



## Getting Started – Team PlatOps and MDTP

### WE ENABLE THIS AT SCALE

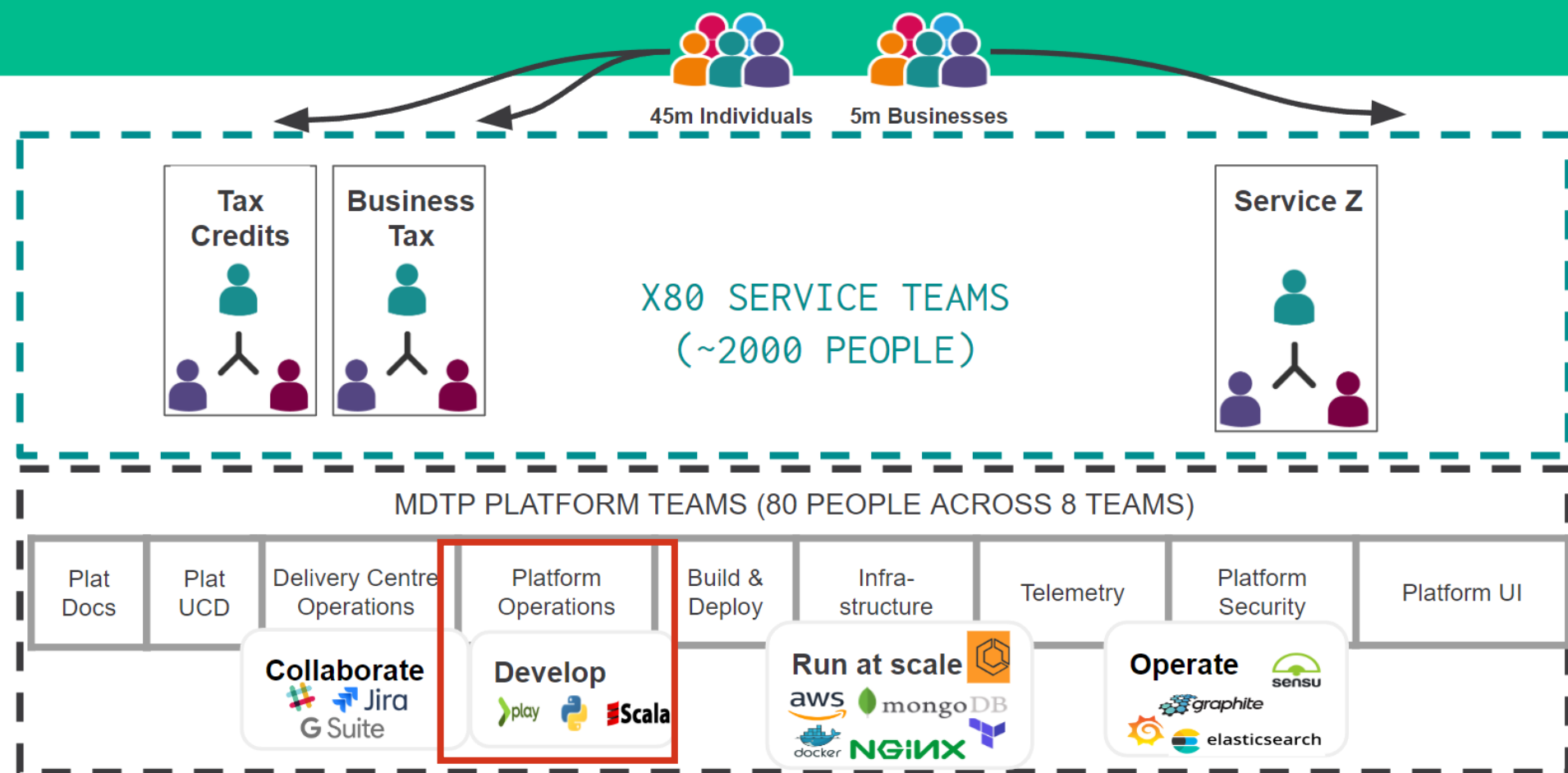


Figure 1 : (HMRC, 2024)

#### HMRC:

- Collects tax through services
- Service teams focus on services, MDTP covers infrastructure, security, libraries and [method of development] (PlatOps)

#### PlatOps products and services:

- Catalogue
- PR-Commenter
- Libraries
- Bobby
- UpScan
- Slack-Notifications
- Internal Auth
- Scala Consultation

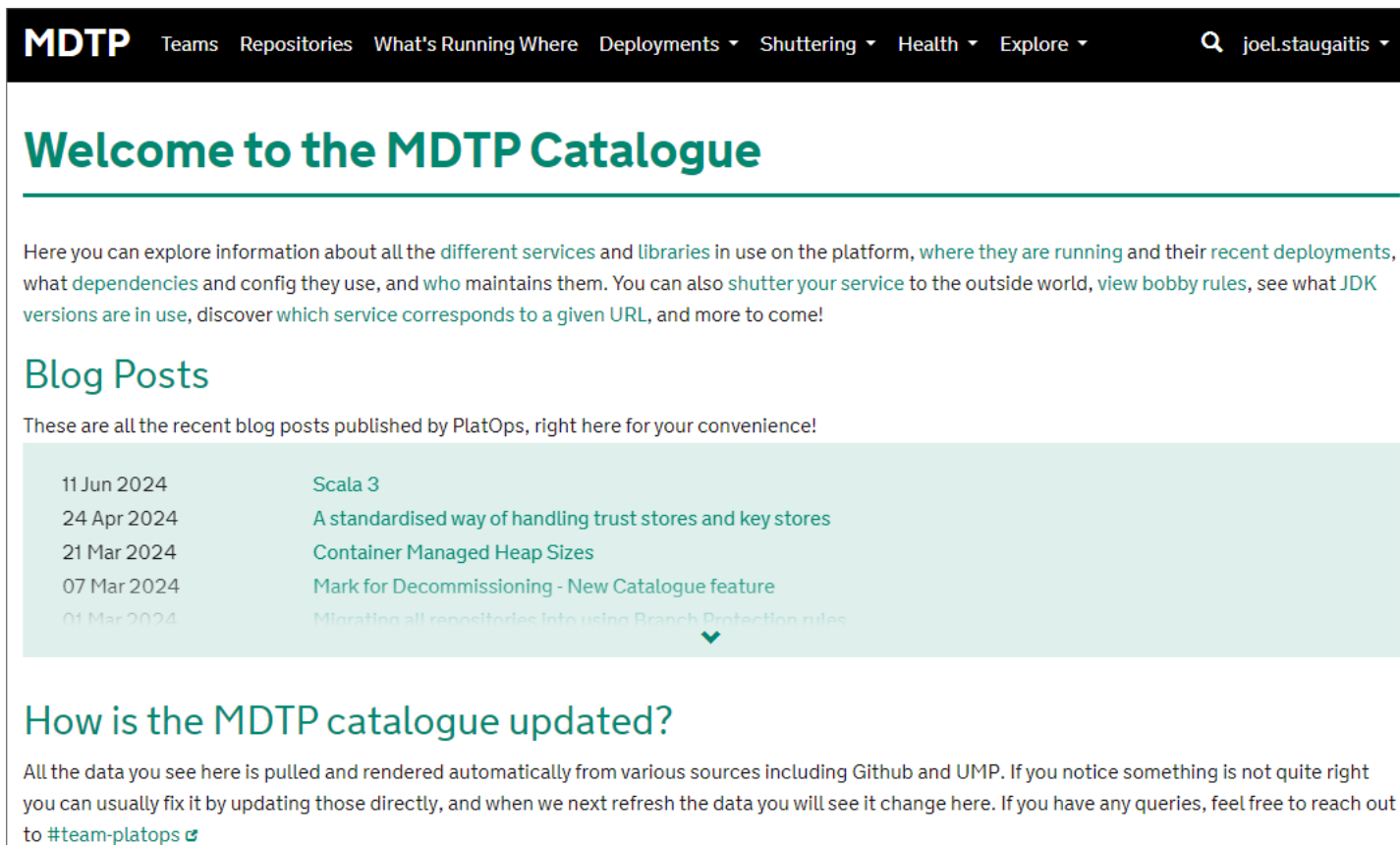


Figure 2 : (HMRC, 2024)

#### Paved Road:

- Standardized tools/practices in an organisation

#### MDTP:

- Multi-Channel Digital Tax Platform
- Teams build on top this
- Responsible for minimising boilerplate

## My Role – Software Developer

#### Explore surfacing frequently visited Catalogue pages for users (SPIKE):

- Linked users to session logs
- Created proof of concept showing user's frequent pages
- Received approval for implementation
- Improved logs to include usernames
- Migrated audit databases to new pattern
- Poor performance despite optimisations
- Project is killed, cost is not worth for low impact feature
- Kept improved logging

#### PlatOps environment config explorer:

Many sources for service config exist. Task to surface config priority for PlatOps services. Made a script that:

- Gets all PlatOps services names and versions
- Reads config from correct versions of service and config repos
- Formats results into spreadsheet

#### Create CND warning:

- Created new pattern to easily add checks and warnings
- Created has Config but Not Deployed warning logic
- Added switches in Catalogue to filter by warning and to invert view

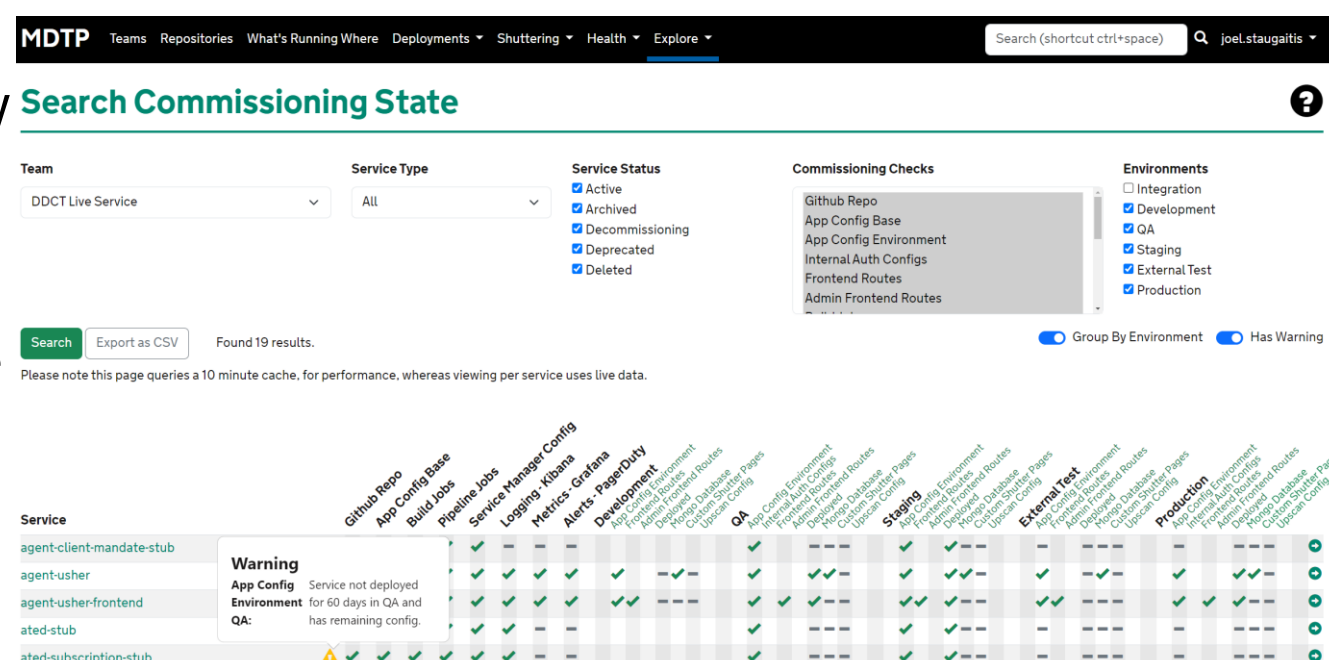


Figure 3 : (HMRC, 2024)

#### Improve fallback mechanism for automatic team slack messages:

- New step in backend refresh service to add slack IDs to users by calling Slack API
- Lookup admins with slackIDs for a failed team slack notification
- Forward notification to admins

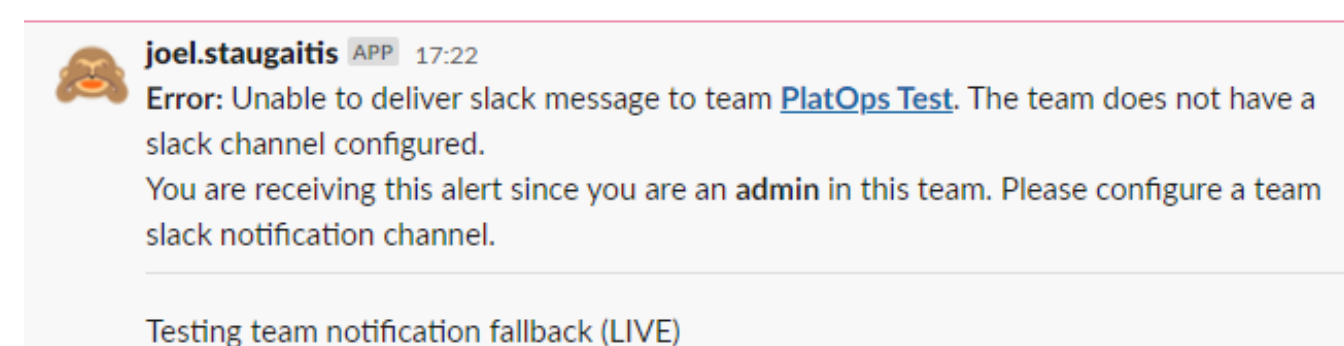


Figure 4 : (HMRC, 2024)

#### Script for automatic identification of abandoned services:

There are 1700 microservices at HMRC.

Task to find indicators and flag abandoned services.

Found useful indicators, high false positives.

Made simplified view script to flag combinations:

- Build fail **AND** no commit to patch
- Surface **CND** if other weighting is high
- Combine with time breaking patterns

Simplified view achieved 100% true positives and flagged 100+ services for review.

Service	IntCND3m+	DevCND3m+	QA/CND3m+	StagCND3m+	ExtCND3m+	ProdCND3m+	LatestRelease	BuildFailWinPatchm+	BrokenBobbytm+	Vulnerabilities	NoAdmin	LatestCommit
secure-data-exchange-attachments							2023-05-03			2		2021-08-13
secure-data-exchange-bulk-download							2023-05-03			12		2023-06-06
secure-data-exchange-sandbox-frontend							2023-05-15			5		2023-08-04
secure-data-exchange-selemetry-proxy							2024-05-07			2		2023-08-03
sic-code-search							2023-07-21			4		2021-06-25
tax-account-router							NEVER DEPLOYED			0		2018-12-12
team-indicator-dashboard-frontend							NEVER DEPLOYED			0		2018-03-26
team-indicators-frontend							NEVER DEPLOYED			0		2018-06-06
transfer-specified-childcare-credits-frontend							2023-02-27			2		2022-10-04
transit-movements-message-parser							2024-02-28			2		2023-02-28
transit-movements-trader-at-destination-sub							2023-03-03			7		2022-03-03
transit-movements-trader-authorisation							2023-10-01			0		2022-01-21
trusts							2023-10-16			0		2023-10-17
trusts-enrolment-orchestrator							2023-09-09			1		2023-06-06
trusts-obliged-entity-output							2023-09-15			0		2023-08-08
trusts-stub							2023-11-11			1		2023-10-10
ttp-import-vat-registration-frontend							NEVER DEPLOYED			0		2020-03-03
ttp-import-vat-returns-frontend							NEVER DEPLOYED			0		2020-01-22
uk-desired-authorisation-status							2023-04-29			0		2022-04-28
uk-desired-authorisation-status-api							2023-04-29			0		2022-04-28
uk-desired-authorisation-status-eis-stub							2023-04-29			0		2022-04-19
uk-desired-authorisation-status-frontend							2023-04-29			2		2022-03-23
upload-customs-documents-test-harness-frontend							2023-02-22			2		2022-09-18
upload-documents-frontend							2023-02-07			2		2022-05-04
vat							2023-02-24			0		2023-02-02
voia-bot-stub							2023-09-19			0		2023-05-31
waiver-vehicle-scheme-skeleton-frontend							NEVER DEPLOYED			0		2023-03-23

Figure 5 : (HMRC, 2024)

#### Platform housekeeping:

- Key rotations
- Updating aws configuration
- Updating Bobby
  - Granting extensions
  - New rules to push out dependencies
- Bug fixes
- Catalogue enhancements
  - Feature updates
  - New QOL features
- More!

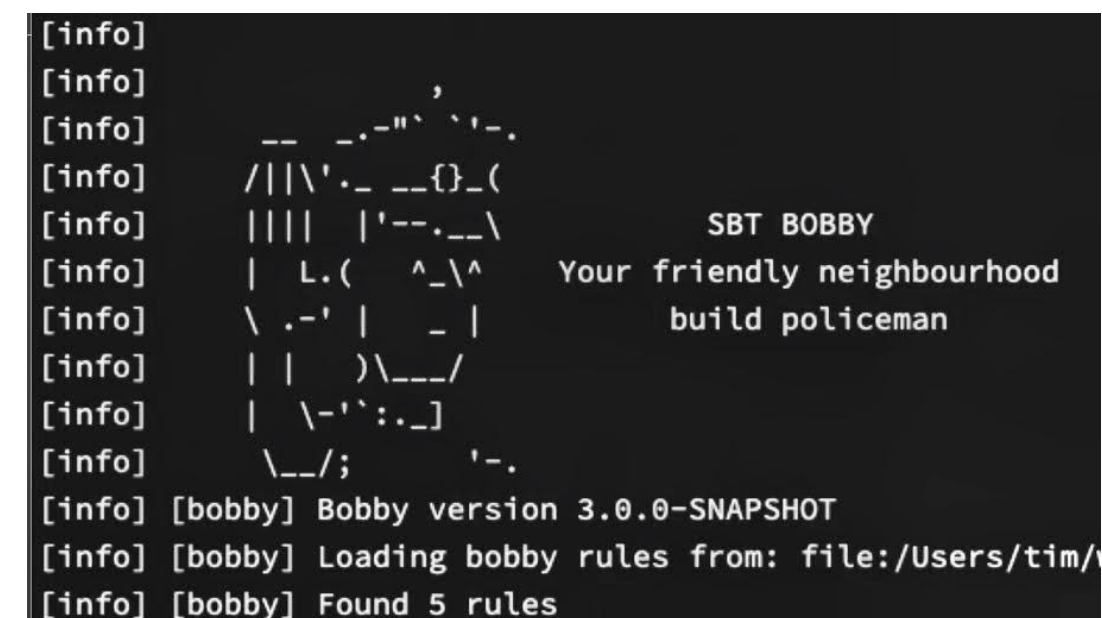


Figure 6 : (Staugaitis, 2024)

## Conferences

#### Excellence in Government:

Government knowledge sharing and networking.

#### AWS Training Day for Government:

Smaller presentations from AWS engineers and Gov departments.

#### AWS Summit London:

Large event with simultaneous lectures.

## Report 1A – Applications of ChatGPT

#### Emerging Applications of ChatGPT and Other Large Language Models for Software Development at HMRC:

- Interviewed developers about use cases & concerns
- Identified how sensitive data can be leaked
- Researched existing LLMs
- Assessed existing impact
- Identified areas for improvement and presented internally

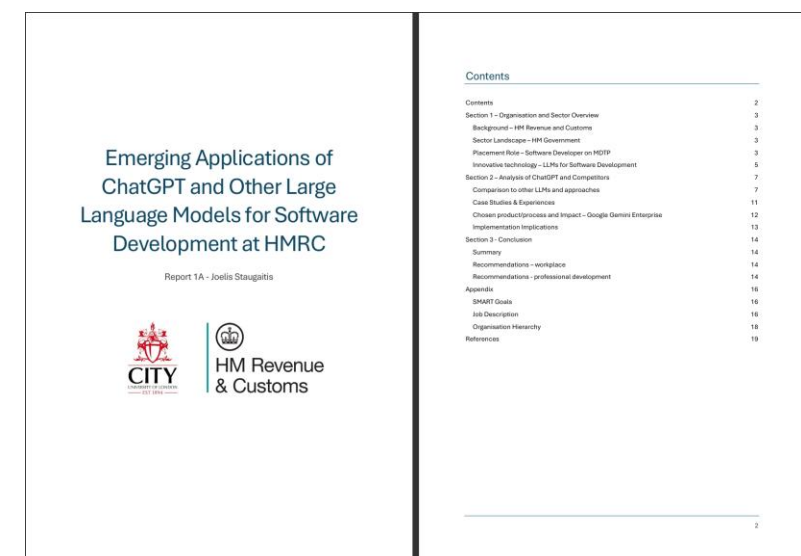


Figure 7 : (Staugaitis, 2024)

## Skills and Professional Development

#### Software Development Skills and Tools:

- DevOps:
  - AWS
  - Terraform
  - Docker
  - Jenkins
  - Artifactory
  - Kibana
  - Grafana
- GitHub
- Scala play framework
- Bootstrap
- BASH
- Mongo

#### Professional Development:

- DevOps in a platform department
- Communication
  - Daily standup
  - Exploring problems with engineers
  - Confidence to ask questions
- Writing Reports (Staugaitis, 2024)
- Agile methodology
- Test Driven Development
- Best practices for development
- Understanding company hierarchy

## Goals

**Short:** Apply to companies that solve novel engineering challenges.

**Medium:** Continue networking and building connections.

**Long:** Advance career as a developer, engage in opportunities for self-improvement.

## References

- Figure 1 : HMRC, 2024. MDTP Heirarchy Internal Onboarding Slide. s.l.:s.n.
- Figure 2 : HMRC, 2024. Catalogue Home Page. [Online] Available at: HMRC Intranet
- Figure 3 : HMRC, 2024. Catalogue Commissioning State Page. [Online] Available at: HMRC Intranet
- Figure 4 : Staugaitis, J., 2024. Slack Fallback Test Message, s.l.: s.n.
- Figure 5 : HMRC, J., 2024. Script Generated Spreadsheet, s.l.: s.n.
- Figure 6 : HMRC, 2024. sbt-bobby. [Online] Available at: <https://github.com/hmrc/sbt-bobby?tab=readme-ov-file> [Accessed 26 Aug 2024].
- Figure 7 : Staugaitis, J., 2024. Emerging Applications of ChatGPT and Other Large Language Models for Software Development at HMRC, s.l.: s.n.