Cloud Contraptions
TRAINING & CONSULTING

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Migrating from Azure DevOps to GitHub

Class Duration

14 hours of live training delivered over 2 days.

Student Prerequisites

- Working experience with Azure DevOps Services: Repos, Pipelines, and Boards
- Comfortable with Git, pull requests, and YAML pipelines
- Basic command-line skills
- Familiarity with GitHub is helpful but not required

Target Audience

Platform and DevOps engineers, release managers, and administrators moving an Azure DevOps estate to GitHub Enterprise Cloud, plus the security and identity owners who sign off. It also fits organizations keeping Azure Boards or Test Plans while code and CI/CD move to GitHub. Teams new to GitHub Actions can pair it with CI/CD with GitHub Actions, and teams adopting GitHub's security features can add GitHub Advanced Security in Action.

Description

This two-day course teaches teams to plan and run a phased move from Azure DevOps to GitHub. Students inventory their Azure DevOps estate and decide what moves, what stays, and in what order. They design the GitHub enterprise, identity, and permission model, including Enterprise Managed Users with Microsoft Entra ID. They move repositories with GitHub Enterprise Importer and convert pipelines with GitHub Actions Importer. The course also covers Boards options, packages, Advanced Security, coexistence, and wave-based cutover.

Learning Outcomes

- Inventory an Azure DevOps organization and decide what moves to GitHub.
- Design GitHub enterprises, organizations, teams, and repository roles.

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- Set up Enterprise Managed Users with Microsoft Entra ID.
- Migrate repositories and pull requests with GitHub Enterprise Importer.
- Evaluate Enterprise Live Migrations for continuous-sync migrations.
- Convert Azure Pipelines to GitHub Actions with GitHub Actions Importer.
- Hand-convert templates, variable groups, service connections, and approvals.
- Choose between Azure Boards and GitHub Issues and Projects.
- Plan the move of packages, wikis, and test assets.
- Restore GitHub Advanced Security coverage after migration.
- Run Azure DevOps and GitHub side by side without losing traceability.
- Execute migration waves with validation and rollback.

Training Materials

All students receive comprehensive courseware covering all topics in the course. Courseware is distributed via GitHub in the form of documentation and extensive code samples.

Software Requirements

Students will need a free, personal GitHub account to access the courseware, the GitHub CLI with the ado2gh and actions-importer extensions, Docker Desktop or Podman (for GitHub Actions Importer), Git, and Visual Studio Code. Migration demonstrations use an Azure DevOps Services organization and a GitHub Enterprise Cloud trial organization; students who want to follow along need access to both.

Training Topics

Planning the Migration

- Why organizations consolidate on GitHub
- When a hybrid end state is better
- Inventorying projects, repos, and pipelines
- Inventorying service connections and users
- Mapping Azure DevOps services to GitHub
- Enterprise Cloud with and without data residency
- Phased vs. big-bang migrations
- Choosing pilot projects

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Identity, Organizations, and Permissions

- Designing enterprises, organizations, and teams
- Enterprise Managed Users with Microsoft Entra ID
- SCIM provisioning
- Mapping Azure DevOps permissions to GitHub roles
- Custom repository roles
- Organization rulesets
- GitHub Apps and fine-grained tokens

Migrating Repositories with GitHub Enterprise Importer

- What GitHub Enterprise Importer migrates
- What it leaves behind
- Running `gh ado2gh` and `generate-script`
- Reclaiming mannequins
- Migration logs and validation
- Repository size limits
- Azure DevOps Server sources

Enterprise Live Migrations (Preview)

- Continuous sync with a short cutover
- Targeting Enterprise Cloud with data residency
- Branch policies to rulesets
- Rewired pipelines and Boards connections
- Choosing ELM or GitHub Enterprise Importer

Pipelines to GitHub Actions with GitHub Actions Importer

- `audit`, `forecast`, `dry-run`, and `migrate`
- Reading the audit report
- Templates to reusable workflows
- Variable groups and secure files to secrets
- Service connections to OIDC federation
- Agent pools to GitHub runners
- Approvals and checks to environments
- Classic build and release pipelines

Rewiring During Coexistence

- Azure Pipelines with GitHub repositories
- Rewiring pipelines in the migration script

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- Traceability across both platforms
- Freeze windows and communication

Work Tracking: Azure Boards or GitHub

- The Azure Boards app for GitHub
- `AB#` links and state transitions
- GitHub Issues and Projects
- Moving work items to GitHub
- Staying hybrid, moving, or archiving

Packages, Wikis, and Test Assets

- Azure Artifacts vs. GitHub Packages
- Upstream sources and package consumers
- Wikis to GitHub wikis or docs-as-code
- Options for Azure Test Plans

Advanced Security on Both Platforms

- GHAS for Azure DevOps vs. GitHub
- Re-enabling secret scanning and push protection
- Re-enabling code scanning and Dependabot
- Alert triage during the transition
- Licensing during coexistence

Phased Cutover and Decommissioning

- Wave planning and pilots
- Success criteria
- Validating repositories, pipelines, and permissions
- Rollback paths per wave
- Locking or archiving Azure DevOps sources
- Closing out the migration

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