GDT Integration – Installation

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Package Contents

`gdt-hl7-bridge` is delivered as a ZIP package and contains the following files:

```
gdt-hl7-bridge.exe        ← Executable (standalone, no .NET / Java required)
config\
  config.json.example     ← Configuration template
templates\
  gdt-output.template     ← GDT response template (GDT 2.1, record type 6310)
  mdm-output.template     ← HL7 MDM^T02 template (only needed when hl7Sender is
enabled)
nssm.exe                  ← Non-Sucking Service Manager (Windows service wrapper)
install.bat               ← Install as service (run as Administrator)
uninstall.bat             ← Uninstall service (run as Administrator)
samples\
  input-patid.gdt         ← Test file: lookup by patient number
  input-accnbr.gdt        ← Test file: lookup by accession number
  input-studyuid.gdt      ← Test file: lookup by DICOM Study UID
```

The package is available for download under *Patient Portal → Download → GDT / HL7 Interface*.

Prerequisites

- Windows 10 or later (64-bit)
- Network access to the Patient Portal (HTTPS, standard port 443)
- If `hl7Sender.enabled: true`: Network access to the HL7 receiver (TCP, configured port)
- Customer API token — generated in the portal admin under *Settings → Integration*

- Practice management software must have write access to `gdtImport.gdtInputDir` and read access to `gdtWriter.gdtOutputDir`

IMPORTANT

If a firewall is in place between the installation machine and the Patient Portal or HL7 receiver, the following outbound connections must be allowed:

Destination	Port / Protocol	Purpose
Patient Portal host	443 / HTTPS (or customer-specific port)	PDF retrieval via the portal API
HL7 receiver (HIS / RIS)	Configured TCP port (e.g. 2333)	MLLP message delivery (only if `hl7Sender.enabled: true`)

Setting Up the Directory Structure

Extract the ZIP package into a directory of your choice, e.g. `C:\RadioWeb\`. The resulting structure:

```
C:\RadioWeb\
 ├──── gdt-hl7-bridge.exe
 ├──── nssm.exe
 ├──── install.bat
 ├──── uninstall.bat
 ├──── config\
 │     ├──── config.json.example
 │     └──── config.json           ①
 ├──── templates\
 │     ├──── gdt-output.template
 │     └──── mdm-output.template   ②
 └──── samples\
       ├──── input-patid.gdt
       ├──── input-accnbr.gdt
       └──── input-studyuid.gdt
```

① Must be created manually from `config.json.example` (contains the API token, not included in the package)

② Only required if `hl7Sender.enabled: true` or `hl7Writer.enabled: true`

TIP

The installation path is freely configurable. All directories are specified as absolute paths in `config.json`.

Creating the Configuration

1. Copy `config\config.json.example` to `config\config.json`.

2. Open `config\config.json` in a text editor.
3. Fill in at least the following required fields:

```
{
  "portalUrl": "https://portal.your-practice.com",  ①
  "apiToken":  "XXXX-XXXX-XXXX",                    ②

  "gdtImport": {
    "enabled":      true,
    "gdtInputDir":  "C:\\RadioWeb\\GDT\\Input"       ③
  },

  "gdtWriter": {
    "enabled":      true,
    "gdtOutputDir": "C:\\RadioWeb\\GDT\\Output",     ④
    "senderId":     "RadioWeb"
  },

  "pdfFile": {
    "enabled": true,
    "pdfDir":  "C:\\RadioWeb\\PDFs"                  ⑤
  }
}
```

① URL of the Patient Portal (no trailing slash)

② Integration token — generated by the portal administrator under *Settings → Integration*

③ GDT input directory: the practice software writes its GDT export files here

④ GDT output directory: the practice software reads the GDT response files from here

⑤ Directory for locally stored PDF reports

All further options (HL7, logging, field mapping) are described in Configuration. Unused modules can remain disabled with `"enabled": false`.

NOTE	Directories are created automatically when first needed — they do not need to be created in advance.

Setting Up as a Windows Service (Recommended)

The preferred method is to install `gdt-hl7-bridge` as a Windows service using the included **NSSM** wrapper. The service starts automatically at system boot and is monitored by the Windows Service Manager.

1. Open a **Command Prompt as Administrator** (`cmd.exe → right-click → Run as Administrator`).
2. Change to the installation directory:

```
cd C:\RadioWeb
```

3. Run the installation script:

```
install.bat
```

The script installs the service `GDT-HL7-Bridge` and starts it immediately.

Action	Command (as Administrator)
Start service	`net start GDT-HL7-Bridge`
Stop service	`net stop GDT-HL7-Bridge`
Check service status	`sc query GDT-HL7-Bridge`
Uninstall service	`uninstall.bat`

Alternative: Task Scheduler

If Administrator access for service installation is not available, the Windows Task Scheduler can be used as an alternative.

1. Open the **Task Scheduler** (`taskschd.msc`).
2. Create a new **Task** (not a basic task):
   - **General**: Enable *Run whether user is logged on or not*
   - **Trigger**: At system startup
   - **Action**: Start a program
     - Program/script: `C:\RadioWeb\gdt-hl7-bridge.exe`
     - Arguments: `--daemon` ← **Required — without this argument no daemon starts**
     - Start in: `C:\RadioWeb\`
   - **Settings**: Enable *Run task as soon as possible after a scheduled start is missed*

First Start / Verifying the Configuration

Start the application manually from the command prompt to verify the configuration:

```
C:\RadioWeb\gdt-hl7-bridge.exe --daemon
```

On successful configuration, the following output appears (depending on enabled modules):

```
gdt-hl7-bridge gestartet [--daemon]
  Input:     C:\RadioWeb\GDT\Input
```

```
  GDT Out:   C:\RadioWeb\GDT\Output
  PDFs:      C:\RadioWeb\PDFs
  HL7 TCP:   ris-server:2333
  HL7 Queue: queue/hl7 (retry 60000ms)
  Interval:  2000 ms
```

Press `Ctrl+C` to stop the application. Then start the service or scheduled task.

If the startup fails with an error message, check the following:

Error Message	Cause / Solution
`config/config.json not found`	Configuration file missing or not in the `config\` subdirectory next to the `.exe`
`config.json missing "portalUrl"`	Required field `portalUrl` not set in the configuration
`config.json "gdtImport.gdtInputDir" missing`	`gdtImport` is enabled but `gdtInputDir` is not set
`--daemon requires gdtImport.enabled: true`	`gdtImport.enabled` is set to `false`; in daemon mode `gdtImport` must be active
`Template not found: templates/…`	Template file missing or `templateFile` path in the configuration points to a non-existent file
`Failed to compile template`	Syntax error in the Handlebars template

Testing the Installation

After a successful start, the installation can be verified using one of the included test files.

Prerequisites

The test files contain sample values (patient IDs, accession numbers). Make sure a matching patient or study exists in the portal for the values used, or adjust the test file accordingly.

Procedure

1. Open File Explorer and navigate to `C:\RadioWeb\samples\`.
2. Copy `input-patid.gdt` to the configured `gdtImport.gdtInputDir` (e.g. `C:\RadioWeb\GDT\Input\`).
3. Wait up to one polling interval (default: 2 seconds).

Expected result:

- The file disappears from `GDT\Input\` and appears in `GDT\Input\done\`
- A new PDF file is present in the configured `pdfDir`
- A new `.gdt` response file is present in the configured `gdtOutputDir`

In case of error:

- The file is in `GDT\Input\error\` with a timestamp suffix (e.g. `input-patid_20260701-143052.gdt`)
- A `.err` file with the error message is located next to it

Common errors on first test:

Error message in .err file	Cause
`HTTP 401`	API token invalid or not active
`HTTP 400 [TOKEN_NOT_FOUND]`	API token not registered in the portal
`HTTP 400 [TOKEN_EXPIRED]`	The API token's validity has expired — extend it under *Settings* → *Integration* or create a new token
`HTTP 400 [TOKEN_IP_RESTRICTED]`	The API token is restricted to IP ranges, and the public IP of the installation computer is not among them
`HTTP 400 [PATIENT_ID_MISMATCH]`	The study found belongs to a different patient than the one in field 3000 — the practice software's patient number and the PatientID in the PACS do not match
`HTTP 400 [STUDY_NOT_FOUND]`	No study exists in the portal for the patient ID in the test file
`HTTP 503 [ORTHANC_CONNECTION_ERROR]`	PACS is not reachable (only for PACS-dependent queries)
`ECONNREFUSED` / `ETIMEDOUT`	Portal URL not reachable — check network or firewall settings