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**PatientOS**

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**PatientOS  
Software Upgrade  
Technical Guide**

**Version 0.99**

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## Revision History

Date	Version	Description	Author
01/15/2010	0.99	Initial	PatientOS Inc.

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# Software Upgrade Technical Guide

## 1. Overview

### 1.1 Process

The basic steps to upgrading PatientOS are divided into the backend system and front end client

#### a) Backend System

- a. Upgrade the database schema.
- b. Import the new database content.
- c. Deploy the new software code (and libraries when applicable).
- d. Restart the PatientOS application server.

#### b) Frontend Client

- a. Deploy the new software code (and libraries when applicable).

### 1.2 Definitions

POS	Refers to the PatientOS software as a system.
Java	Programming language developed by <a href="#">Sun</a>
PostgreSQL	An Open Source (free) database server, an alternative Oracle, SQLServer, etc.
Application Server	The 'backend' J2EE server which clients connect to.
Client	The rich (fat) client graphic user interface (GUI) with which the users interact.

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## 2. Software Installation

Note it is convenient to do a find and replace of demopos with your database name

### 2.1 Backup database

Shutdown JBOSS and **BACKUP YOUR DATABASE**

#### a) SQL Backup

```
pg_dump -i -h localhost -p 5432 -U demopos -F p -O -v -f "backup.sql" demopos
```

#### b) Binary Backup

Follow PostgreSQL instructions specific to your filesystem to perform a binary backup.

### 2.2 Migrate Patient Appointments

## Important !

The table patient\_appointments is no longer used. The patient id must be populated on the appointments table. Execute the query

```
select 'update appointments set patient_id = ' || pa.patient_id || ' where appointment_id
= ' || pa.appointment_id || ';' as cmd
from patient_appointments pa
where not exists
(select a.appointment_id
 from appointments a
 where a.appointment_id = pa.appointment_id
 and a.patient_id = pa.patient_id);
```

**Copy/Paste the output from the above query and execute**

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## 2.3 Upgrade Database Schema

Unzip the upgrade contents to a directory

### 2.3.1 Download and unzip upgrade file

<http://www.patientos.org/software/download.html>

### 2.3.2 Run default upgrade (*new in v0.99*)

This is the 0.981 to 0.99 default upgrade

```
cd 01schema
psql -U demopos demopos < 981_99.sql
```

### 2.3.3 Dump the schema of your database

If your database is not named **demopos** replace with your database name (find/replace in this document).

```
pg_dump --schema-only -i -h localhost -p 5432 -U demopos -F p -O -v -f "demopos_schema.sql" demopos
```

### 2.3.4 Execute the comparison of your demopos database with the new version

```
java -jar apgdiff.jar --ignore-start-with demopos_schema.sql schema_only.sql >
upgrade.sql
```

**Edit** the generated upgrade.sql and validate the contents looks appropriate

– **remove any DROP SEQUENCE COMMANDS** (or any drop/create commands for CommentLibrary)

### 2.3.5 Upgrade the database

If your super user is not named **demopos** replace with your super user login. If your database is not named **demopos** replace with your database name.

```
psql -U demopos demopos < upgrade.sql
```

Repeat steps 2.2.1 through 2.2.3 until **upgrade.sql is empty**

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## Upgrade Database Contents

### 2.3.6 *Edit target\_db.xml to connect to the database being upgraded*

Change the database name, username and password to match the database you are upgrading.

```
cd ../02data
edit target_db.xml
```

### 2.3.7 *Execute the upgrade*

Windows:

```
upgrade.bat > upgrade.log 2>&1
```

Linux:

```
./upgrade.sh > upgrade.log 2>&1
```

Check upgrade.log for any errors

Note the above step should take 30 minutes to many hours depending on disk throughput

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## 2.4 Upgrade Server

### 2.4.1 Remove old jar files

Remove from

<directory path>\server\appserver\server\default\lib

the following files

```
itext-2.0.4.jar
jasperreports-3.0.0.jar
jasperreports-extensions-1.3..1jar
jasperreports-flash-2.0.5.jar
```

### 2.4.2 Replace existing server files with files in this directory

```
cd 03server
copy patientis.ejb3 <directory path>\server\appserver\server\default\deploy
copy patientos.war <directory path>\server\appserver\server\default\deploy
copy *.jar <directory path>\server\appserver\server\default\lib
```

Any new jar files also need to be copied into the destination server/default/lib directory.

**Restart** the application server

## 2.5 Upgrade Client

### 2.5.1 Replace existing client files with files in this directory

```
cd 04client
copy *.jar <directory path>\client\lib
copy patientos.bat <directory path>\client\bin
copy patientos.sh <directory path>\client\bin
```

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### **3. Appendix**

#### **3.1 Upgrade SQL**

##### *3.1.1 Hangs indefinitely*

Make sure the application server has been stopped before commencing the upgrade

##### *3.1.2 Unable to alter table*

If a view depends on a table you will not be able to change data types of a column. Drop the dependent view and retry the SQL. The next comparison will generate the upgrade.sql with the dropped views.

##### *3.1.3 Unable to add not null column*

If a table has values and a numeric not null column is being added, add the column manually, update the rows to have a 0 value and then make the column not null.

##### *3.1.4 Upgrade SQL not empty*

Any views left over e.g. CREATE VIEW commentlibrary can be ignored. Views are not part of the core functionality.