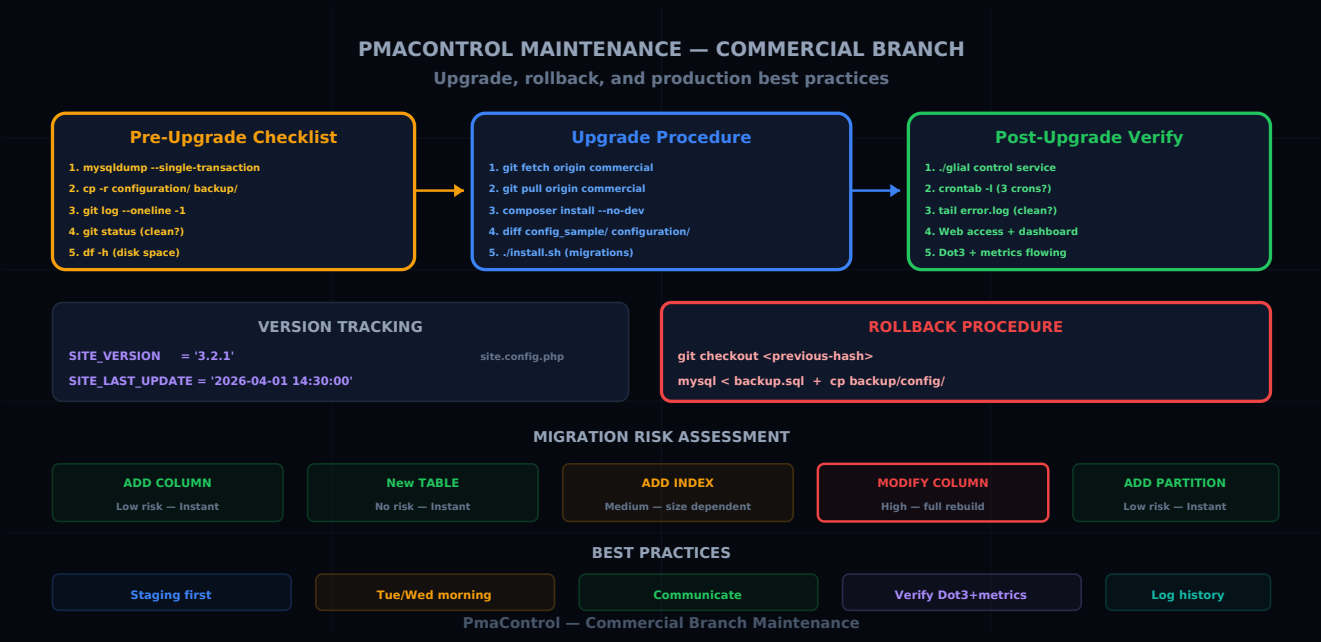
Maintaining PmaControl Commercial Branch: Upgrade, Rollback and Best Practices

Aurélien LEQUOY · April 13, 2026

PMACONTROL UPGRADE MAINTENANCE GIT PRODUCTION



PmaControl Is a Git-Based Deployment

PmaControl is not distributed as a .deb or .rpm package. It is a Git-based deployment: you clone the repository, install Composer dependencies, run the installation script, and it is in production.

```
git clone -b commercial https://github.com/pmacontrol/pmacontrol.git /srv/www/pmacontrol
cd /srv/www/pmacontrol
composer install --no-dev
./install.sh
```

This model has advantages (fast updates, easy rollback, no package manager) and drawbacks (no automatic management of system dependencies, no standardized post-install scripts). This guide covers day-to-day maintenance.

Version Tracking

PmaControl stores its version in the site configuration file:

```
// configuration/site.config.php
define('SITE_VERSION', '3.2.1');
define('SITE_LAST_UPDATE', '2026-04-01 14:30:00');
```

These constants are updated automatically during installation (`install.sh`). You can check them:

- Via the web interface: "About" page or footer
- Via CLI: `grep SITE_VERSION configuration/site.config.php`
- Via API: `GET /api/v1/status` returns the version

Before any update, note the current version:

```
cd /srv/www/pmacontrol
grep -E 'SITE_VERSION|SITE_LAST_UPDATE' configuration/site.config.php
```

Pre-Upgrade Checklist

Before launching the update, run this complete checklist:

1. Back Up the Database

```
mysqldump --single-transaction --routines --triggers \
  -u pmacontrol -p pmacontrol > /backup/pmacontrol_$(date +%Y%m%d_%H%M%S).sql
```

The `--single-transaction` flag is essential: it guarantees a consistent backup without locking tables (InnoDB/RocksDB).

Verify the dump size:

```
ls -lh /backup/pmacontrol_*.sql
```

An empty or abnormally small dump indicates a problem.

2. Back Up the Configuration

```
cp -r /srv/www/pmacontrol/configuration/ /backup/pmacontrol_config_$(date +%Y%m%d)/
```

Configuration files are the most critical: `db.config.ini.php` (credentials), `telegram.php`, `acl.config.ini`, `site.config.php`. An upgrade should not modify them, but human error happens fast.

3. Note the Current Version and Commit

```
cd /srv/www/pmacontrol
git log --oneline -1
# fe0911d (HEAD -> commercial) Fix: replication display for MySQL 8.4

grep SITE_VERSION configuration/site.config.php
# define('SITE_VERSION', '3.2.1');
```

Keep the commit hash (here `fe0911d`) -- this is your rollback point.

4. Check Git Status

```
git status
```

If there are uncommitted local modifications, decide now: commit them, stash them, or discard them. A `git pull` with local modifications can generate conflicts.

```
# If modifications should be kept
git stash save "pre-upgrade $(date +%Y%m%d)"

# If they should be discarded
git checkout -- .
```

5. Check Disk Space

```
df -h /srv/www/pmacontrol/
df -h /var/lib/mysql/
```

The upgrade and migrations may need temporary space. Make sure you have at least 20% free space on both partitions.

Upgrade Procedure

Step 1: Fetch Changes

```
cd /srv/www/pmacontrol
git fetch origin commercial
```

Before merging, examine what has changed:

```
git log --oneline HEAD..origin/commercial
```

This lists all commits between your version and the latest. Read the commit messages to identify:

- Database schema changes
- Configuration modifications
- Added or modified Composer dependencies
- Flagged breaking changes

Step 2: Apply the Update

```
git pull origin commercial
```

If conflicts appear, they are almost always in configuration files. Never resolve a conflict by blindly accepting "theirs" -- verify manually.

Step 3: Update Dependencies

```
composer install --no-dev
```

`composer install` (without `update`) uses the repository's `composer.lock`, which guarantees the same versions as the development team. **Never** use `composer update` in production -- it could pull untested versions.

Verify the installation succeeded:

```
# Check for errors
echo $?
# Should return 0

# Check vendor directory
```

```
ls -la vendor/autoload.php
```

Step 4: Check Configuration Changes

Compare sample files with your current configuration:

```
diff -r config_sample/ configuration/ --brief
```

If new files appear in `config_sample/` that do not exist in `configuration/`, these are new configurations to integrate:

```
# List new files in config_sample
for f in config_sample/*; do
    base=$(basename "$f")
    if [ ! -f "configuration/$base" ]; then
        echo "NEW: $base — needs to be copied and configured"
    fi
done
```

For each new file:

```
cp config_sample/new_config.php configuration/new_config.php
# Edit and adapt values to your environment
```

Step 5: Run Migrations

```
./install.sh
```

The `install.sh` script handles database schema migrations. It:

1. Detects the current schema version
2. Applies missing migrations in order
3. Updates `SITE_VERSION` and `SITE_LAST_UPDATE`

Manual review recommended: before running `install.sh`, examine the migrations:

```
# List migration files
ls -la data/migrations/ 2>/dev/null || ls -la install/migrations/ 2>/dev/null
```

If a migration contains `ALTER TABLE` on large tables (like `ts_value_general_int`), plan for a longer maintenance window.

Post-Upgrade Checklist

1. Restart Services

```
./glial control service
```

This command restarts the collection and processing cycle. Verify it does not return errors.

2. Verify Cron Jobs

```
crontab -l -u www-data
```

Verify the three essential cron jobs are present:

```
* * * * * cd /srv/www/pmacontrol && ./glial agent check_daemon >> /tmp/pmacontrol_agent.log 2>&1
* * * * * cd /srv/www/pmacontrol && ./monitor_mysql.sh >> /tmp/pmacontrol_monitor.log 2>&1
0 */4 * * * cd /srv/www/pmacontrol && ./glial control service >> /tmp/pmacontrol_control.log 2>&1
```

3. Check Error Logs

```
# PHP logs
tail -20 /var/log/apache2/error.log

# PmaControl logs
tail -20 /tmp/pmacontrol_agent.log
tail -20 /tmp/pmacontrol_monitor.log
tail -20 /tmp/pmacontrol_control.log
```

Look for fatal errors, missing class warnings, database errors. A successful upgrade should generate no new errors.

4. Verify Web Access

Open PmaControl in the browser and verify:

- The login page works
- The main dashboard loads
- The server list displays
- An individual server is accessible
- The slave page works (if applicable)
- The Dot3 topology loads

5. Verify Metrics

Wait 5 minutes (a full collection cycle) then verify:

```
# Are agents collecting?
./glial agent check_daemon

# Is data arriving?
mysql -u pmacontrol -p pmacontrol -e "
SELECT server_id, MAX(timestamp) as last_data
FROM ts_value_general_int
GROUP BY server_id
HAVING last_data < NOW() - INTERVAL 5 MINUTE;
"
```

If this query returns results, some servers are no longer receiving data -- investigate.

6. Verify Dot3 and Topology

```
./glial dot3 generate
```

Verify that the topology regenerates without errors and that the graph in the web interface is consistent.

Rollback Procedure

If something goes wrong, here is how to roll back.

Code Rollback

```
cd /srv/www/pmacontrol
git checkout <previous-commit-hash>
composer install --no-dev
```

For example, if the pre-upgrade commit was `fe0911d`:

```
git checkout fe0911d
composer install --no-dev
```

Database Rollback (If Schema Changed)

If `install.sh` modified the schema, you need to restore the backup:

```
mysql -u root -p pmacontrol < /backup/pmacontrol_20260413_143000.sql
```

Warning: this operation overwrites all data collected since the backup. If the upgrade happened 2 hours ago, you lose 2 hours of metrics. This is why the upgrade should be planned during a maintenance window.

Configuration Rollback

```
cp /backup/pmacontrol_config_20260413/* /srv/www/pmacontrol/configuration/
```

After Rollback

```
./glial control service
# Check logs
tail -20 /tmp/pmacontrol_agent.log
# Verify web access
curl -s -o /dev/null -w "%{http_code}" https://pmacontrol.example.com/
# Should return 200
```

Composer Dependency Management

Understanding the Lock File

The `composer.lock` file is versioned in the repository. It guarantees that everyone uses exactly the same dependency versions. When `composer.lock` changes in a pull:

```
# See dependency changes
git diff HEAD~1 composer.lock | grep '"name"'
```

Check for Breaking Changes

If a major dependency changes (for example, Glial framework from 2.x to 3.x), this is a risky change. Check the dependency's CHANGELOG:

```
# List updated dependencies
composer show --latest --outdated
```

Never composer update in Production

```
# NO — pulls the latest possible versions
composer update

# YES — installs exactly the lock file versions
composer install --no-dev
```

Database Migrations

How They Work

`install.sh` executes migrations sequentially. Each migration is idempotent -- it first checks whether the modification has already been applied:

```
-- Typical migration example
-- Check if column exists before adding it
SET @exist := (SELECT COUNT(*) FROM information_schema.COLUMNS
               WHERE TABLE_SCHEMA = 'pmacontrol'
               AND TABLE_NAME = 'mysql_server'
               AND COLUMN_NAME = 'new_column');

SET @sql = IF(@exist = 0,
    'ALTER TABLE mysql_server ADD COLUMN new_column VARCHAR(255) DEFAULT NULL',
    'SELECT "Column already exists"');
PREPARE stmt FROM @sql;
EXECUTE stmt;
```

Risky Migrations

Some migrations are riskier than others:

Type	Risk	Time
ADD COLUMN (nullable)	Low	Instant (MariaDB 10.0+)
ADD INDEX	Medium	Proportional to size
MODIFY COLUMN (type change)	High	Full table rebuild
DROP COLUMN	Low	Instant (MariaDB 10.4+)
ADD PARTITION	Low	Instant
New table	None	Instant

For large tables (like `ts_value_general_int` which can be several GB), an `ADD INDEX` can take minutes or even hours. Plan accordingly.

Manual Review Recommended

Before running `install.sh`, read the migration files to understand what will be modified. If a migration seems risky (ALTER TABLE on a multi-GB table), test it first on a staging environment.

Best Practices

1. Staging Environment

Maintain a staging environment that replicates your production. The upgrade is tested there before being applied to production:

```
1. Staging: git pull -> composer install -> install.sh -> verification
2. Wait 24h — observe logs
3. Production: same procedure
```

Staging does not need to monitor as many servers as production. 5-10 MariaDB / MySQL servers are enough to validate proper functioning.

2. Planned Maintenance Window

Never upgrade on a Friday at 5 PM. Plan for:

- **Tuesday or Wednesday**: mid-week, the team is available
- **Morning**: to have the entire day to detect problems
- **Off-peak**: not during an application deployment or nightly batch

3. Communicate

Notify the team before the upgrade:

```
Subject: PmaControl Maintenance — Tue Apr 13 09:00-10:00

The PmaControl instance will be updated from version 3.2.1 to 3.3.0.
During maintenance (approximately 30 minutes):
- Dashboards may be temporarily unavailable
- Metric collection will be interrupted (automatic catch-up)
- Telegram alerts will be suspended then resumed

Contact: dba@company.com
```

4. Verify Dot3 + Metrics After Upgrade

This is the most important smoke test. If metrics are arriving and the topology is correct, the upgrade succeeded. If either does not work, there is a problem to investigate.

5. Keep an Upgrade History

Maintain a simple file listing performed upgrades:

```
2026-04-13 09:15 | 3.2.1 -> 3.3.0 | fe0911d -> a1b2c3d | OK
2026-03-15 10:00 | 3.1.0 -> 3.2.1 | 1234abc -> fe0911d | OK — slow ts_value migration
(45min)
2026-02-01 08:30 | 3.0.5 -> 3.1.0 | 9876def -> 1234abc | ROLLBACK — bug #342 in Listener
```

6. Automate When Mature

Once you have done 5-10 manual upgrades without incident, you can automate with a script:

```
#!/bin/bash
# upgrade_pmacontrol.sh
set -euo pipefail
```

```
BACKUP_DIR="/backup/pmacontrol/$(date +%Y%m%d_%H%M%S)"
mkdir -p "$BACKUP_DIR"

# Backup
mysqldump --single-transaction -u pmacontrol -p"$DB_PASS" pmacontrol > "$BACKUP_DIR/db.sql"
cp -r /srv/www/pmacontrol/configuration/ "$BACKUP_DIR/config/"
git -C /srv/www/pmacontrol log --oneline -1 > "$BACKUP_DIR/version.txt"

# Upgrade
cd /srv/www/pmacontrol
git pull origin commercial
composer install --no-dev
./install.sh

# Verify
./glial control service
curl -s -o /dev/null -w "%{http_code}" https://pmacontrol.example.com/ | grep -q 200

echo "Upgrade successful"
```

But always keep the ability to do a manual rollback.

Common Errors

"Class not found" After Upgrade

Symptom: PHP error `Class 'Xyz' not found` in logs.

Cause: `composer install` was not run after the pull, or the autoloader was not regenerated.

Solution:

```
composer install --no-dev
composer dump-autoload
```

Migration Error "Table already exists"

Symptom: `install.sh` fails with `Table 'xyz' already exists`.

Cause: the migration is not idempotent (bug in the migration script).

Solution: manually check if the table/column exists and skip the migration if necessary. Report the bug to the PmaControl team.

Git Conflicts in Configuration

Symptom: `git pull` fails with conflicts in `configuration/`.

Cause: you modified a configuration file that was also modified upstream.

Solution:

```
# Save your version
cp configuration/problematic_file.php /tmp/

# Accept the upstream version
git checkout --theirs configuration/problematic_file.php
git add configuration/problematic_file.php

# Reapply your modifications manually
# Compare /tmp/problematic_file.php with the upstream version
```

Lost Stash

Symptom: you did `git stash` before the upgrade and cannot find your modifications.

Solution:

```
git stash list
# stash@{0}: On commercial: pre-upgrade 20260413

git stash pop stash@{0}
```

Conclusion

Maintaining PmaControl in production is a predictable process if you follow the procedure: backup, pull, composer install, install.sh, verification. The Git model makes upgrades and rollbacks fast, but requires rigor in configuration management and backups.

The keys to success: a staging environment, a planned maintenance window, clear communication with the team, and systematic verification after each upgrade. By following these practices, PmaControl upgrades become a routine operation -- not a source of stress.