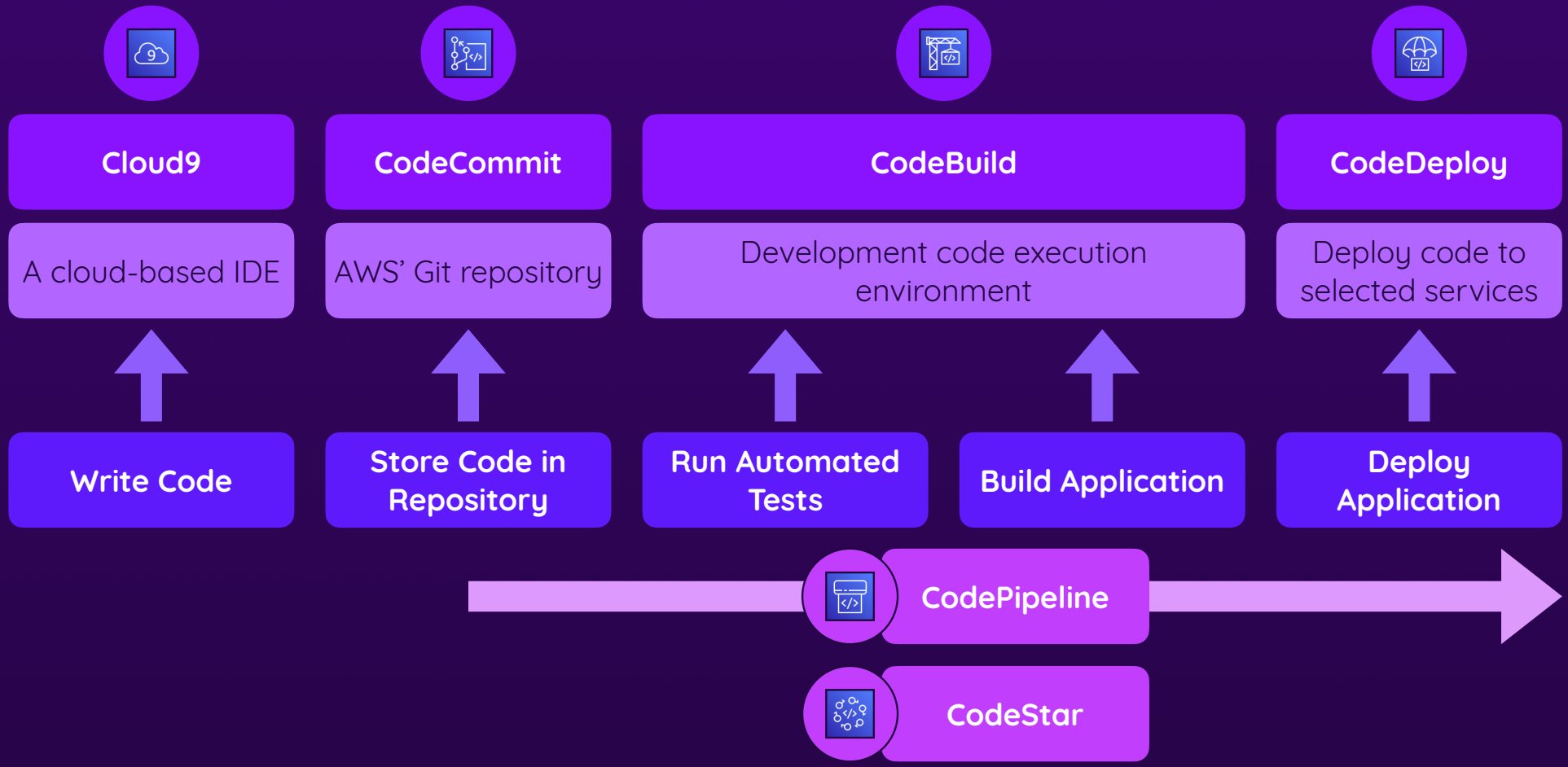
ACADEMIND

Developer Tools

Supporting developers & simplifying deployments

- Building Applications in & with the Cloud
- Improving Deployment Workflows
- Helper & Simplification Services

Building an Application



Writing Code: Cloud9 & CodeCommit

Cloud9

Write code in a cloud-based IDE

Uses an EC2 instance under the hood

CodeCommit

Push Git commits (code changes) to a cloud code repository

Code is stored in private repositories

Test & Build Code with CodeBuild

Managed Execution Environment

Configure Environment

- Define code source
- Define execution environment (OS, software)
- Add timeout, environment variables & more

Configure Execution Steps

- Define a “buildspec” file with execution process details
- Define build output (“artifacts”) details
- Run manually or based on triggers

CodeArtifact

- Managed repository for private and public application packages
- Can be used during code build process
- Alternative to public / third-party repositories

Deploy Code with CodeDeploy

Managed Deployment Service

Configure Deployment

- Configure deployments for EC2, ECS & Lambda
- Choose from different deployment strategies
- Use managed or custom configurations (strategies)

Perform Deployment

- Run deployments manually or via triggers
- Monitor, retry or roll back deployments

CI / CD with CodePipeline

Managed CI / CD Pipeline

Combines the other Code services

Define Stages

- Define different CI / CD stages (test, build, deploy, ...)
- In the stages: Use CodeBuild, CodeDeploy etc.
- Optionally add manual approval or script stages

Execute Pipeline

- Execute manually or via triggers (source changes)
- Enable or disable transitions between stages
- Monitor & retry pipeline executions

CodeStar

- Simplified CI / CD workflow setup (uses Code services)
- Create projects based on templates
- Creates build & deployment steps automatically

Improving Code & Application Environments

CodeGuru

- ML-based code analysis & recommendations
- Analyses code for best practices & issues

DevOpsGuru

- ML-based analysis of running applications
- Analyses CloudWatch logs etc.
- Detects (potential) issues & provides recommendations

Summary

Developing Applications Is A Multi-Step Process	Write, Store, Build & Deploy Code	Manage Entire Code-based Workflows
It includes: Writing, storing, testing, building & deploying code	Write code via **Cloud9**, store via **CodeCommit**	Integrate all build steps via **CodePipeline**
All steps can be performed or initiated locally	Manage code artifacts (packages) via **CodeArtifact**	Define stages (source, testing, build, deploy, manual approval, ...)
Use cloud-based tools: Better performance, always available	Test & build code with help of **CodeBuild** (output via S3)	Define triggers & monitor pipeline executions
Another advantage: Shared environment & settings	Deploy code to EC2, ECS or Lambda via **CodeDeploy**	Simplified alternative: **CodeStar** (uses Code services)