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Dependencies and CodeArtifact

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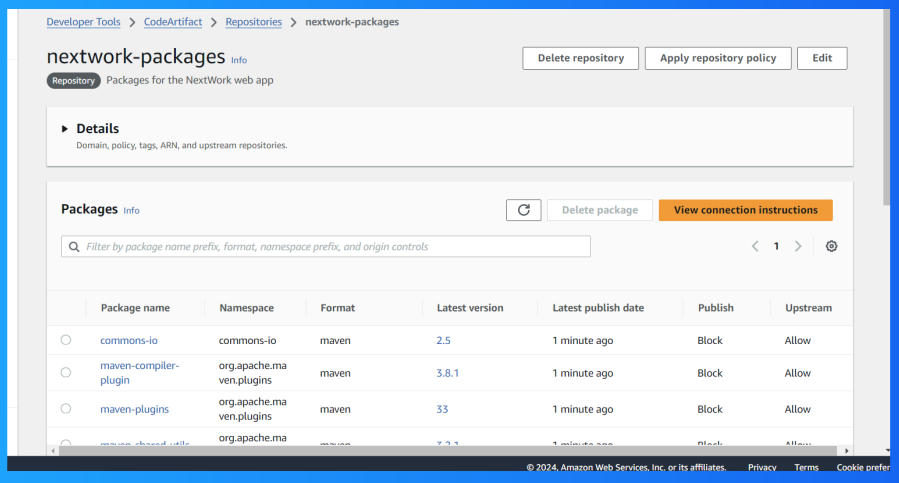

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Introducing today's project!

What is AWS CodeArtifact?

AWS CodeArtifact is a managed repository for storing and managing software dependencies. It's useful for securing access, simplifying dependency management, and integrating with tools like Maven to streamline Java app development.

How I used CodeArtifact in this project

I used AWS CodeArtifact to create a secure repository for storing dependencies. I connected it to my Cloud9 IDE, configured `settings.xml` for authentication, fetched dependencies for my Java app, and compiled the project successfully.

One thing I didn't expect in this project was...

I didn't expect how seamless it would be to integrate AWS CodeArtifact with . Setting up the settings.xml file and fetching dependencies worked smoothly, making the process easier than anticipated.

This project took me...

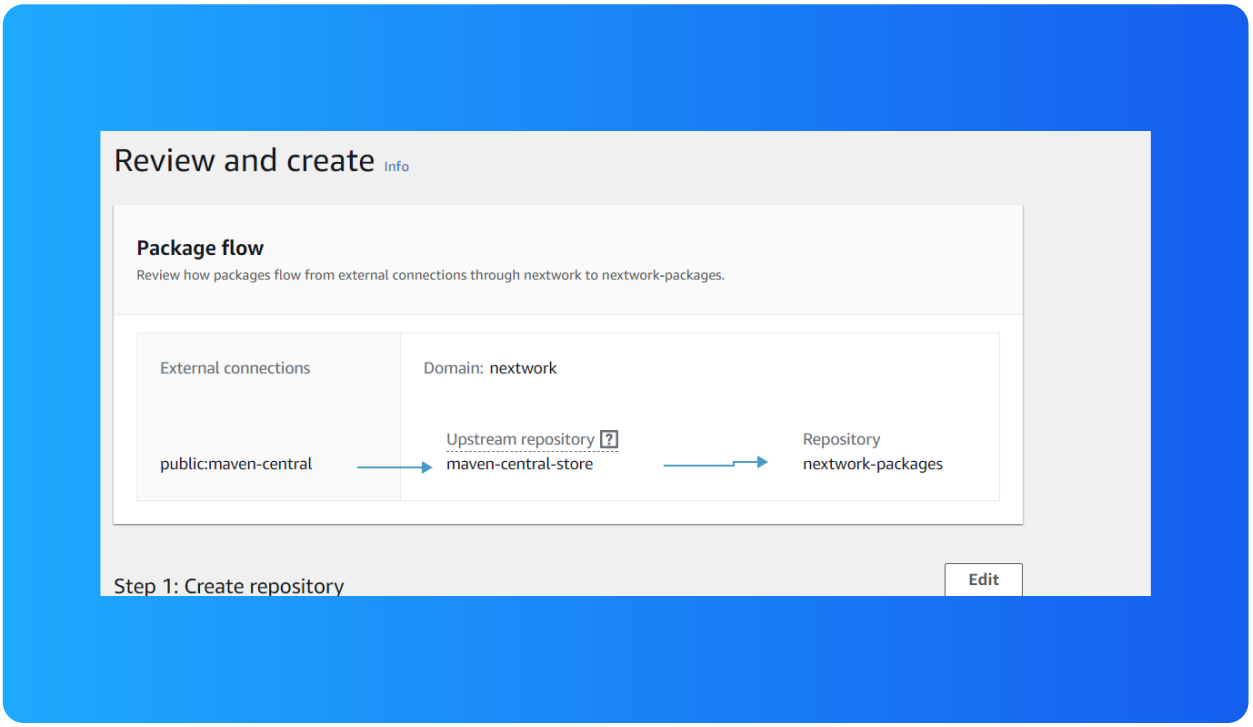
This project took me around 2 hours. Setting up AWS CodeArtifact, configuring Cloud9, and ensuring everything worked together smoothly was an engaging experience, with most of the time spent on troubleshooting and fine-tuning configurations.

My project has three artifact repositories

The local repository is a directory on my computer where Git tracks changes to files. It allows me to make, commit, and manage changes locally before syncing them with a remote repository like GitHub for backup and collaboration.

The upstream repository is the remote GitHub repository linked to my local repository. It stores the main version of the project and allows me to push changes from my local repo and pull updates from others, ensuring both repositories stay in sync.

The public repository is a GitHub repo accessible to everyone on the internet. It allows others to view, clone, and contribute to the project, making it ideal for open-source projects and collaboration.



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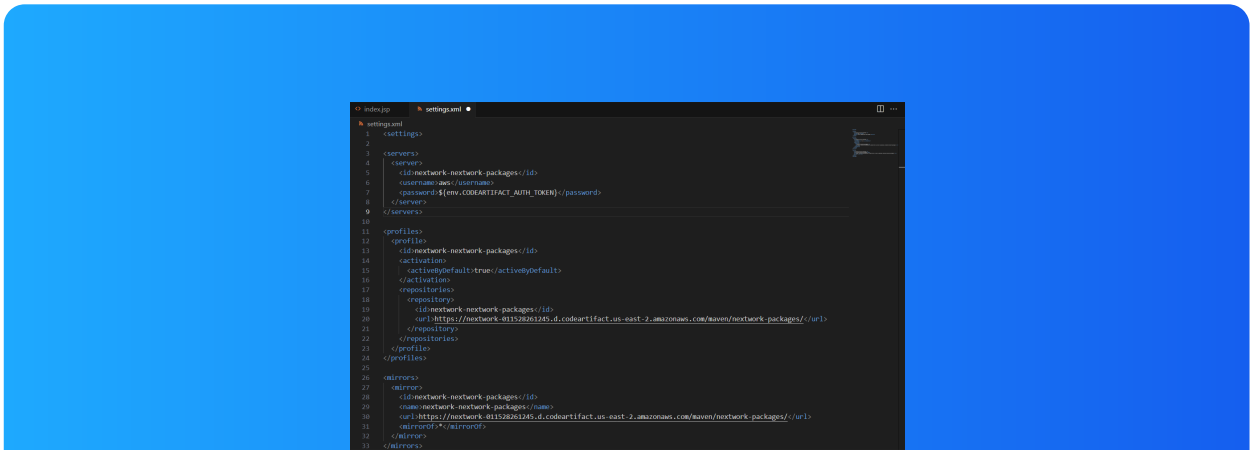
Connecting my project with CodeArtifact

I connected my web app project (via EC2+vscode) to CodeArtifact to securely store and manage dependencies, libraries, and packages. This helps ensure consistent versioning and makes it easier to manage dependencies across different environments.

I created a new file, settings.xml, in my web app

`settings.xml` is a Maven configuration file that stores repository URLs, authentication tokens, and profiles. It allows Maven to interact with repositories like CodeArtifact, managing dependencies for your project efficiently.

The code in `settings.xml` configures Maven to authenticate with AWS CodeArtifact using credentials. It sets up a profile for the `nextwork-network-packages` repository and defines a fallback mirror to ensure Maven can access the packages when needed



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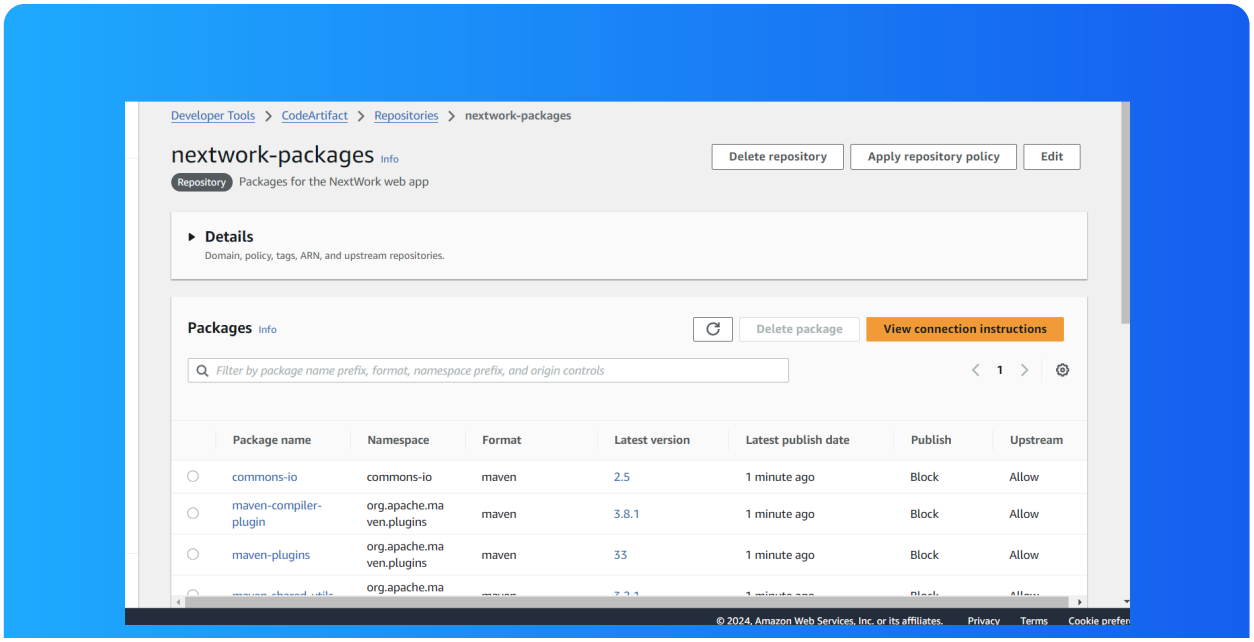
Testing the connection

To test the connection between Cloud9 and CodeArtifact, I compiled my web app

Compiling means converting human-readable source code (like Java) into machine-readable bytecode or executable files. This process checks for errors, translates the code into a form that the computer can run, and prepares the program for execution.

Success!

After compiling, I checked the `nextwork-network-packages` repository in AWS CodeArtifact.I saw that the necessary dependencies were available and successfully synced, ensuring the project had access to the required libraries for building and running



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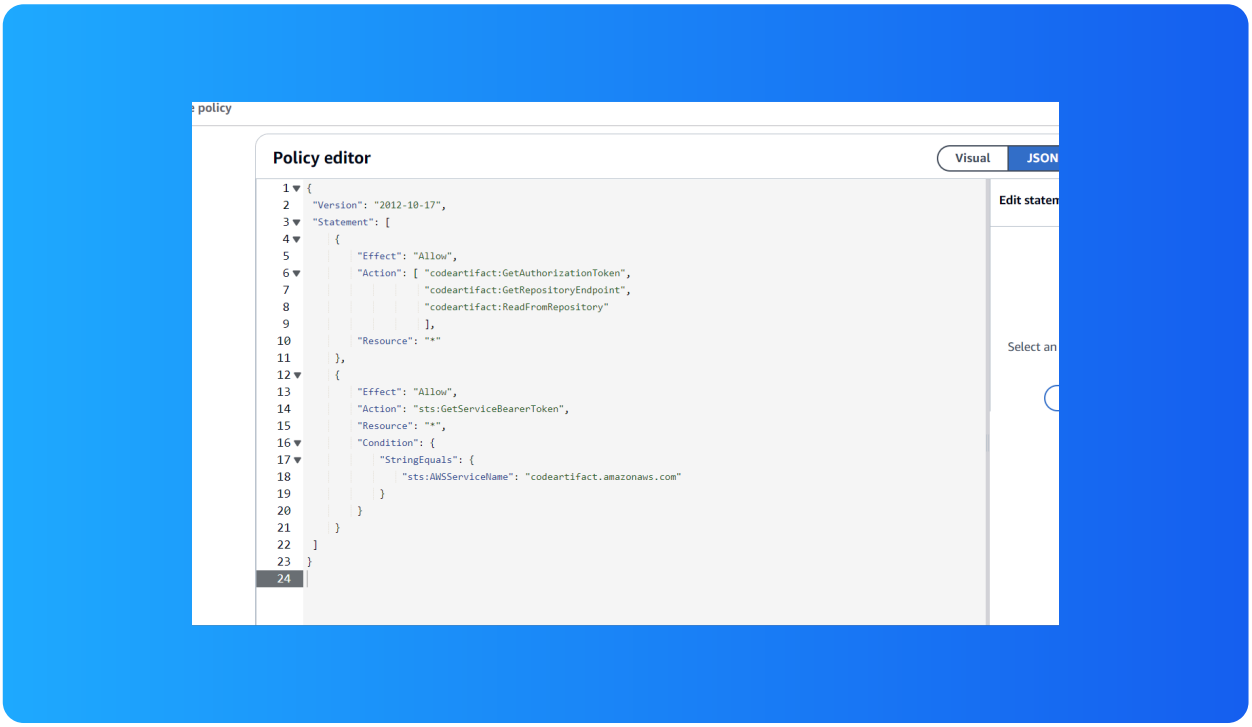
Create IAM policies

The importance of IAM policies

I also created an IAM policy because it provides permissions for accessing CodeArtifact securely, enabling actions like retrieving auth tokens, repository endpoints, and reading from the repository while ensuring proper control over access rights.

I defined my IAM policy using JSON

This policy will allow actions like retrieving an authorization token, accessing repository endpoints, reading from CodeArtifact repositories, and obtaining service bearer tokens for authentication with CodeArtifact services.



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