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Template API v1 Reference

This file is generated from `TemplateApiV1Catalog`. Run `./gradlew :app:generateTemplateApiDocumentation` to update it.

Template API v1 is experimental and is not yet a stable compatibility contract. It may evolve between application releases; package authors must retest their packages for each release.

Start with the sales-document walkthrough, the timesheet walkthrough, or the professional starter packages.

Versions and supported scope

Contract	Version
Package format	1
Template API	1

Template kinds: `sales_document`, `timesheet`.

Sales-document families: `quote`, `order_confirmation`, `delivery_note`, `invoice`, `invoice_correction`, `payment_reminder`.

Honored setting groups: `page.margins`, `fold_marks`, `header`, `footer`, `banner`, `metadata`, `text_blocks`, `tenant_address`, `table`.

Manifest

The package root contains `manifest.json`; validate it against `manifest-v1.schema.json`. Manifest errors use the compatibility and resource diagnostics.

Stable values are exhaustive contract values. Examples are illustrative current-engine shapes, not additional constraints.

`packageFormatVersion`

- **Contract:** type `integer`; required: yes
- **Stable values:** 1
- **Description:** ZIP package format major version.

`packageId`

- **Contract:** type `string`; required: yes
- **Example values:** `com.example.invoice`
- **Description:** Stable reverse-DNS identifier for one design lineage.

`displayName`

- **Contract:** type `string`; required: yes
- **Example values:** `Example sales documents`
- **Description:** Human-readable package name.

`templateKind`

- **Contract:** type `string`; required: yes
- **Stable values:** `sales_document`, `timesheet`
- **Description:** The package's single template kind.

`entryPoint`

- **Contract:** type `string`; required: yes
- **Example values:** `document.peb`
- **Description:** Normalized package-relative Pebble entry point.

`templateApiVersion`

- **Contract:** type `integer`; required: yes
- **Stable values:** 1
- **Description:** Template presentation contract major version.

`supportedDocumentFamilies`

- **Contract:** type list; required: yes
- **Stable values:** quote, order_confirmation, delivery_note, invoice, invoice_correction, payment_reminder
- **Description:** Sales-document families the package declares it can render.

honoredSettings

- **Contract:** type list; required: yes
- **Stable values:** page.margins, fold_marks, header, footer, banner, metadata, text_blocks, tenant_address, table
- **Description:** Layout settings the package actually consumes.

resources

- **Contract:** type object; required: yes
- **Example values:** {"styles":["styles.css"],"images":[]}
- **Description:** Declared package-relative styles, PNG/JPEG images, and static TrueType font faces included in the immutable revision.

ZIP package

Authors work in an ordinary source directory, then ZIP its contents for import. One ZIP is one design, one template kind, and one entry point. `manifest.json` must be at the ZIP root, not inside a wrapper directory. A typical sales-document ZIP contains:

```
manifest.json
document.peb
partials/
styles.css
images/
fonts/
```

The checked-in teaching examples and professional starters are source directories that can be zipped from inside their root. The starters include declared package-local images and static TrueType faces. Customer ZIP intake validates declared resources and installs the complete canonical revision into immutable storage.

ZIP intake and revision identity

Container rules:

- The import artifact is one ZIP file whose root contains `manifest.json`; a wrapper directory is not allowed.
- The application validates and extracts a ZIP into immutable app-data storage before use; templates never render directly from the ZIP.
- ZIP entry order, compression method, timestamps, permissions, and other container metadata do not participate in revision identity.
- Zero-byte directory entries and macOS metadata under *__MACOSX* or named *.DS_Store* or with a *.* prefix are ignored after bounded path validation; other files below ordinary directory entries remain subject to normal package validation.
- Absolute paths, parent traversal, backslashes, symlinks, duplicate entries, non-portable paths, and Unicode-normalization or case-fold collisions are rejected.
- ZIP intake is limited to 5242880 compressed bytes, 20971520 expanded bytes, 128 entries, 4194304 bytes per file, 8 path segments, and a 100:1 per-file compression ratio.

Canonical revision rules:

- The revision is lowercase SHA-256 over validated logical package contents, not over the raw ZIP bytes.
- `manifest.json` is parsed, normalized, and serialized as compact canonical JSON; every other file contributes its exact bytes without newline or text normalization.
- Paths are normalized to Unicode NFC, use forward slashes, and are sorted by their canonical UTF-8 path.
- The hash stream starts with the ASCII domain marker AGYNAIX-INVOCER-TEMPLATE-PACKAGE followed by a NUL byte, then signed big-endian package-format version and file count.
- Each sorted file contributes a signed big-endian 32-bit UTF-8 path length, path bytes, signed big-endian 64-bit content length, and exact content bytes.

Immutable storage, backup, and Client mode

- Validated canonical files are installed atomically in immutable content-addressed application-data storage; a completed revision is never updated in place.
- Revision metadata and dataset authorization are stored in the active database, while package bytes remain outside Invoicer database backup archives.
- Operators must protect the application-data package store with filesystem or system backup when disaster recovery requires package artifacts.
- An exact-content re-import recreates the same revision hash; missing or corrupt bytes fail explicitly and never select another revision automatically.
- In Client mode the Host remains authoritative. Clients pull and hash-verify exact canonical package bytes into a dataset- and generation-scoped local preview cache; final exports render on the Host.

Import, Client mode, and recovery

- Review validates the bounded ZIP and renders every applicable preview page before installation. It lists accepted package-local font faces and installation requires an explicit customer-supplied-layout acknowledgement; for font-bearing packages that acknowledgement also confirms embedding and distribution rights.
- Standalone installs the validated canonical revision into the active dataset's immutable package store, then binds the selected layout to its exact package ID and revision hash.
- Client mode performs local review, then uploads the same ZIP for Host-authoritative validation and installation. Layout mutation remains Host-authoritative.
- Client previews pull exact hash-verified package bytes into a cache scoped by Host dataset ID, generation ID, and revision hash. A cached exact revision remains usable offline; an uncached or corrupt revision fails explicitly.
- Final Client-mode exports render on the Host from the Host-authoritative revision.
- Published sales documents and frozen timesheet periods retain their intended exact reference. Missing bytes never select another revision automatically.
- An authorized user may explicitly approve a strongly warned recovery substitution. Rendering and export retain intended-versus-actual revision provenance; the original frozen reference is not rewritten.

Compatibility

- Unknown or newer package-format or Template API major versions are rejected before rendering.
- An older major version is accepted only while an explicit compatibility adapter and contract tests exist.
- A package must declare its template kind and every sales-document family it supports.
- Compatibility failures are explicit and never fall back to another package.
- Template API v1 is experimental and is not yet a stable compatibility contract; authors must retest packages against each application release.

Presentation roots

All six root keys are always present. Exactly one of `document` and `timesheet` is non-null. Display values are authoritative; templates must not reconstruct financial, lifecycle, localization, or legal decisions.

Stable values are exhaustive contract values. Where none exist, each field entry gives an illustrative example of the current engine output shape.

`common`

Prepared parties, page, header, footer, labels, and application resources.

`common.locale`

- **Contract:** type `string`; presence **required**; semantics `display`
- **Example values:** `de-DE`

`common.tenant.displayName`

- **Contract:** type `string`; presence **required**; semantics `display`
- **Example values:** `Example GmbH`

`common.tenant.qualifiedContactPerson`

- **Contract:** type `string`; presence **nullable**; semantics `display`
- **Example values:** `Erika Muster`

`common.tenant.addressLines[]`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** Musterstraße 1

`common.tenant.isCompany`

- **Contract:** type boolean; presence required; semantics display
- **Example values:** true

`common.tenant.isSmallBusiness`

- **Contract:** type boolean; presence required; semantics display
- **Example values:** true

`common.tenant.customerNumber`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** C-1001

`common.tenant.vatId`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** DE123456789

`common.tenant.taxId`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** 12/345/67890

`common.recipient.displayName`

- **Contract:** type string; presence required; semantics display
- **Example values:** Example GmbH

`common.recipient.qualifiedContactPerson`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** Erika Muster

`common.recipient.addressLines[]`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** Musterstraße 1

`common.recipient.isCompany`

- **Contract:** type boolean; presence required; semantics display
- **Example values:** true

`common.recipient.isSmallBusiness`

- **Contract:** type boolean; presence required; semantics display
- **Example values:** true

`common.recipient.customerNumber`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** C-1001

`common.recipient.vatId`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** DE123456789

`common.recipient.taxId`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** 12/345/67890

`common.header.showLogo`

- **Contract:** type boolean; presence required; semantics display
- **Example values:** true

`common.header.logoPlacement`

- **Contract:** type string; presence required; semantics stable_enum
- **Stable values:** left, center, right

`common.header.contentAlignment`

- **Contract:** type string; presence required; semantics stable_enum
- **Stable values:** left, center, right

`common.header.showCompanyName`

- **Contract:** type boolean; presence required; semantics display
- **Example values:** true

`common.header.showDocumentType`

- **Contract:** type boolean; presence required; semantics display
- **Example values:** true

`common.header.showDocumentTypeInMetadata`

- **Contract:** type boolean; presence required; semantics display
- **Example values:** true

`common.header.leftColumnPercent`

- **Contract:** type integer; presence required; semantics display
- **Example values:** 50

`common.header.rightColumnPercent`

- **Contract:** type integer; presence required; semantics display
- **Example values:** 50

`common.footer.columns[].position`

- **Contract:** type string; presence empty_list; semantics stable_enum
- **Stable values:** left, center, right

`common.footer.columns[].widthPercent`

- **Contract:** type integer; presence empty_list; semantics display
- **Example values:** 50

`common.footer.columns[].heading`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** Total

`common.footer.columns[].headingIconXhtml`

- **Contract:** type string; presence nullable; semantics safe_xhtml
- **Example values:** <p>Prepared text</p>

`common.footer.columns[].rows[].fieldId`

- **Contract:** type string; presence empty_list; semantics stable_enum
- **Example values:** general_email

`common.footer.columns[].rows[].label`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** Total

`common.footer.columns[].rows[].values[]`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** Prepared display value

`common.footer.columns[].rows[].separator`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** ·

`common.footer.columns[].rows[].labelStrong`

- **Contract:** type boolean; presence empty_list; semantics display
- **Example values:** true

`common.footer.columns[].rows[].valueStrong`

- **Contract:** type boolean; presence `empty_list`; semantics `display`
- **Example values:** `true`

`common.footer.columns[].rows[].iconXhtml`

- **Contract:** type string; presence `nullable`; semantics `safe_xhtml`
- **Example values:** `<p>Prepared text</p>`

`common.footer.adaptiveLayout`

- **Contract:** type boolean; presence `required`; semantics `display`
- **Example values:** `true`

`common.footer.splitLabelAndValue`

- **Contract:** type boolean; presence `required`; semantics `display`
- **Example values:** `true`

`common.footer.showPageNumber`

- **Contract:** type boolean; presence `required`; semantics `display`
- **Example values:** `true`

`common.footer.showTotalPages`

- **Contract:** type boolean; presence `required`; semantics `display`
- **Example values:** `true`

`common.footer.pageLabel`

- **Contract:** type string; presence `nullable`; semantics `display`
- **Example values:** `Page`

`common.footer.totalSeparator`

- **Contract:** type string; presence `nullable`; semantics `display`
- **Example values:** `of`

`common.footer.pageIconXhtml`

- **Contract:** type string; presence `nullable`; semantics `safe_xhtml`
- **Example values:** `<p>Prepared text</p>`

`common.footer.totalIconXhtml`

- **Contract:** type string; presence `nullable`; semantics `safe_xhtml`
- **Example values:** `<p>Prepared text</p>`

`common.footer.reservedBottomMm`

- **Contract:** type integer; presence `required`; semantics `display`
- **Example values:** `20`

`common.footer.typography.fontSizeCss`

- **Contract:** type string; presence `required`; semantics `display`
- **Example values:** `8pt`

`common.footer.typography.iconSizeCss`

- **Contract:** type string; presence `required`; semantics `display`
- **Example values:** `10pt`

`common.footer.typography.iconGapCss`

- **Contract:** type string; presence `required`; semantics `display`
- **Example values:** `4px`

`common.footer.typography.bodyLineHeight`

- **Contract:** type decimal; presence `required`; semantics `display`
- **Example values:** `1.2`

`common.footer.typography.headingLineHeight`

- **Contract:** type decimal; presence required; semantics display
- **Example values:** 1.2

`common.footer.typography.headingMarginBottomPx`

- **Contract:** type integer; presence required; semantics display
- **Example values:** 20

`common.footer.colors.label`

- **Contract:** type string; presence required; semantics display
- **Example values:** #2d3748

`common.footer.colors.value`

- **Contract:** type string; presence required; semantics display
- **Example values:** #2d3748

`common.footer.colors.heading`

- **Contract:** type string; presence required; semantics display
- **Example values:** #2d3748

`common.page.size`

- **Contract:** type string; presence required; semantics display
- **Example values:** A4

`common.page.marginTopMm`

- **Contract:** type integer; presence required; semantics display
- **Example values:** 20

`common.page.marginRightMm`

- **Contract:** type integer; presence required; semantics display
- **Example values:** 20

`common.page.marginBottomMm`

- **Contract:** type integer; presence required; semantics display
- **Example values:** 20

`common.page.marginLeftMm`

- **Contract:** type integer; presence required; semantics display
- **Example values:** 20

`common.page.foldMarks`

- **Contract:** type boolean; presence required; semantics display
- **Example values:** true

`common.resources.tenantLogo`

- **Contract:** type string; presence nullable; semantics resource_handle
- **Example values:** data:image/png;base64,...

`common.resources.fontCss`

- **Contract:** type string; presence required; semantics safe_css
- **Example values:** @font-face { ... }

`common.labels.from`

- **Contract:** type string; presence required; semantics display
- **Example values:** Total

`common.labels.customerNumber`

- **Contract:** type string; presence required; semantics display
- **Example values:** C-1001

`common.labels.documentNumber`

- **Contract:** type string; presence required; semantics display
- **Example values:** INV-2026-001

`common.labels.documentDate`

- **Contract:** type string; presence required; semantics display
- **Example values:** 2026-08-20

`common.labels.deliveryDate`

- **Contract:** type string; presence required; semantics display
- **Example values:** 2026-08-20

`common.labels.actionByDate`

- **Contract:** type string; presence required; semantics display
- **Example values:** 2026-08-20

`common.labels.orderNumber`

- **Contract:** type string; presence required; semantics display
- **Example values:** INV-2026-001

`common.labels.contractNumber`

- **Contract:** type string; presence required; semantics display
- **Example values:** INV-2026-001

`common.labels.buyerReference`

- **Contract:** type string; presence required; semantics display
- **Example values:** Total

`common.labels.originalInvoice`

- **Contract:** type string; presence required; semantics display
- **Example values:** Total

`common.labels.period`

- **Contract:** type string; presence required; semantics display
- **Example values:** Total

`common.labels.project`

- **Contract:** type string; presence required; semantics display
- **Example values:** Total

`common.labels.position`

- **Contract:** type string; presence required; semantics display
- **Example values:** Total

`common.labels.description`

- **Contract:** type string; presence required; semantics display
- **Example values:** Total

`common.labels.quantity`

- **Contract:** type string; presence required; semantics display
- **Example values:** Total

`common.labels.unitPrice`

- **Contract:** type string; presence required; semantics display
- **Example values:** 1,234.56 €

`common.labels.vat`

- **Contract:** type string; presence required; semantics display
- **Example values:** Total

`common.labels.total`

- **Contract:** type string; presence required; semantics display
- **Example values:** Total

`common.labels.date`

- **Contract:** type string; presence required; semantics display
- **Example values:** 2026-08-20

`common.labels.time`

- **Contract:** type string; presence required; semantics display
- **Example values:** Total

`common.labels.location`

- **Contract:** type string; presence required; semantics display
- **Example values:** Berlin

`common.labels.duration`

- **Contract:** type string; presence required; semantics display
- **Example values:** 3:30 h

`common.labels.alternatives`

- **Contract:** type string; presence required; semantics display
- **Example values:** Total

`common.labels.option`

- **Contract:** type string; presence required; semantics display
- **Example values:** Total

`common.labels.subtotal`

- **Contract:** type string; presence required; semantics display
- **Example values:** 1,234.56 €

`common.sandboxWatermark`

- **Contract:** type boolean; presence required; semantics display
- **Example values:** true

`document`

Prepared sales-document identity, metadata, items, alternatives, and text. This kind root is null for the other template kind.

`document.family`

- **Contract:** type string; presence required; semantics `stable_enum`
- **Stable values:** `quote`, `order_confirmation`, `delivery_note`, `invoice`, `invoice_correction`, `payment_reminder`

`document.title`

- **Contract:** type string; presence required; semantics display
- **Example values:** Invoice

`document.number`

- **Contract:** type string; presence required; semantics display
- **Example values:** INV-2026-001

`document.date`

- **Contract:** type string; presence required; semantics display
- **Example values:** 2026-08-20

`document.actionByDate`

- **Contract:** type string; presence required; semantics display
- **Example values:** 2026-08-20

`document.deliveryDate`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** 2026-08-20

`document.descriptionXhtml`

- **Contract:** type string; presence nullable; semantics safe_xhtml
- **Example values:** <p>Prepared text</p>

`document.parentNumber`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** INV-2026-001

`document.originalInvoiceNumber`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** INV-2026-001

`document.metadata[].id`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** net_total

`document.metadata[].label`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** Total

`document.metadata[].value`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** Prepared display value

`document.showVatRateColumn`

- **Contract:** type boolean; presence required; semantics display
- **Example values:** true

`document.items[].position`

- **Contract:** type integer; presence empty_list; semantics display
- **Example values:** 1

`document.items[].displayPosition`

- **Contract:** type integer; presence nullable; semantics display
- **Example values:** 20

`document.items[].descriptionXhtml`

- **Contract:** type string; presence empty_list; semantics safe_xhtml
- **Example values:** <p>Prepared text</p>

`document.items[].kind`

- **Contract:** type string; presence empty_list; semantics stable_enum
- **Stable values:** priced, text

`document.items[].productSku`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** SKU-1001

`document.items[].productName`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** Consulting package

`document.items[].productImage`

- **Contract:** type string; presence nullable; semantics resource_handle
- **Example values:** data:image/png;base64,...

`document.items[].productImageMaxWidthMm`

- **Contract:** type integer; presence empty_list; semantics display
- **Example values:** 20

`document.items[].productImageMaxHeightMm`

- **Contract:** type integer; presence empty_list; semantics display
- **Example values:** 20

`document.items[].quantityWithUnit`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** 2.00 h

`document.items[].unitPrice`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** 1,234.56 €

`document.items[].vatRate`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** 19%

`document.items[].vatCategoryCode`

- **Contract:** type string; presence empty_list; semantics stable_enum
- **Example values:** S

`document.items[].lineTotal`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** 1,234.56 €

`document.alternativeGroups[].id`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** net_total

`document.alternativeGroups[].number`

- **Contract:** type integer; presence empty_list; semantics display
- **Example values:** 20

`document.alternativeGroups[].label`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** Total

`document.alternativeGroups[].items[].position`

- **Contract:** type integer; presence empty_list; semantics display
- **Example values:** 1

`document.alternativeGroups[].items[].displayPosition`

- **Contract:** type integer; presence nullable; semantics display
- **Example values:** 20

`document.alternativeGroups[].items[].descriptionXhtml`

- **Contract:** type string; presence empty_list; semantics safe_xhtml
- **Example values:** <p>Prepared text</p>

`document.alternativeGroups[].items[].kind`

- **Contract:** type string; presence empty_list; semantics stable_enum
- **Stable values:** priced, text

`document.alternativeGroups[].items[].productSku`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** SKU-1001

`document.alternativeGroups[].items[].productName`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** Consulting package

`document.alternativeGroups[].items[].productImage`

- **Contract:** type string; presence nullable; semantics resource_handle
- **Example values:** data:image/png;base64,...

`document.alternativeGroups[].items[].productImageMaxWidthMm`

- **Contract:** type integer; presence empty_list; semantics display
- **Example values:** 20

`document.alternativeGroups[].items[].productImageMaxHeightMm`

- **Contract:** type integer; presence empty_list; semantics display
- **Example values:** 20

`document.alternativeGroups[].items[].quantityWithUnit`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** 2.00 h

`document.alternativeGroups[].items[].unitPrice`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** 1,234.56 €

`document.alternativeGroups[].items[].vatRate`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** 19%

`document.alternativeGroups[].items[].vatCategoryCode`

- **Contract:** type string; presence empty_list; semantics stable_enum
- **Example values:** S

`document.alternativeGroups[].items[].lineTotal`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** 1,234.56 €

`document.alternativeGroups[].subtotal`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** 1,234.56 €

`document.textBlocksBefore[].contentXhtml`

- **Contract:** type string; presence empty_list; semantics safe_xhtml
- **Example values:** <p>Prepared text</p>

`document.textBlocksAfter[].contentXhtml`

- **Contract:** type string; presence empty_list; semantics safe_xhtml
- **Example values:** <p>Prepared text</p>

`document.fullCancellationDescriptionXhtml`

- **Contract:** type string; presence nullable; semantics safe_xhtml
- **Example values:** <p>Prepared text</p>

timesheet

Prepared period identity and complete timesheet entries. This kind root is null for the other template kind.

timesheet.title

- **Contract:** type string; presence required; semantics display
- **Example values:** Invoice

timesheet.documentTitle

- **Contract:** type string; presence required; semantics display
- **Example values:** Invoice

timesheet.number

- **Contract:** type string; presence required; semantics display
- **Example values:** INV-2026-001

timesheet.reference

- **Contract:** type string; presence required; semantics display
- **Example values:** Project Apollo

`timesheet.periodStart`

- **Contract:** type string; presence required; semantics display
- **Example values:** 2026-08-20

`timesheet.periodEnd`

- **Contract:** type string; presence required; semantics display
- **Example values:** 2026-08-20

`timesheet.descriptionXhtml`

- **Contract:** type string; presence nullable; semantics safe_xhtml
- **Example values:** <p>Prepared text</p>

`timesheet.metadata[].id`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** net_total

`timesheet.metadata[].label`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** Total

`timesheet.metadata[].value`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** Prepared display value

`timesheet.entries[].date`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** 2026-08-20

`timesheet.entries[].timeRange`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** 09:00-12:30

`timesheet.entries[].descriptionXhtml`

- **Contract:** type string; presence empty_list; semantics safe_xhtml
- **Example values:** <p>Prepared text</p>

`timesheet.entries[].category`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** Consulting

`timesheet.entries[].location`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** Berlin

`timesheet.entries[].duration`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** 3:30 h

`timesheet.entries[].billable`

- **Contract:** type boolean; presence empty_list; semantics display
- **Example values:** true

`timesheet.hasLocations`

- **Contract:** type boolean; presence required; semantics display
- **Example values:** true

`settings`

The materialized layout settings declared as honored by the package.

`settings.honored[]`

- **Contract:** type string; presence empty_list; semantics stable_enum

- **Stable values:** page.margins, fold_marks, header, footer, banner, metadata, text_blocks, tenant_address, table

settings.page.size

- **Contract:** type string; presence required; semantics display
- **Example values:** A4

settings.page.marginTopMm

- **Contract:** type integer; presence required; semantics display
- **Example values:** 20

settings.page.marginRightMm

- **Contract:** type integer; presence required; semantics display
- **Example values:** 20

settings.page.marginBottomMm

- **Contract:** type integer; presence required; semantics display
- **Example values:** 20

settings.page.marginLeftMm

- **Contract:** type integer; presence required; semantics display
- **Example values:** 20

settings.page.foldMarks

- **Contract:** type boolean; presence required; semantics display
- **Example values:** true

settings.appearance.bannerBackground

- **Contract:** type string; presence required; semantics display
- **Example values:** #2d3748

settings.appearance.bannerBorder

- **Contract:** type string; presence required; semantics display
- **Example values:** #2d3748

settings.appearance.bannerText

- **Contract:** type string; presence required; semantics display
- **Example values:** #2d3748

settings.appearance.metadataBackground

- **Contract:** type string; presence required; semantics display
- **Example values:** #2d3748

settings.appearance.metadataText

- **Contract:** type string; presence required; semantics display
- **Example values:** #2d3748

settings.appearance.metadataBorder

- **Contract:** type string; presence required; semantics display
- **Example values:** #2d3748

settings.appearance.metadataPosition

- **Contract:** type string; presence required; semantics display
- **Example values:** Right

settings.appearance.textBlockBackground

- **Contract:** type string; presence required; semantics display
- **Example values:** #2d3748

settings.appearance.textBlockBorder

- **Contract:** type string; presence required; semantics display
- **Example values:** #2d3748

`settings.appearance.textBlockText`

- **Contract:** type string; presence required; semantics display
- **Example values:** #2d3748

`settings.appearance.tenantAddressStyle`

- **Contract:** type string; presence required; semantics display
- **Example values:** Full

`settings.appearance.tableHeaderStyle`

- **Contract:** type string; presence required; semantics display
- **Example values:** Inverted

`settings.appearance.tableBorder`

- **Contract:** type string; presence required; semantics display
- **Example values:** #2d3748

`settings.appearance.tableEvenBackground`

- **Contract:** type string; presence required; semantics display
- **Example values:** #2d3748

`settings.appearance.tableOddBackground`

- **Contract:** type string; presence required; semantics display
- **Example values:** #2d3748

`settings.appearance.tableText`

- **Contract:** type string; presence required; semantics display
- **Example values:** #2d3748

`settings.appearance.bannerHeightMm`

- **Contract:** type integer; presence required; semantics display
- **Example values:** 20

`settings.appearance.imageHeightMm`

- **Contract:** type integer; presence required; semantics display
- **Example values:** 20

`format`

Active locale, currency, and formatting-profile metadata.

`format.locale`

- **Contract:** type string; presence required; semantics display
- **Example values:** de-DE

`format.currency`

- **Contract:** type string; presence required; semantics display
- **Example values:** EUR

`format.dateStyle`

- **Contract:** type string; presence required; semantics `stable_enum`
- **Stable values:** medium

`components`

Prepared inputs and availability for application-owned components.

`components.financialSummary.available`

- **Contract:** type boolean; presence required; semantics display
- **Example values:** true

`components.financialSummary.rows[] .id`

- **Contract:** type string; presence `empty_list`; semantics display

- **Example values:** net_total

`components.financialSummary.rows[].role`

- **Contract:** type string; presence empty_list; semantics stable_enum
- **Stable values:** line_net, rebate, net_after_rebate, vat_bucket_net, vat_bucket_rebate, vat_bucket_tax, vat_total, gross_total

`components.financialSummary.rows[].label`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** Total

`components.financialSummary.rows[].value`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** Prepared display value

`components.financialSummary.rows[].emphasis`

- **Contract:** type string; presence empty_list; semantics stable_enum
- **Stable values:** normal, subtotal, total, warning

`components.financialSummary.rows[].keepWithNext`

- **Contract:** type boolean; presence empty_list; semantics display
- **Example values:** true

`components.deductions.available`

- **Contract:** type boolean; presence required; semantics display
- **Example values:** true

`components.deductions.heading`

- **Contract:** type string; presence required; semantics display
- **Example values:** Total

`components.deductions.rows[].id`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** net_total

`components.deductions.rows[].label`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** Total

`components.deductions.rows[].value`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** Prepared display value

`components.deductions.rows[].emphasis`

- **Contract:** type string; presence empty_list; semantics stable_enum
- **Stable values:** normal, subtotal, total, warning

`components.deductions.rows[].keepWithNext`

- **Contract:** type boolean; presence empty_list; semantics display
- **Example values:** true

`components.reminderSettlement.available`

- **Contract:** type boolean; presence required; semantics display
- **Example values:** true

`components.reminderSettlement.heading`

- **Contract:** type string; presence required; semantics display
- **Example values:** Total

`components.reminderSettlement.rows[].id`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** net_total

`components.reminderSettlement.rows[].label`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** Total

`components.reminderSettlement.rows[].value`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** Prepared display value

`components.reminderSettlement.rows[].emphasis`

- **Contract:** type string; presence empty_list; semantics stable_enum
- **Stable values:** normal, subtotal, total, warning

`components.reminderSettlement.rows[].keepWithNext`

- **Contract:** type boolean; presence empty_list; semantics display
- **Example values:** true

`components.payment.available`

- **Contract:** type boolean; presence required; semantics display
- **Example values:** true

`components.payment.payableLabel`

- **Contract:** type string; presence required; semantics display
- **Example values:** Prepared display text

`components.payment.payable`

- **Contract:** type string; presence required; semantics display
- **Example values:** 1,234.56 €

`components.payment.instructions[].type`

- **Contract:** type string; presence empty_list; semantics stable_enum
- **Stable values:** bank_transfer, paypal

`components.payment.instructions[].heading`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** Total

`components.payment.instructions[].instructionXhtml`

- **Contract:** type string; presence empty_list; semantics safe_xhtml
- **Example values:** <p>Prepared text</p>

`components.payment.instructions[].accountHolderLabel`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** Prepared display text

`components.payment.instructions[].bankNameLabel`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** Prepared display text

`components.payment.instructions[].emailLabel`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** Prepared display text

`components.payment.instructions[].linkLabel`

- **Contract:** type string; presence empty_list; semantics display
- **Example values:** Prepared display text

`components.payment.instructions[].accountHolder`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** Example GmbH

`components.payment.instructions[].iban`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** DE02120300000000202051

`components.payment.instructions[].bic`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** BYLADEM1001

`components.payment.instructions[].bankName`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** Example Bank

`components.payment.instructions[].email`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** billing@example.com

`components.payment.instructions[].link`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** https://example.com/pay

`components.payment.instructions[].qrResource`

- **Contract:** type string; presence nullable; semantics resource_handle
- **Example values:** data:image/png;base64,...

`components.payment.skonto.heading`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** Total

`components.payment.skonto.discountedTotalLabel`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** Prepared display text

`components.payment.skonto.percentage`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** 19%

`components.payment.skonto.days`

- **Contract:** type integer; presence nullable; semantics display
- **Example values:** 14

`components.payment.skonto.discountAmount`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** 1,234.56 €

`components.payment.skonto.discountedTotal`

- **Contract:** type string; presence nullable; semantics display
- **Example values:** 1,234.56 €

`components.legalDisclosures.available`

- **Contract:** type boolean; presence required; semantics display
- **Example values:** true

`components.legalDisclosures.notesXhtml[]`

- **Contract:** type string; presence empty_list; semantics safe_xhtml
- **Example values:** <p>Prepared text</p>

`components.timesheetSummary.available`

- **Contract:** type boolean; presence required; semantics display
- **Example values:** true

`components.timesheetSummary.billableLabel`

- **Contract:** type string; presence required; semantics display
- **Example values:** Prepared display text

`components.timesheetSummary.billable`

- **Contract:** type string; presence required; semantics display
- **Example values:** Prepared display text

`components.timesheetSummary.nonBillableLabel`

- **Contract:** type string; presence required; semantics display
- **Example values:** Prepared display text

`components.timesheetSummary.nonBillable`

- **Contract:** type string; presence required; semantics display
- **Example values:** Prepared display text

`components.timesheetSummary.totalLabel`

- **Contract:** type string; presence required; semantics display
- **Example values:** Prepared display text

`components.timesheetSummary.total`

- **Contract:** type string; presence required; semantics display
- **Example values:** Prepared display text

Application-owned components

Includes in `invoicer/components/v1/` are resolved only by the application. Components read their prepared view and accept no arbitrary Pebble arguments in v1. Internal markup is not frozen beyond the documented stable hooks.

`financial-summary`

- **Include:** `invoicer/components/v1/financial-summary.peb`
- **Prepared view:** `components.financialSummary`
- **Stable outer hook:** `[data-invoicer-component="financial-summary"]`
- **Stable row hooks:** `[data-row-role="<role>"], .inv-c-role-<role>`
- **Arguments:** none
- **Pagination:** Keeps an indivisible row together and may move the complete summary
- **Contract policy:** Reads its prepared `components.financialSummary` view; arbitrary arguments are not supported in v1.

`deductions`

- **Include:** `invoicer/components/v1/deductions.peb`
- **Prepared view:** `components.deductions`
- **Stable outer hook:** `[data-invoicer-component="deductions"]`
- **Arguments:** none
- **Pagination:** Splits only between prepared rows
- **Contract policy:** Reads its prepared `components.deductions` view; arbitrary arguments are not supported in v1.

`reminder-settlement`

- **Include:** `invoicer/components/v1/reminder-settlement.peb`
- **Prepared view:** `components.reminderSettlement`
- **Stable outer hook:** `[data-invoicer-component="reminder-settlement"]`
- **Arguments:** none
- **Pagination:** Keeps rows marked `keepWithNext` together
- **Contract policy:** Reads its prepared `components.reminderSettlement` view; arbitrary arguments are not supported in v1.

`payment`

- **Include:** `invoicer/components/v1/payment.peb`
- **Prepared view:** `components.payment`
- **Stable outer hook:** `[data-invoicer-component="payment"]`
- **Arguments:** none
- **Pagination:** Keeps each instruction block intact and may split between instructions

- **Contract policy:** Reads its prepared components.payment view; arbitrary arguments are not supported in v1.

legal-disclosures

- **Include:** invoicer/components/v1/legal-disclosures.peb
- **Prepared view:** components.legalDisclosures
- **Stable outer hook:** [data-invoicer-component="legal-disclosures"]
- **Arguments:** none
- **Pagination:** Splits only between prepared legal notes
- **Contract policy:** Reads its prepared components.legalDisclosures view; arbitrary arguments are not supported in v1.

timesheet-summary

- **Include:** invoicer/components/v1/timesheet-summary.peb
- **Prepared view:** components.timesheetSummary
- **Stable outer hook:** [data-invoicer-component="timesheet-summary"]
- **Arguments:** none
- **Pagination:** Keeps the short summary together
- **Contract policy:** Reads its prepared components.timesheetSummary view; arbitrary arguments are not supported in v1.

A package may reorder, wrap, restyle, or omit a component. Omission does not expose its underlying business rules.

Pebble and resources

Allowed Pebble tags: `block`, `else`, `elseif`, `embed`, `endblock`, `endembed`, `endfor`, `endif`, `extends`, `for`, `if`, `include`, `set`.

Allowed filters: `raw`. Function calls and dynamic resource paths are forbidden. Strict variables are enabled and rendered output is limited to 8000000 characters.

- Package includes resolve only inside the package; absolute and parent-traversal paths are forbidden.
- The invoicer/components/v1 namespace is application-owned and cannot be shadowed.
- Dynamic include, extends, and embed paths are forbidden.
- Local-file and network resource loading are not part of Template API v1.
- Package-local PNG and JPEG images must be declared in manifest.json and referenced by normalized package-relative paths; they are materialized from the canonical bytes without exposing filesystem paths.
- Each image is limited to 4096x4096 pixels and all images together to 40000000 pixels.
- Package-local fonts must be declared as normalized static TrueType .ttf faces with family, weight, and normal or italic style metadata that matches the font program.
- A package may contain at most 8 font faces, each at most 1048576 bytes and together at most 4194304 bytes.
- Declared fonts must permit document embedding. OTF, TTC, WOFF, WOFF2, variable, color, bitmap, Type 1, operating-system, local-file, and network fonts are unsupported.
- The importing organization must confirm that it has the right to embed and distribute supplied font software in generated documents and archives.
- Package-authored data, file, and network resource URLs are forbidden; data resources prepared by the application remain available only through documented Template API fields.

CSS and XHTML

- Template output must be well-formed XHTML; JavaScript and browser DOM APIs are unavailable.
- CSS is rendered by the application's Flying Saucer print pipeline, not a browser engine.
- Template API v1 rejects Flying Saucer's unsupported HTML5 elements: `<article>`, `<aside>`, `<audio>`, `<canvas>`, `<datalist>`, `<details>`, `<dialog>`, `<figcaption>`, `<figure>`, `<footer>`, `<header>`, `<main>`, `<mark>`, `<meter>`, `<nav>`, `<output>`, `<picture>`, `<progress>`, `<section>`, `<summary>`, `<template>`, `<time>`, `<track>`, `<video>`, `<wbr>`.
- Template API v1 rejects CSS declarations that Flying Saucer reports as unsupported; use XHTML and CSS 2.1-compatible block, inline, float, or table layout.
- Print CSS, @page rules, fixed-layout tables, ordinary block flow, and bounded floats are supported when the renderer accepts them.
- Include common.resources.fontCss before package styles. It contains application-owned declarations for maintained IBM Plex Sans and every validated package-local font face.

- Select a declared package face by its manifest family, weight, and style from package CSS; use IBM Plex Sans or a generic family as an explicit fallback.
- External stylesheets, network fonts, local-file URLs, and browser-pixel parity are unsupported.

Diagnostics

Package ZIP intake and canonicalization fail deterministically with these codes:

- ARCHIVE_MISSING
- ARCHIVE_NOT_REGULAR_FILE
- ARCHIVE_TOO_LARGE
- ARCHIVE_INVALID
- ARCHIVE_ENCRYPTED
- ENTRY_COUNT_EXCEEDED
- ENTRY_DUPLICATE
- ENTRY_DIRECTORY_FORBIDDEN
- ENTRY_SYMLINK_FORBIDDEN
- ENTRY_PATH_INVALID
- ENTRY_TYPE_UNSUPPORTED
- ENTRY_TOO_LARGE
- EXPANDED_SIZE_EXCEEDED
- COMPRESSION_RATIO_EXCEEDED
- MANIFEST_MISSING
- MANIFEST_WRAPPER_DIRECTORY
- MANIFEST_INVALID
- IMAGE_INVALID
- IMAGE_DIMENSIONS_EXCEEDED
- IMAGE_PIXEL_BUDGET_EXCEEDED
- FONT_INVALID
- FONT_UNSUPPORTED
- FONT_METADATA_MISMATCH
- FONT_EMBEDDING_RESTRICTED
- FONT_COUNT_EXCEEDED
- FONT_SIZE_EXCEEDED
- FONT_TOTAL_SIZE_EXCEEDED
- PACKAGE_FORMAT_UNSUPPORTED
- TEMPLATE_API_VERSION_UNSUPPORTED
- PACKAGE_ID_INVALID
- DISPLAY_NAME_INVALID
- PATH_INVALID
- PATH_COLLISION
- MANIFEST_PATH_RESERVED
- ENTRY_POINT_MISSING
- RESOURCE_MISSING
- FONT_PATH_INVALID
- FONT_PATH_DUPLICATE
- FONT_FAMILY_INVALID
- FONT_WEIGHT_INVALID
- FONT_FACE_AMBIGUOUS
- FONT_RESOURCE_UNDECLARED
- DOCUMENT_FAMILY_INVALID
- HONORED_SETTING_INVALID

Template-contract validation and rendering fail deterministically with these codes:

- API_VERSION_UNSUPPORTED
- KIND_MISMATCH
- DOCUMENT_FAMILY_UNSUPPORTED
- ENTRY_POINT_MISSING
- RESOURCE_MISSING
- RESOURCE_FORBIDDEN
- COMPONENT_NAMESPACE_SHADOWED
- PEBBLE_FEATURE_FORBIDDEN
- RENDERER_FEATURE_UNSUPPORTED

- PRESENTATION_INCOMPATIBLE
- OUTPUT_LIMIT_EXCEEDED
- EVALUATION_FAILED

Treat version, kind, family, entry-point, and presentation failures as manifest/API problems; resource, namespace, renderer-compatibility, and Pebble-feature failures as package-source problems; and output/evaluation failures as rendering problems.

Responsibility boundary

The application owns prepared source data, financial and lifecycle decisions, application components, strict execution, PDF/A processing, and embedded e-invoice generation. The importing company owns the visual, textual, and legal suitability of a customer-authored layout, including deliberately omitted components. For supplied font software, the importing organization must hold and acknowledge the rights required to embed and distribute the exact files in generated documents and archives.