LGM Setup from Zero to Order Shipped

The Implementation Consultant's Cheat Sheet for systems and outbound processes setup.

SAP Logistics Management (LGM) is an AI infused cloud-native Software-as-a-Service (SaaS) solution that combines warehousing, transportation, and network-centric collaboration into one system running on SAP BTP. It connects to SAP S/4HANA Private Cloud Edition (PCE) and manages the physical execution of goods movements — putaway,picking, packing, and shipping. This guide covers the complete setup journey from provisioning to go-live. Every page is written to be useful to both first-time implementors and seasoned consultants. This is no substitute to the SAP help documentation - please make sure to consult it to stay abreast of the latest and greatest innovations.

SETUP JOURNEY — 7 PHASES

PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7
BTP Onboarding	S/4HANA PCE Config	Org & UoM Import	Integration (CPI)	Master Data Replication	Warehouse Layout	Business Rules

What you will find here

- Prerequisites overview
- Step-by-step technical procedures for all 7 phases
- Watch-outs from real implementations
- Best practices and expert tips
- 20-point go-live checklist
- Common issue diagnosis table

Who this guide is for

- Implementation consultants (all levels)
- SAP basis and integration teams
- Warehouse super users and system admins
- Anyone supporting LGM implementations

> · Both sides: S/4HANA and LGM · Beginner-friendly, expert-ready

OVERVIEW

What Is LGM and What Do You Need?

LGM is not a standalone logistics platform — it is an extension of S/4HANA PCE. S/4HANA remains the system of record; LGM executes the physical warehouse work. LGM targets **level 1–3 complexity** warehouses: local sites, satellite warehouses, pop-up operations, sampling and technical warehouses. Not a replacement for EWM in high-complexity, high automation, high volume scenarios.

SYSTEM OF RECORD		MIDDLEWARE		EXECUTION LAYER
S/4HANA PCE	⟷	**Integration Suite**	⟷	**SAP LGM (BTP)**

PREREQUISITES — MUST BE IN PLACE BEFORE STARTING

PREREQUISITE	DETAIL
SAP BTP global account	Assigned to your company by SAP — confirmed via onboarding email
S user (BTP admin)	Authorised to manage the global account
SAP Cloud Identity Services (IAS) tenant	**Set this up first** — required for both booster and manual BTP setup
S/4HANA PCE ≥ 2023 FPS02	If below FPS02: apply SAP Notes 3568635, 3585814, 3511365 before proceeding
SAP Integration Suite license	Required for delivery and goods movement integration flows — confirm availability before starting
LGM license	Plans based on system (PROD / TEST / DEV): `premium` / `premium-test` / `premium-dev`

⚠ WATCH OUT

LGM currently integrates with **S/4HANA Private Cloud Edition only**. Public Cloud integration is on the roadmap.

The setup sequence is logically ordered.

PHASE 1

BTP Onboarding

Before you can configure anything in LGM, you must provision it on SAP BTP (Business Technology Platform). BTP is the cloud platform that hosts LGM. Two paths available — use the Booster unless you have a specific reason not to.

Option A: Booster (Recommended)

A guided wizard that automates most configuration in one session.

1. Log on to BTP global account → **Boosters** → search *"Get Started with SAP Logistics Management"* → Start
2. Wizard automates: subaccount, entitlements, service instances, Cloud Foundry, SaaS subscription, role collections
3. After booster: manually set up **Audit Log service** role collections and destinations (not automated)

Option B: Manual Steps

#	ACTION
1	Assign entitlements: LGM plan + Forms + Print services
2	Enable Cloud Foundry (cf-eu20 or cf-us20)
3	Create Cloud Foundry spaces
4	Create service instances (Print, Forms)
5	Establish trust: BTP ↔ IAS (always use IAS as single IdP)
6	Subscribe to SAP Logistics Management in Service Marketplace

REGION	HYPERSCALER	BTP REGION
Europe	Microsoft Azure	`EU20` (Netherlands)
US West	Microsoft Azure	`US20` (Washington)

✓ BEST PRACTICE

You must configure IAS (Identity Authentication Service) as the identity hub even if you use a corporate IdP — connect the corporate IdP to IAS, not directly to BTP. This avoids trust reconfiguration later or issues with the use of SAP Joule and keeps the identity layer clean and consistent with SAP's identity management strategy.

After provisioning: configure API access in IAS → Application APIs → Dependencies → add `backend-access` dependency for LGM.

PHASE 2

S/4HANA Configuration

S/4HANA must be configured before LGM can receive any documents. This phase is handled by the Basis, Inventory and Logisitcs Execution teams. Four areas to cover.

1 · ORGANISATIONAL OBJECTS (SPRO)

OBJECT	SPRO PATH
Plant	Enterprise Structure → Definition → Logistics General → Define Plant
Storage Location	Enterprise Structure → Definition → Materials Management → Maintain Storage Location
Warehouse Number	Enterprise Structure → Definition → Logistics Execution → Define Warehouse Number

Also assign: Plant → Company Code · Shipping Point → Plant · Warehouse Number → Plant + Storage Location.

2 · ACTIVATE DECENTRALISED WMS (CRITICAL)

SPRO → Logistics Execution → Decentralized WMS Integration → Central Processing → Application → **Activate Decentralized WMS**
Settings: **External WMS** · **SOAP Web Services** · **Distribution Immediately at Document Creation**

> ⚠ WATCH OUT — MOST COMMONLY MISSED STEP
> If Decentralised WMS is not activated, goods movements in S/4HANA will never reach LGM. The ERP will process the movement locally and silently — no error, no message to LGM.

3 · ENABLE ODATA SERVICES

TYPE	TRANSACTION	SERVICES TO ADD / PUBLISH
OData V2	`/IWFND/MAINT_SERVICE`	`API_MATERIAL_DOCUMENT_SRV` , `API_MATERIAL_STOCK_SRV` , `API_BUSINESS_PARTNER`
OData V4	`/IWFND/V4_ADMIN`	`API_PURCHASEORDER_2` , `API_PRODUCT` , `CDI_CDS`

4 · PFCG ROLE + TECHNICAL USER + AIF

PFCG role (e.g. ZLGM_ROLE)

Include: V2 + V4 OData services + 4 SOAP inbound services:
`WAREHOUSESHIPPINGADVICE_IN`
`WAREHOUSESHIPPINGADVICECANCELR`
`WAREHOUSESTOCKTRANSFERRECEIPT1`
`WAREHOUSESTOCKTRANSFERRECEIPTA`

Technical user (SU01) + AIF

Type: Dialog · Logon language: **English (mandatory)** · Assign ZLGM_ROLE

AIF: `/AIF/CONTENT_EXTRACT` → development scenario
`SAP_AIF_0118` → Execute

> ✓ BEST PRACTICE
> Create the technical user with a non-expiring password and restrict interactive logon. Document the credentials securely — they are used by Cloud Connector and CPI. Logon language English is mandatory; any other language causes integration failures.

PHASE 3

LGM Org Import, Dimensions & Units of Measure

Three imports must be completed before any integration can be tested. Complete them in this exact order or downstream steps will fail.

1. **Run Code List Replication first** — replication object: `SAP S/4HANA Customizing Data`. This populates LGM with code lists from S/4HANA. Without it, all dropdowns throughout LGM will be empty.

2. **Import Dimensions** — extract from S/4HANA via SE16 (deselect "Respect Conversion Exit"): tables T006D (data) + T006T (localised texts). Import via app: **Import Dimensions**.

3. **Import Units of Measure** — tables T006 (data) + T006A (localised texts). Import via app: **Import Units of Measure**. Mark one UoM as primary per ISO code. Language codes: SE16 uses 1-char (E, D) — templates use 2-char (en, de). Mass-replace in Excel before upload.

4. **Import Organisational Model** — app: **Import Organizational Model** → Download Template → populate with S/4HANA org data → import.

5. **Manage Warehouse Attributes** — immediately after org import: **Manage Warehouse Layout → Manage Warehouse Attributes**. Without this, the warehouse will not appear in dropdowns and business rules will silently fall back to defaults.

⚠ WATCH OUT — IRREVERSIBLE

Organisational units and relationships **cannot be removed** once imported — not even via re-export and re-import. A typo in a warehouse number or plant code creates a permanent orphan object. LGM does NOT validate against S/4HANA at import time — errors only surface at runtime. Rename mistakes with `obsolete_` prefix.

✓ BEST PRACTICE — TWO-PERSON RULE

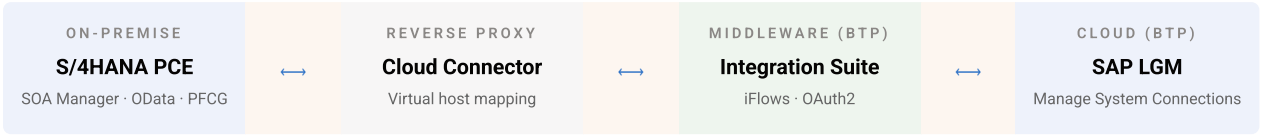
Always have a second reviewer check the org model spreadsheet before upload. Check total SE16 record count and select "Maximum number of hits" to avoid truncated exports. Use export/import to move a validated structure across environments (Dev → Test → Prod) instead of recreating each time.

Use the export/import feature to move a validated org structure across environments — do not recreate the spreadsheet for each landscape.

PHASE 4

Technical Integration — CPI & Cloud Connector

The integration layer connects S/4HANA to LGM via SAP Integration Suite (CPI) and Cloud Connector. Three systems must be configured in parallel. This is the most technically complex phase.



Step 1: SOA Manager in S/4HANA (SOAMANAGER)

1. Download 6 WSDL files from SE80 → package `LE_IDW_SOA_SERVICES`
2. Edit each WSDL: replace `<<iFlow Endpoint>>` with actual CPI URL
3. Create provider system (`LGM_CPI`) → DEFAULT_PROFILE → Basic auth
4. Upload modified WSDLs; create logon data (CPI credentials)
5. Create integration scenario → service group `LE_IDW_SOA_3PL_INTEGRATION` → activate & release
6. Create logical determination → routing = warehouse number

Step 2: CPI Integration Package

Deploy via **SAP Note 3602278**. Then:

- Create OAuth2 Client Credentials (`SAP_Logistics_Management` , token URL from IAS)
- Configure 4 iFlows LGM → S/4HANA direction
- Configure 5–6 iFlows S/4HANA → LGM direction

Step 3: Cloud Connector

- Add BTP subaccount (region, subaccount ID, credentials)
- Map S/4HANA as virtual ABAP System host
- Configure accessible resources (OData + SOAP paths)

⚠ WATCH OUT

Each WSDL must be individually modified with the correct CPI endpoint. A wrong URL in one WSDL means that document type will silently fail at runtime — no error at configuration time.

✓ BEST PRACTICE

Configure Cloud Connector in High Availability mode (master + shadow) for production. A single Cloud Connector instance is a single point of failure for all S/4HANA–LGM integration. Use "Check Connection" in LGM Manage System Connections to validate before replication.

PHASE 5

Master Data Replication

Replication brings S/4HANA master data into LGM so the system knows what products, business partners, and purchase orders exist. Without successful replication, no warehouse process can run.

LGM SYSTEM CONNECTION TYPES

CODE	SYSTEM	DIRECTION
3001	S/4HANA + Master Data	Primary — replication + transactional data
3004	SAP Integration Suite	Outbound from LGM to CPI

Create both destinations in BTP cockpit first, then reference them in **Manage System Connections**.

REPLICATION OBJECTS

OBJECT	ODATA API	KEY RULES
Business Partners	`API_BUSINESS_PARTNER` (V2)	BP role CRM010 required; category = Organization; only ID types BUP006 + LBN001 replicated
Products	`API_PRODUCT` (V4)	Plant must already be in imported org model
Purchase Orders	`API_PURCHASEORDER_2` (V4)	Standard type NB only; BP must have Vendor (VN) partner function
Code Lists	—	Replicated from S/4HANA Customizing Data; includes routes, incoterms, shipping conditions, time zones

CONFIGURE AND SCHEDULE REPLICATION

Manage Replication Configuration

- Create one entry per object type
- Create replication variants with filter criteria (AND/OR logic)
- Activate variant before scheduling

Schedule Data Replication

- One-Time or Recurring (Hourly/Weekly)
- Recurring: UTC timezone only, starts at 00:01 UTC
- Only one active schedule per object (except POs)
- Monitor via **Monitor Job Schedules**

> ⚠ WATCH OUT — ONE SCHEDULE PER OBJECT
>
> Only one active replication schedule is allowed per object type (Purchase Orders are the exception).

> ✓ BEST PRACTICE
>
> Run all replication as One-Time first to validate data quality before scheduling recurring jobs. Check **Monitor Business Logs** and **Monitor Integration Tasks** after every initial run.

PHASE 6

Warehouse Layout and Master Data Setup

After replication, configure the physical warehouse in LGM. Use **Manage Warehouse Layout** app to setup your warehouse's physical properties. This phase must be complete before any outbound process can run.

WAREHOUSE LAYOUT SETUP SEQUENCE

#	APP	NOTES
1	**Manage Warehouse Attributes**	Do this immediately after org import. Required for business rules to evaluate correctly.
2	**Manage Storage Areas**	Define logical areas within the warehouse
3	**Manage Storage Bins**	Define individual storage locations within areas
4	**Manage Fixed Bin Assignments**	Assign products to specific storage bins
5	**Manage Packing Work Centers**	Define physical packing stations
6	**View 3D Warehouse Layout**	Validate the full structure visually before go-live

ADDITIONAL MASTER DATA REQUIRED BEFORE GO-LIVE

Pickup Schedules

App: **Manage Pickup Schedules**
Define recurring carrier pickup times. **Required before running Parcel or LTL processes.** Without them, parcel labels cannot be printed and LTL shipments cannot be assigned a pickup document.

Consolidation Cutoffs

App: **Manage Consolidation Cutoffs**
Recurring periodical deadlines for consignment consolidation. Timezone-aware: a Monday 11:00 cutoff fires at 11:00 *in each affected timezone*.

Carrier Number Pools

App: **Manage Carrier Number Pools**
Pools of external carrier reference numbers. Required for Direct LTL (optional).

Work Queues

App: **Manage Work Queues**
Distribute tasks to specific operatives or groups. Use meaningful names — avoid names resembling HTTP verbs or system actions (causes Joule content violation warnings).

Initial Stock Upload

App: **Upload Stock** — import opening stock balances at go-live. Prerequisites: dimensions, org model, products replicated, warehouse layout complete.

> ⚠ WATCH OUT
>
> Pickup schedules must exist **before** your first Parcel or LTL delivery arrives. If no pickup schedule exists when a parcel delivery arrives, staging will complete but the pickup document assignment will fail. Create pickup schedules during setup — not on go-live day.

PHASE 7

Business Rules & Shipping Process Configuration

Two apps control how every outbound delivery is routed and processed. Configure them carefully.

App: Configure Shipping Processes

PROCESS TYPE	USE WHEN
No Shipping	Customer collects (EXW/FCA)
Parcel	CEP courier (DHL, DPD…)
LTL	Regular carrier, fixed schedule
Direct LTL	Auto carrier + BN4L tendering
FTL	Full truckload, Freight Order

⚠ WATCH OUT

Processing variants **cannot be edited after creation**. Delete and recreate if wrong. A variant also cannot be changed on a delivery already assigned to it.

App: Define Processing Rules (Business Rules)

RULE SET	MANDATORY FOR
`PROCESSING_VARIANT_DETERMINATION_RULE`	All processes >1 variant
`CARRIER_DETN_V1`	Parcel, LTL, Direct LTL
`CONSOLIDATION_CUTOFF_SCHEDULE_DET_V1`	LTL, Direct LTL
`SHIPPER_EXT_IDENTIFICATION_V1`	Parcel (CEP), Direct LTL — mandatory
`LABEL_FORMAT_DETERMINATION_V1`	Parcel — mandatory
`NORMALIZED_UNIT_OF_MEASURE_DETERMINATION`	Strongly recommended always

✓ BEST PRACTICE — CATCH-ALL RULE

Always create a catch-all rule at the bottom of every rule set. Without it, unmatched deliveries fall back to the default process — silently and often incorrectly. Rules execute top-to-bottom; put the most specific rules first. Use drag-and-drop to reorder.

⚠ WATCH OUT — EXW/FCA OVERRIDE

If Incoterms EXW or FCA are on the S/4HANA delivery, LGM **always** routes to No Shipping — regardless of any other business rule. This is hard-coded behaviour, not a rule you can override.

Business rules do not support UoM conversion. If your documents use multiple UoMs (e.g. KG and LB), create separate rule entries for each.

The 5 Shipping Process Types

Every outbound delivery in LGM is assigned to one of five shipping process types. The type determines how warehouse activities and transport planning are coordinated. The system assigns the type automatically via business rules — or falls back to the default process if no rule matches.

NO SHIPPING

Customer Collects

Warehouse-only process. No carrier involved — the customer arrives and collects the goods themselves. Used for EXW or FCA incoterms.

Transport planning: None

Technical Key: `/SAP/No_Shipping`

PARCEL

Courier Provider (DHL, DPD…)

Integrates with a CEP (courier-express-parcel) provider. Shipping label and tracking number are generated automatically when you print at the packing station.

Transport planning: Fixed to CEP provider

Technical Key: `/SAP/Parcel`

LTL

Scheduled Carrier Pickup

A regular carrier collects on a fixed schedule. Deliveries going to the same destination on the same date are automatically consolidated into one consignment after loading.

Transport planning: None in LGM

Technical Key: `/SAP/LTL`

DIRECT LTL

Carrier Auto-Selected + Tendered

Carrier is determined automatically by business rules. If no match, a freight tender is sent via SAP Business Network (BN4L). Carrier must respond before warehouse work begins.

Transport planning: Before or alongside warehouse work

Technical Key: `/SAP/Direct_LTL`

FTL

Full Truckload

Entire truck dedicated to one shipment. A Freight Order (not a consignment) is created. Warehouse work cannot start until the carrier confirms. No consolidation — 1 delivery = 1 truck.

Transport planning: Must complete before warehouse starts

Technical Key: `/SAP/FTL`

A **processing variant** defines the detailed choreography within a process type — when picking happens relative to transport planning, and what consignment model applies. LGM provides standard variants for each type. Custom variants can be created by copying and modifying them. A variant cannot be changed after a delivery is assigned to it.

Hint for beginners: Start with exploring **No Shipping** or **Parcel** processes. They involve the fewest moving parts. Master warehouse tasks and packing before tackling Direct LTL or FTL.

Watch out: If no business rule matches an incoming delivery, LGM should apply a **default process**. Always define a catch-all rule so deliveries don't silently fall through.

The Outbound Flow — Step by Step

Once the system is configured, this is what happens for every outbound delivery. The exact steps vary by process type, but the core sequence is the same.

1. **Order arrives → Delivery replicated from S/4HANA**

   An outbound delivery in S/4HANA triggers a **Logistical Demand** in LGM. An **Outbound Warehouse Request (OWR)** is created automatically. Check *Monitor Logistical Demands* if anything looks stuck — integration errors appear here first.

2. **Picking**

   Warehouse tasks are created from the OWR. Operatives pick via *Process Warehouse Tasks* (desktop) or the *SAP Warehouse Logistics* mobile app. Tasks can be grouped into work queues and bundles for efficiency.

3. **Packing**

   Items are packed into **Handling Units (HUs)** at the *Packing Work Center*. For parcel deliveries, printing the label here triggers the CEP provider integration — the provider responds with a tracking number and label file.

4. **Staging**

   Packed HUs move to the staging area. Setting staging to Completed links the delivery to its Pickup Document and consignment. **Note:** marking staging Completed also marks packing as Completed — even if nothing was packed. Use intentionally.

5. **Carrier Arrival → Loading → Departure**

   All managed in *Manage Pickups and Deliveries*. Confirm check-in, then confirm loading complete, then confirm departure. Each step must be confirmed in sequence before the next is available.

6. **Goods Issue**

   Posted in *Manage Outbound Warehouse Activities*. This sends the final status update back to S/4HANA. Only final statuses are synchronised — all intermediate steps remain in LGM only.

> **Watch out:** Stock assigned to an OWR item is **reserved** — it cannot be used for other orders until it is explicitly released. If a delivery is cancelled, release the stock in *Manage Stock*.

GO-LIVE

Checklist & Common Issues

20-Point Go-Live Checklist

#	CHECK	✓
1	BTP subaccount provisioned, LGM subscribed, IAS trust configured	☐
2	S/4HANA: Plant, Storage Location, Warehouse Number created and assigned	☐
3	Decentralised WMS activated (SPRO), Distribution = Immediately	☐
4	OData V2 + V4 services enabled; PFCG role created	☐
5	Technical user: Dialog type, language EN, ZLGM_ROLE assigned	☐
6	AIF enabled (`SAP_AIF_0118`)	☐
7	SOA Manager: 6 WSDL consumers configured, integration scenario released	☐
8	CPI: package deployed (Note 3602278), all iFlows configured and active	☐
9	Cloud Connector: BTP subaccount added, S/4HANA mapped as virtual host	☐
10	Code List Replication run in LGM	☐
11	Dimensions imported, then UoM imported (in that order)	☐
12	Org Model imported — second reviewer has signed off	☐
13	Warehouse Attributes maintained	☐
14	System Connections 3001 + 3004 created and tested	☐
15	Master data replication run and validated (products, BPs, POs, code lists)	☐
16	Warehouse layout set up (areas, bins, packing work centers)	☐
17	Pickup schedules created (required for Parcel and LTL)	☐
18	Business rules configured, catch-all rule in place	☐
19	Opening stock uploaded	☐
20	End-to-end test: one outbound delivery S/4HANA → Goods Issue in LGM	☐

Most Common Issues

SYMPTOM	ROOT CAUSE & FIX
Delivery arrives in S/4HANA but never appears in LGM	Decentralised WMS not activated, or warehouse not in org model → check SPRO setting
"Destination could not be found" in Manage System Connections	Destination name mismatch between BTP and LGM → align names exactly
Business rules not firing; system uses default process	Warehouse Attributes not maintained → run Manage Warehouse Attributes
BP replication fails	BP missing role CRM010 or not type Organization → correct in S/4HANA
"Missing permissions" after SSO setup	"Use Identity Authentication user store" not enabled in IAS → enable in IAS app settings
Parcel label printing fails	Pickup schedule does not exist → create schedule before go-live
Stock in LGM does not match S/4HANA	Use Reconcile Stock app; prerequisite: SAP Note 3511365 applied