changed case

Choose the connection for a repair service

Separate fictional repair center: unique customer instruments wait for an off-site calibration slot. Standard packing inserts are consumed repeatedly. Final label verification occurs beside packing and can receive one completed instrument at a time.

Route	Condition
Repair > calibration	Unique units; no immediate transfer
Inserts > packing	Repeat consumption
Verification > packing	Adjacent and ready for single units

Your task

1. Choose a provisional connection for each route and explain why.
2. Define a full-queue response for the unique instruments.
3. State one fact that would make you reconsider each choice.

Use the next page to record your reasoning before reading the answer.

Your practice worksheet

Choose the connection for a repair service

Identity and variety

Feasible direct connection

Sequence or replenishment rule

Limit and full response

Evidence that could change the design

Complete your reasoning before turning to the answer. Use the separate learner workbook for group practice.

Check your reasoning and transfer it

1. Unique instruments suggest a bounded, traceable FIFO or explicitly scheduled sequence; do not manufacture a supermarket of customer-owned repairs.

2. Repeat inserts can use defined replenishment stock. Adjacent verification/packing can test direct flow if all feasibility conditions hold.

3. A calibration queue limit needs lead-time and service evidence; a full queue must trigger controlled release and customer-response decisions.

Suggested completed record

Route	Choice	Condition / response
Customer instruments	Bounded traceable queue	Respect identity and agreed sequence
Packing inserts	Supermarket candidate	Usage/lead-time parameters needed
Verified instrument	Direct-flow candidate	Check readiness and safe transfer

Plausible wrong turns

1. FIFO is not limitless parking.

2. Not every repeated item automatically justifies a supermarket.

Evidence of a sound answer

1. Tie each choice to evidence rather than preference.

2. Name a real stop/escalation response.

3. Retain quality eligibility and customer identity.

Take the learning back to work

Commitment	Agreed follow-through
Owner	End-to-end material-flow owner
Record	Connection decision, declared limits and full/hold exception log
Review	After the limited trial and whenever mix or process constraints change
Verification evidence	Controlled WIP, preserved identity, reliable replenishment and known queue age
If unresolved	Revisit feasibility and parameters with both process owners; remove untracked overflow paths.

Help someone else apply the method

Prepare

1. Three route cards, four queue tokens and a blank decision tree
2. An optional quality-hold card

Minutes	Activity and coaching prompt
4	Identify the handoff differences Which fact makes a custom item different from a repeat fastener?
8	Choose three controls What must be known before calling a shelf a supermarket?
8	Introduce the full/held lane Who may change sequence or release?
5	Apply to repair Which observation would reverse your provisional choice?

Debrief

1. Accept reasoned alternatives when their rules and conditions are explicit.
2. Reject solutions that simply move overflow out of view.

Individual or remote practice

Draw one evidence-to-choice branch for each route and audit the exception before opening the answer.

Connect the method and check its boundaries

Before application

1. Known product families
2. Demand and replenishment observations

Outside this lesson

1. FIFO is not infinite storage
2. A supermarket is not uncontrolled inventory

LEI: Supplement to Learning to See

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FIFO work release and bounded queues in service workflows

Method reference; original OPEX scenario and diagram are synthetic teaching content, not source case results.

LEI: Supermarket

LEI: Supermarket

Predetermined stock locations and consumption-triggered replenishment

Method reference; original OPEX scenario and diagram are synthetic teaching content, not source case results.

Open this lesson and its visual aids