

Bilko Add-on Arhitektura

"

Bilko Add-on Arhitektura

\n\n

MC #105282 | Feature-Flag Modularni Sistem | 2026-07-12

\n\n

Bilko add-on sistem omogućava fleksibilno uključivanje/isključivanje modula po organizaciji kroz kombinaciju tier-baziranog pristupa (PAUSALAC/BIZNIS/RACUNOVODJA/ENTERPRISE) i live Unleash feature flagova.

\n\n

\n\n

1. Arhitektura Pregled — Dva Sloja

\n\n

Bilko koristi **dvoslojni gating sistem** za kontrolu pristupa funkcionalnostima:

\n\n

Sloj A — Tier Baseline (in-memory, brzo)

\n

- \n
- **Lokacija:** apps/api/src/main/kotlin/no/alai/bilko/features/FeatureAccess.kt \n
- **Komponente:** Feature enum (35 stavki) + FeatureMatrix (tier → feature mapping) \n
- **Tierovi:** BASIC / PRO / PREMIUM / ENTERPRISE (legacy nazivi u kodu, mapiraju se na PAUSALAC/BIZNIS/RACUNOVODJA/ENTERPRISE iz pricing-matrix.json) \n
- **Svrha:** Paket-nivo uključenost (šta je uključeno u osnovnu pretplatu) \n
- **Brzina:** In-memory decision table, bez mrežnih poziva \n

\n\n

Sloj B — Unleash Add-on Override (live-toggle, per-org)

\n

- \n
- **Lokacija:** `apps/api/src/main/kotlin/no/alai/bilko/services/featureflags/` \n
- **Komponente:** `BilkoFlag` enum (19 flagova) + `UnleashFeatureFlagService` \n
- **Unleash server:** `bilko-unleash` ACA (Azure Container Apps, rg-bilko-demo, purplebeach-f004d490) \n
- **Svrha:** Per-organizacija override iznad tier baseline-a — omogućava kupovinu add-ona bez mijenjanja cijelog tiera \n
- **Targeting:** `FeatureFlagContext` (userId, organizationId, planTier, country, userRole, orgType) \n

\n\n

Lanac Odluke — `checkFeature()`

\n\n

Svaki zaštićeni endpoint poziva `ApplicationCall.checkFeature(feature, principal)` koje implementira sljedeći lanac:

\n\n

```
1. tier = loadPlanTier(organizationId) // DB lookup\n2. if FeatureMatrix.check(feature, tier).allowed → DOZVOLI // Sloj A: uključeno u paket\n3. else:\n    addonFlag = FeatureFlagMapping.addonFlagFor(feature) // SSOT mapiranje\n    if addonFlag != null:\n        orgType = loadOrgType(organizationId) // INTERNAL/PILOT/COMMERCIAL\n        context = FeatureFlagContext(userId, orgId, tier, orgType, ...)\n        if unleash.isEnabled(addonFlag, context) → DOZVOLI // Sloj B: kupljen add-on\n4. throw FeatureGatedException(403 FEATURE_GATED) // Odbij\n
```

\n\n

Mermaid Dijagram

\n\n

```
graph LR\n    A[HTTP Request] --> B{checkFeature}\n    B --> C[loadPlanTier]\n    C --> D{FeatureMatrix tier baseline?}\n    D -->|allowed| Z[200 OK]\n    D -->|not allowed| E[FeatureFlagMapping SSOT lookup]\n    E --> F{addonFlag postoji?}\n    F -->|null| X[403 FEATURE_GATED]\n    F -->|BilkoFlag| G[loadOrgType]\n    G --> H[Build FeatureFlagContext]\n    H --> I{Unleash isEnabled?}\n    I -->|true| Z\n    I -->|false| X\n
```

\n\n

\n\n

2. Modul-Matrica — 8 Add-ona

Add-on Modul	BilkoFlag	Cijena (EUR/mj)	Status	Enforcement
Plate / Payroll	PAYROLL_MODULE (bilko.addon.payroll)	€15	CONFIRMED	PayrollRoutes.kt (4 grupe ruta) Feature.PAYROLL_MODULE_ACCESS MC #105288, commit fc3d2ab8
Računovodstvo SIMPLE	ACCOUNTING_SIMPLE (bilko.addon.accounting-simple)	€5	CONFIRMED	ReportRoutes.kt REPORT_PDF_EXPORT + REPORT_EXCEL_EXPORT MC #105321, commit (u letu)
Računovodstvo FULL (GL)	ACCOUNTING_FULL_ADDON (bilko.addon.accounting-full)	€25	CONFIRMED	9 GL_* ruta: AccountingRoutes, ApRoutes, GIBankRoutes, JournalEntriesRoutes, ReportingRoutes MC #105288, commit fc3d2ab8
API pristup	API_PUBLIC (bilko.api.public)	€29	PLACEHOLDER	BilkoFlag postoji (T2), route enforcement TBD
Napredni izvještaji	REPORTS_ADVANCED (bilko.reports.advanced)	€9	PLACEHOLDER	BilkoFlag postoji, route TBD
Auto-sync banke (Tok)	BANKING_FEED_TOK (bilko.banking.feed-tok)	€12	PLACEHOLDER	BilkoFlag postoji, route TBD
Multi-org računovođe	ACCOUNTANT_MULTI_ORG (bilko.accountant.multi-org)	€39	PLACEHOLDER	BilkoFlag postoji, route TBD
AI asistent	AI_ASSISTANT (bilko.ai.assistant)	€9	PLACEHOLDER	BilkoFlag postoji, route TBD

Napomena: CONFIRMED status = route enforcement backing postoji (mogu se naplaćivati).
PLACEHOLDER = prijedlog cijena, ne mogu se naplatiti dok route enforcement ne postoji.

Pricing benchmark: Fiken payroll €10-13, Tripletex €5.80/user, mi €15 FLAT MVP.

\n\n

3. Flag ? Ruta Mapping

\n\n

GL (Ra?unovodstvo FULL) — 9/9 Features

\n\n

Feature Enum	Rute (ukupno 30 call-sites)	Fajl
GL_CHART_OF_ACCOUNTS	GET /accounting/accounts PUT /accounting/account-mapping	AccountingRoutes.kt
GL_JOURNAL_ENTRIES	GET/POST /accounting/journal GET/POST /accounting/entries* GET/POST /journal-entries (alias)	AccountingRoutes.kt JournalEntriesRoutes.kt
GL_TRIAL_BALANCE	GET /accounting/trial-balance	AccountingRoutes.kt
GL_AP_LEDGER	GET/POST /accounting/purchase-invoices* POST /supplier-payments GET /ura	ApRoutes.kt
GL_VAT_FORM	GET /accounting/pdv-obrazac* GET /pdv-s GET /zp	ReportingRoutes.kt
GL_BALANCE_SHEET	GET /accounting/salda-konti	ReportingRoutes.kt
GL_ANALYTICS	GET /accounting/account-card/{code}	ReportingRoutes.kt
GL_OPENING_BALANCE	POST /accounting/opening-balance	ApRoutes.kt
GL_BANK_IMPORT	GET/POST /accounting/bank-import GET/POST /bank-transactions*	GlBankRoutes.kt

\n\n

Payroll (Plate) — 4 Grupe Ruta

\n\n

Feature Enum	Rute (7 call-sites)	Fajl
PAYROLL_MODULE_ACCESS	GET/POST/PUT/DELETE /payroll/employees* POST /payroll/calculate GET/POST /payroll/payslips	PayrollRoutes.kt

\n\n

Reports (Izvještaji) — 19 Gated / 9 Exempt

\n\n

Feature Enum	Rute (gated)	Fajl
REPORT_VIEW	GET /reports/ (root) /dashboard, /profit-loss, /balance-sheet, /cash-flow, /vat, /trial-balance, /general-ledger	ReportRoutes.kt
REPORT_PDF_EXPORT	GET /reports/*/export/pdf (vat, profit-loss, balance-sheet, trial-balance, cash-flow)	ReportRoutes.kt
REPORT_EXCEL_EXPORT	GET /reports/*/export/xlsx GET /reports/accountant-export	ReportRoutes.kt

\n\n

Izuzeci — NIKAD gated (zakonski registri):

- \n
- \n
 - **KPO** (RS paušalni registar): GET /reports/kpo + /kpo/export/pdf + /kpo/export/xlsx\n
 - **KIR** (HR PDV-obveznik registar): GET /reports/kir + /kir/export/pdf + /kir/export/xlsx\n
 - **KPR** (HR PDV-obveznik registar): GET /reports/kpr + /kpr/export/pdf + /kpr/export/xlsx\n

\n\n

Pravno obrazloženje: KIR/KPR — obavezna evidencija ulaznih/izlaznih računa po Zakonu o PDV-u (HR). KPO knjiga — obavezna evidencija za paušalne obveznike po važećim poreznim propisima. INVOICE_SEF_SUBMIT presedan ("All tiers — never gated, differentiator"). MC #105321.

\n\n

\n\n

4. orgType Exemption Model — INTERNAL/PILOT

\n\n

Postojeće organizacije (demo/pilot) zadržavaju pristup svim funkcijama bez obzira na tier ili add-on flagove kroz **orgType exemption**:

\n\n

Unleash Targeting Strategija

\n\n

Svi add-on flagovi (PAYROLL_MODULE, ACCOUNTING_SIMPLE, ACCOUNTING_FULL_ADDON) imaju sljedeću Unleash strategiju na `production` env:

```
\n\n{\n  \"name\": \"flexibleRollout\", \n  \"constraints\": [\n    {\n      \"contextName\": \"orgType\", \n      \"operator\": \"IN\", \n      \"values\": [\"INTERNAL\", \"PILOT\"]\n    }\n  ], \n  \"parameters\": {\n    \"rollout\": \"100\", \n    \"stickiness\": \"default\"\n  }\n}
```

\n\n**Mehanizam:**

- \n
1. \n
 2. `FeatureGate.loadOrgType(organizationId)` čita `organizations.org_type` kolonu (Postgres ENUM: COMMERCIAL/INTERNAL/PILOT)\n
 3. Fail-closed default: nepoznata org → `\"COMMERCIAL\"`\n
 4. INTERNAL/PILOT orgove dobijaju `true` na svim add-on flagovima (100% rollout within constraint)\n
 5. COMMERCIAL orgove moraju kupiti add-on eksplicitno (flag evaluira `false`)\n

\n\n

Seed Pokrivenost (Migracije)

- \n\n
- \n
 - **V54:** kreirao `org_type` enum, označio `ci@bilko.rs` org kao INTERNAL\n
 - **V91:** označio 3 demo orga kao INTERNAL:\n
 - \n
 - `00000000-0000-0014-a000-000000000001` (RS demo, Bilko Demo Firma, RSD)\n
 - `00000000-0000-0029-c000-000000000001` (HR demo, ALAI Demo Org HR, EUR)\n
 - `00000000-0000-0029-d000-000000000001` (BA demo, ALAI Demo Org BA, BAM)\n
- \n\n
- **Novi orgovi:** default `COMMERCIAL` (enforcement aktiviran odmah)\n

\n\n

\n\n

5. Unleash Admin Provisioning Runbook

\n\n

Ko Može Pristupiti

\n\n

SAMO: Alem Basic (CEO) + John (AI Director)

\n\n

Gdje je Token

\n\n

- \n
- **Bitwarden item:** \"Bilko Unleash Admin — bilko-unleash ACA\"\n
- **Item ID:** e917fc41-fddf-49a0-8510-f6f5f8f7faf0\n
- **Token tip:** ADMIN (type=admin, project=*, environment=*)\n
- **Pristup:**\n

```
bw get item e917fc41-fddf-49a0-8510-f6f5f8f7faf0 --session $(cat /tmp/bw-session)\n
```

\n\n

\n\n

Unleash Server Info

\n\n

- \n
- **URL:** https://bilko-unleash.purplebeach-f004d490.swedencentral.azurecontainerapps.io\n
- **Azure:** ACA bilko-unleash, resource group rg-bilko-demo, managed environment purplebeach-f004d490\n
- **Database:** unleash baza na bilko-demo-pg shared Postgres instanci\n
- **Image:** unleashorg/unleash-server:6\n

\n\n

Kako Dodati Novi Flag

\n\n

```
# 1. Dohvati admin token iz Bitwardena (NIKAD hardkodiraj)\nexport UNLEASH_ADMIN_TOKEN=$(bw\nget item e917fc41-fddf-49a0-8510-f6f5f8f7faf0 --session $(cat /tmp/bw-session) | jq -r\n'.fields[] | select(.name=="token") | .value')\n\n# 2. Kreiraj flag (project=default)\ncurl\n-X POST https://bilko-unleash.purplebeach-f004d490.swedencentral.azurecontainerapps.io/api/admin/projects/default/features \\\n -H \"Authorization: $UNLEASH_ADMIN_TOKEN\" \\\n -H \"Content-Type: application/json\" \\\n -d\n'{\n  \"name\": \"bilko.addon.novi-modul\",\n  \"type\": \"release\",\n  \"description\": \"Opis novog modula\"\n}'\n\n# 3. Dodaj strategiju za production env sa
```

```
orgType constraint\ncurl -X POST https://bilko-unleash.purplebeach-
f004d490.swedencentral.azurecontainerapps.io/api/admin/projects/default/features/bilko.addon.n
ovi-modul/environments/production/strategies \\\n -H \"Authorization: $UNLEASH_ADMIN_TOKEN\"
\\\n -H \"Content-Type: application/json\" \\\n -d '{\n    \"name\":
\"flexibleRollout\", \n    \"constraints\": [\n        {\n            \"contextName\":
\"orgType\", \n            \"operator\": \"IN\", \n            \"values\": [\"INTERNAL\",
\"PILOT\"]\n        } \n    ], \n    \"parameters\": {\n        \"rollout\": \"100\", \n
\"stickiness\": \"default\", \n        \"groupId\": \"bilko.addon.novi-modul\" \n    } \n }'\n\n#
4. Aktiviraj flag na production env\ncurl -X POST https://bilko-unleash.purplebeach-
f004d490.swedencentral.azurecontainerapps.io/api/admin/projects/default/features/bilko.addon.n
ovi-modul/environments/production/on \\\n -H \"Authorization: $UNLEASH_ADMIN_TOKEN\" \n\n# 5.
Verifikuj\ncurl -X GET https://bilko-unleash.purplebeach-
f004d490.swedencentral.azurecontainerapps.io/api/admin/projects/default/features/bilko.addon.n
ovi-modul \\\n -H \"Authorization: $UNLEASH_ADMIN_TOKEN\" \n
```

\n\n

Kako Rotirati Token (Security Incident Response)

\n\n

1. \n
2. **Generiši novi token** kroz Unleash Admin UI (/admin/api) ili API:\n

```
curl -X POST .../api/admin/api-tokens -H \"Authorization: $OLD_TOKEN\" \\\n -d
'{\"username\": \"admin\", \"type\": \"admin\", \"environment\": \"*\", \"projects\": [\"*\"]
}'} \n
```

\n\n

3. **Ažuriraj Bitwarden item** e917fc41-fddf-49a0-8510-f6f5f8f7faf0 sa novim tokenom\n
4. **Testiraj novi token:**\n

```
curl -H \"Authorization: $NEW_TOKEN\" .../api/admin/projects\n
```

\n\n

5. **Revoke stari token** kroz Unleash UI ili:\n

```
curl -X DELETE .../api/admin/api-tokens/$OLD_TOKEN_ID -H \"Authorization:
$NEW_TOKEN\" \n
```

\n\n

6. **Slack notifikacija:**\n

```
node ~/system/tools/slack.js send '#security' \"\n\nUnleash admin token rotiran (MC #XXXXX) – novi token u BW e917fc41\"\n\n
```

\n\n

7. **MC task evidencija** sa starim/novim token ID (NE vrijednost!)\n

8. **Sync rotaciju sa John session-state** ako je aktivan\n

\n\n

\n\n

6. /me/capabilities API Ugovor

\n\n

Endpoint `GET /me/capabilities` (MC #105291 T5) vraća **jedinstveni izvor istine** za entitlement — konzumiraju ga i web i mobile klijenti.

\n\n

Request

\n\n

```
GET /me/capabilities\nAuthorization: Bearer <JWT>\n
```

\n\n

Response Shape

\n\n

```
{\n  \"tier\": \"BIZNIS\", // pricing-matrix tier\n  (PAUSALAC/BIZNIS/RACUNOVODJA/ENTERPRISE)\n  \"modules\": {\n    \"payroll\": true, // BilkoFlag.PAYROLL_MODULE resolved (tier + Unleash)\n    \"accountingFull\": false, // BilkoFlag.ACCOUNTING_FULL_ADDON\n    \"accountingSimple\": true, // BilkoFlag.ACCOUNTING_SIMPLE\n    \"apiPublic\": false, // BilkoFlag.API_PUBLIC\n    \"reportsAdvanced\": false, // BilkoFlag.REPORTS_ADVANCED\n    \"bankingFeed\": true, // BilkoFlag.BANKING_FEED_TOK\n    \"multiOrg\": false, // BilkoFlag.ACCOUNTANT_MULTI_ORG\n    \"aiAssistant\": false // BilkoFlag.AI_ASSISTANT\n  },\n  \"market\": {\n    \"country\": \"HR\", // jurisdiction (iz MarketRoutes.kt)\n    \"currency\": \"EUR\", // \"fiscalFeatures\": [\n      \"eRacun\", \"FINA\"]\n  }\n}
```

\n\n

Konzumacija

- \n\n
- \n
 - **Mobile (T6, MC #105292):** poziv na login + periodični refresh, cache lokalno, uslovno renderovanje tabova (payroll tab se NE prikazuje ako `modules.payroll == false`)\n
 - **Web (T6b, MC #105293):** migracija sa ad-hoc tier čitanja na ovaj endpoint\n

\n\n

\n\n

7. Reference — MC Taskovi i Evidencija

\n\n

MC Task	Opis	Status	Evidence
#105282	Parent plan (Full-tier)	COMPLETE	~/system/evidence/105282-addon-plan/PLAN.md
#105286	T8 — Unleash admin token	COMPLETE	~/system/evidence/105286/, commit 14c87382
#105287	T2 — SSOT flag merge	COMPLETE	~/system/evidence/105287/, commit 6f1f0a89, merged 54b42510
#105288	T1 — GL + Payroll enforcement	COMPLETE	~/system/evidence/105288/, commit fc3d2ab8
#105289	T3 — SIMPLE paket definicija	COMPLETE	~/system/evidence/105289/simple-package-definition.md
#105290	T4 — Addon flagovi + org_type	COMPLETE	~/system/evidence/105290/, commit 6fce5ec6
#105321	T1b — ReportRoutes enforcement	COMPLETE	~/system/evidence/105321/, branch feat/report-enforcement-105321
#105294	T7 — Pricing + Stripe TEST objekti	COMPLETE	~/system/evidence/105294/, commit d9c11f6f
#105291	T5 — GET /me/capabilities endpoint	IN PROGRESS	TBD
#105292	T6 — Mobile capabilities konzumacija	PENDING	TBD

MC Task	Opis	Status	Evidence
#105293	T6b — Web capabilities migracija	PENDING	TBD
#105295	T9 — Proveo validation	PENDING	TBD

\n\n

Git Commit Trag

- \n\n
- \n
 - **14c87382:** docs(infra): Unleash admin + DEPLOY-MAP/feature-flags (T8)\n
 - **6f1f0a89:** feat(features): SSOT flag merge — Feature→BilkoFlag addon override (T2), merged → 54b42510\n
 - **6fce5ec6:** feat(features): Addon flagovi PAYROLL/ACCOUNTING_SIMPLE/FULL + org_type fail-closed (T4)\n
 - **fc3d2ab8:** feat(features): GL(9) + Payroll(4) route enforcement retrofit (T1)\n
 - **d9c11f6f:** feat(pricing): Add-on cijene + Stripe TEST price objekti (T7)\n

\n\n

Lokacije (Repozitorijum)

- \n\n
- \n
 - **Plan:** ~/system/evidence/105282-addon-plan/PLAN.md \n
 - **DEPLOY-MAP.md:** ~/business/ALAI-Holding-AS/products/Bilko/DEPLOY-MAP.md \n
 - **Feature docs:** ~/business/ALAI-Holding-AS/products/Bilko/docs/feature-flags.md \n
 - **Pricing SSOT:** ~/business/ALAI-Holding-AS/products/Bilko/apps/web/lib/pricing-matrix.json \n
 - **Kod:** apps/api/src/main/kotlin/no/alai/bilko/features/ + apps/api/src/main/kotlin/no/alai/bilko/services/featureflags/ \n

\n\n

Pravne Reference

\n\n

Napomena: Pravne reference namjerno bez brojeva članova — verifikacija kod poreskog savjetnika u toku (nalaz porez-check 2026-07-12).

Revision #2

Created 2026-07-12 01:51:11 UTC by John

Updated 2026-07-12 02:01:27 UTC by John