

PayU-group CRM & payments platform

Region: Singapore & Indonesia **Stack:** CodeIgniter/PHP · Android · EMI **Model:** Multi-tenant fintech CRM

One tenant-safe CRM for wallet, merchant, and logistics channels — payment adapters per provider, staged schema migrations on live APAC traffic.

PHPCodeIgniterEMIAndroid QRReconciliation
Architecture

Tenant boundary

Every request resolves `tenant_id` at edge. CRM entities, ledger views, and recon exports are scoped queries. Android merchants use same REST with device-bound credentials.

Design decisions

EMI & channels

Area	Design	Why
EMI	State machine per plan	Auditable transitions; idempotent installment cron
Providers	Adapter interface	New wallet = new adapter, not CRM fork
Migrations	Shadow columns + dual-write	Live merchants keep reconciling during deploy
Mobile	Server-side QR validation	Thin client; no trust in device payload
Code shape		

Channel adapter contract

```
interface PaymentChannelAdapter {  
    public function initiate(PaymentIntent $i): ChannelResponse;  
    public function capture(string $ref): CaptureResult;  
    public function reconcile(ReconBatch $b): ReconSummary;  
}  
$merchant = MerchantModel::forTenant($tenantId)->find($id);
```

Production outcomes

Results

- Daily online payments for consumers and merchants in SG & ID
- Unified CRM across wallet, merchant, logistics on PayU infra
- Backward-compatible API rollout through migration windows

PayU-group / RedDot Payment programme. Client names per NDA.