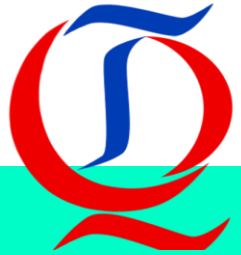
Code Commit



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What is CodeCommit?

- AWS CodeCommit is a managed source code control service that host private Git repositories

- Benefits:
  - Highly available, scalable & fault tolerant
  - No size limit
  - Integrates with other AWS services (i.e. CodePipeline, Lambda & SNS)
  - Easily Migrate files from other Git-based repositories
  - Works with existing Git-based tools

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Explain Like I am Five (ELI5):

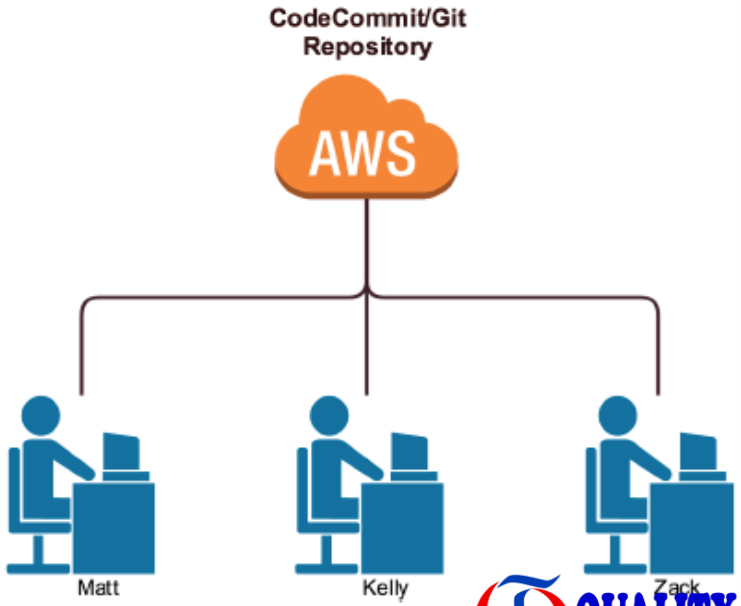
- At the highest level, CodeCommit is a communication tool.
- It is an service that allows developers to collaborate on a project and easily manage, share, update, and coordinate the code they are independently working on.

Meet our Imaginary Developers!

- Matt
- Kelly
- Zack

They are working on a project called:

WonderWidgets



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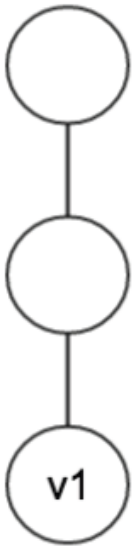
Central Repository

Local Repository

Matt



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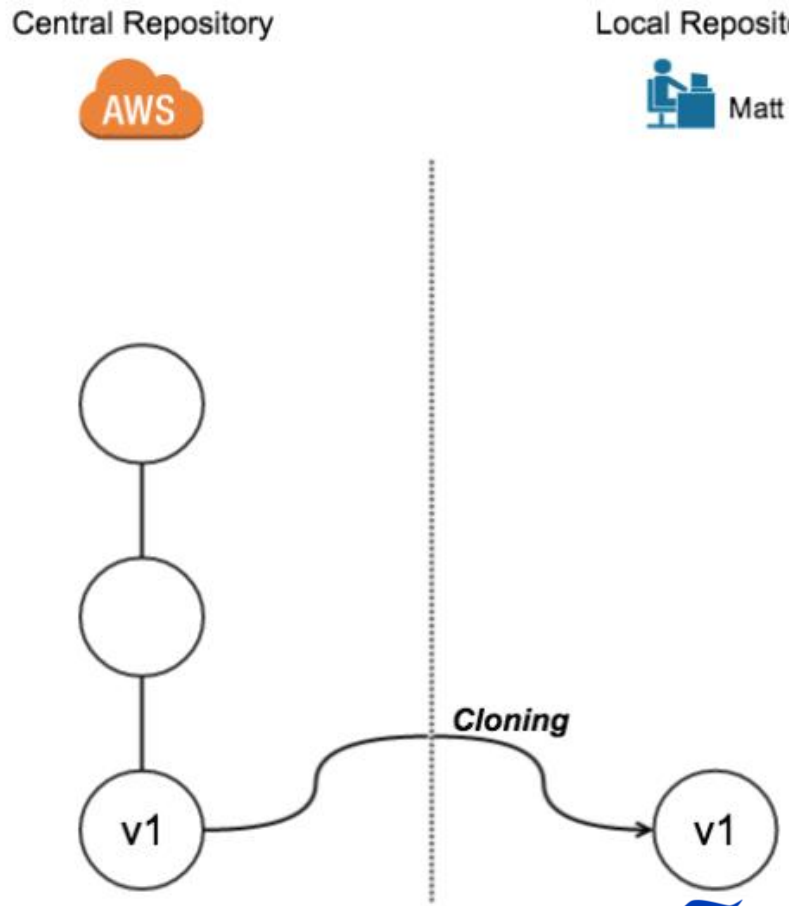

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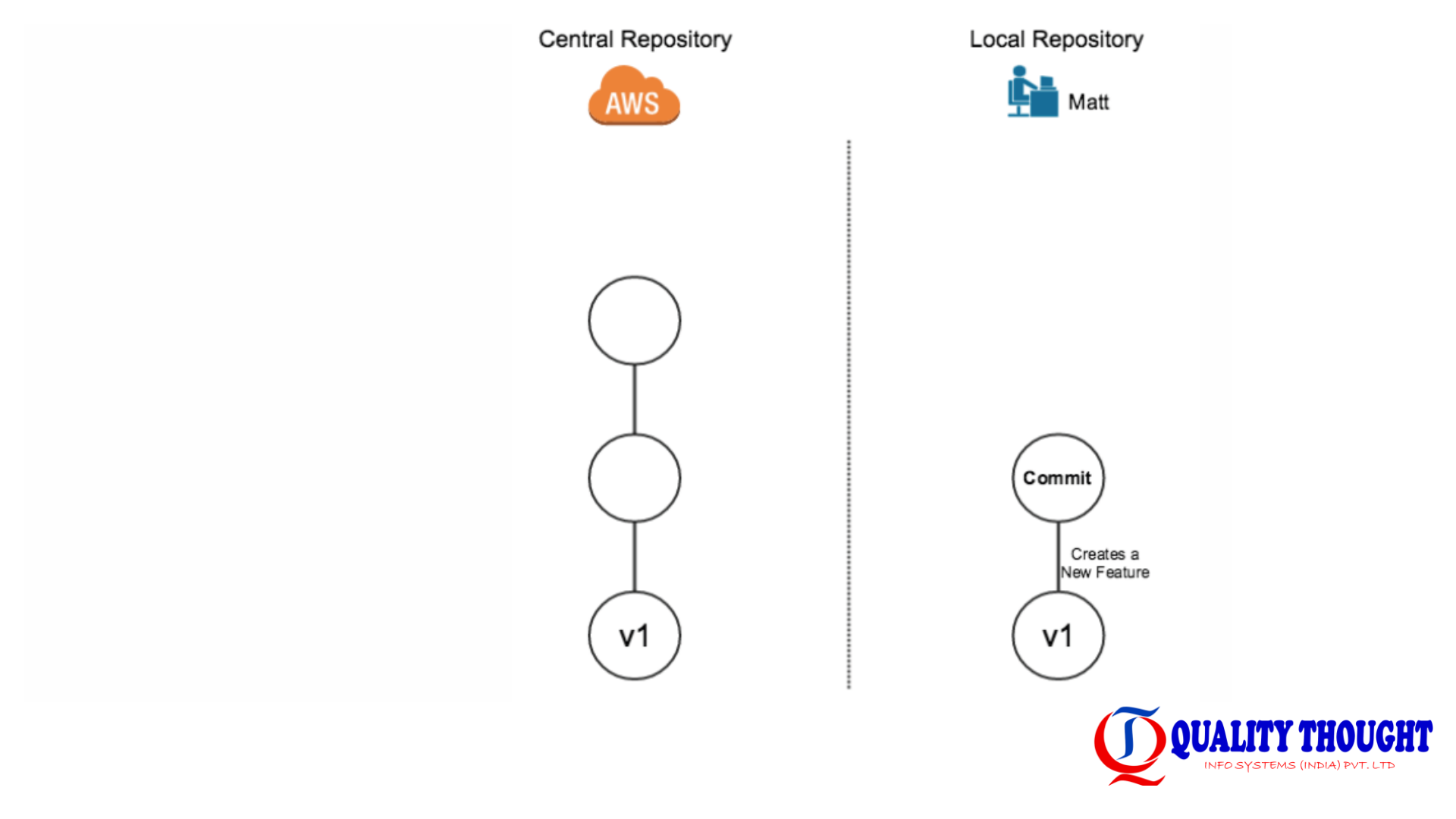

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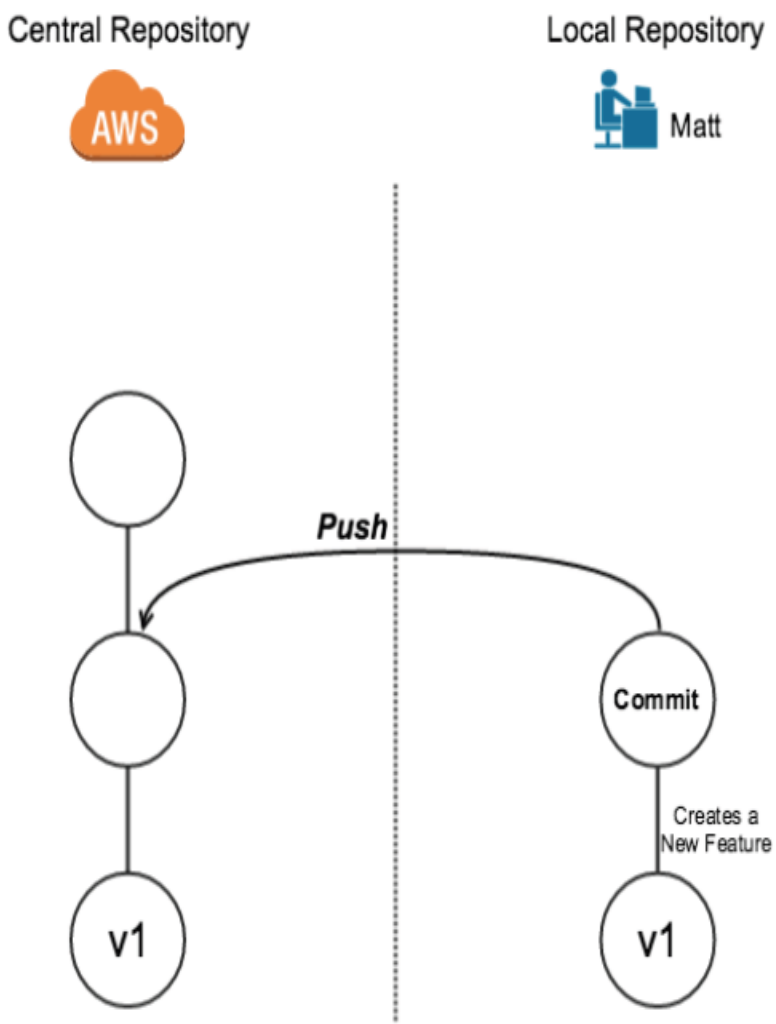

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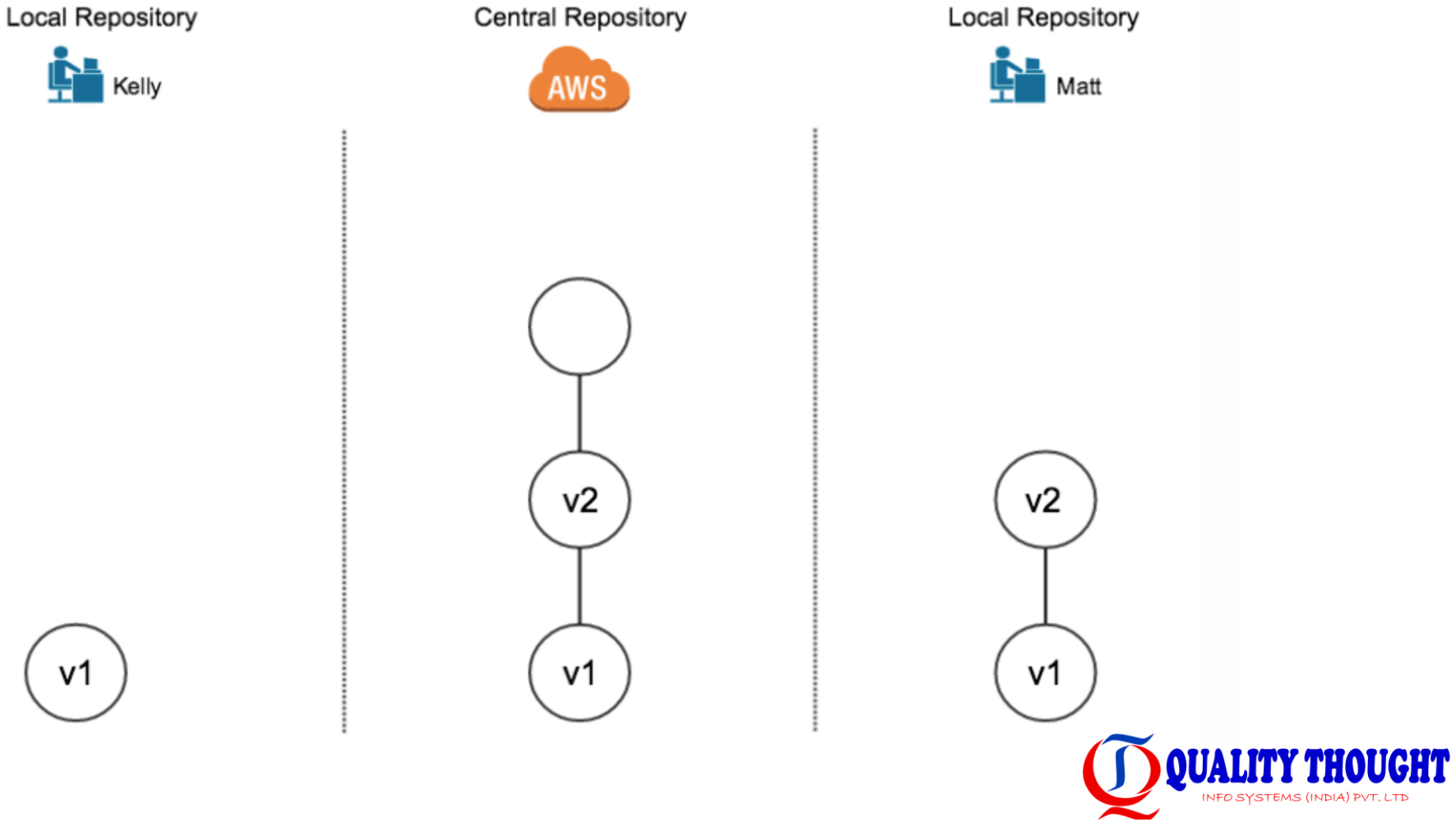

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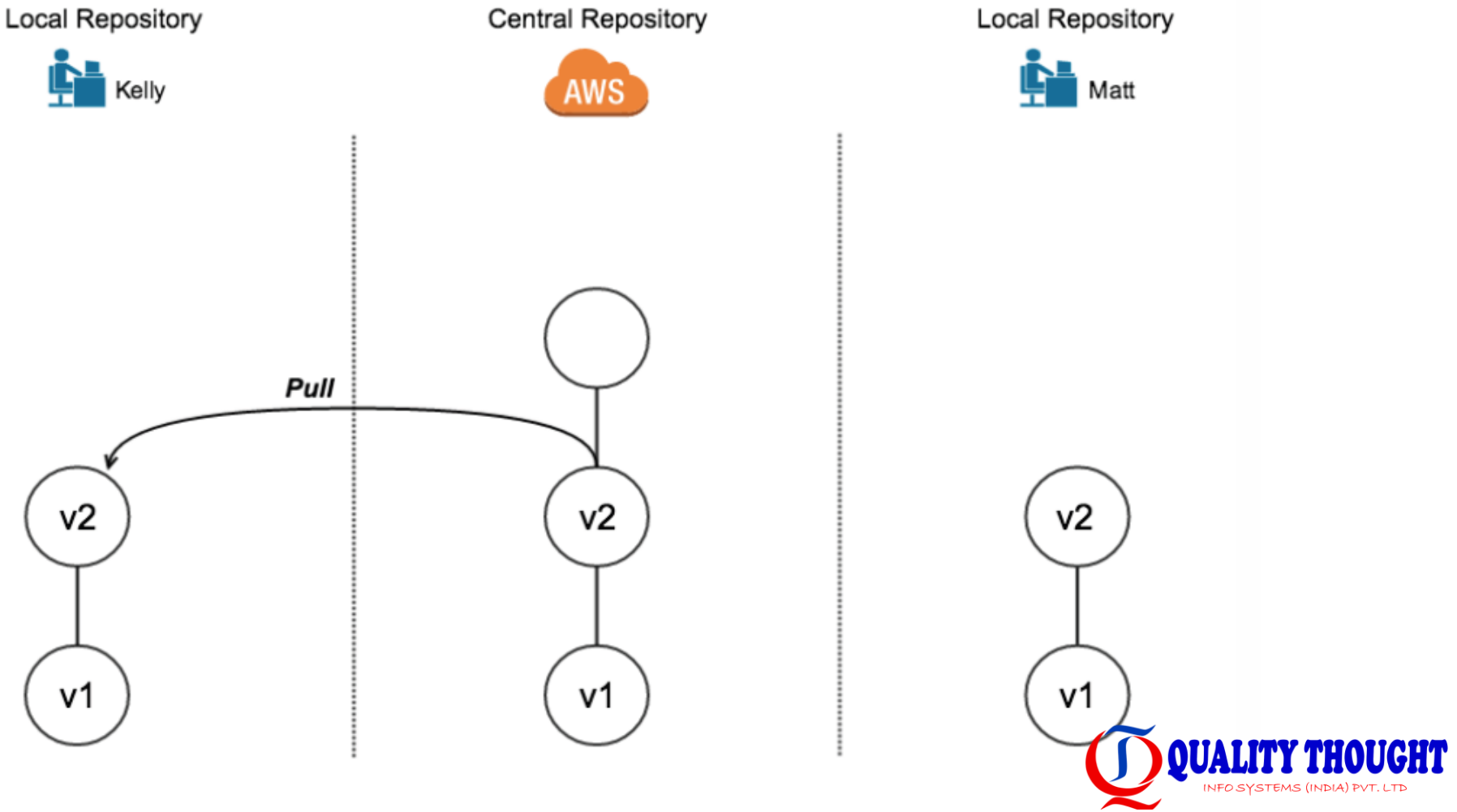

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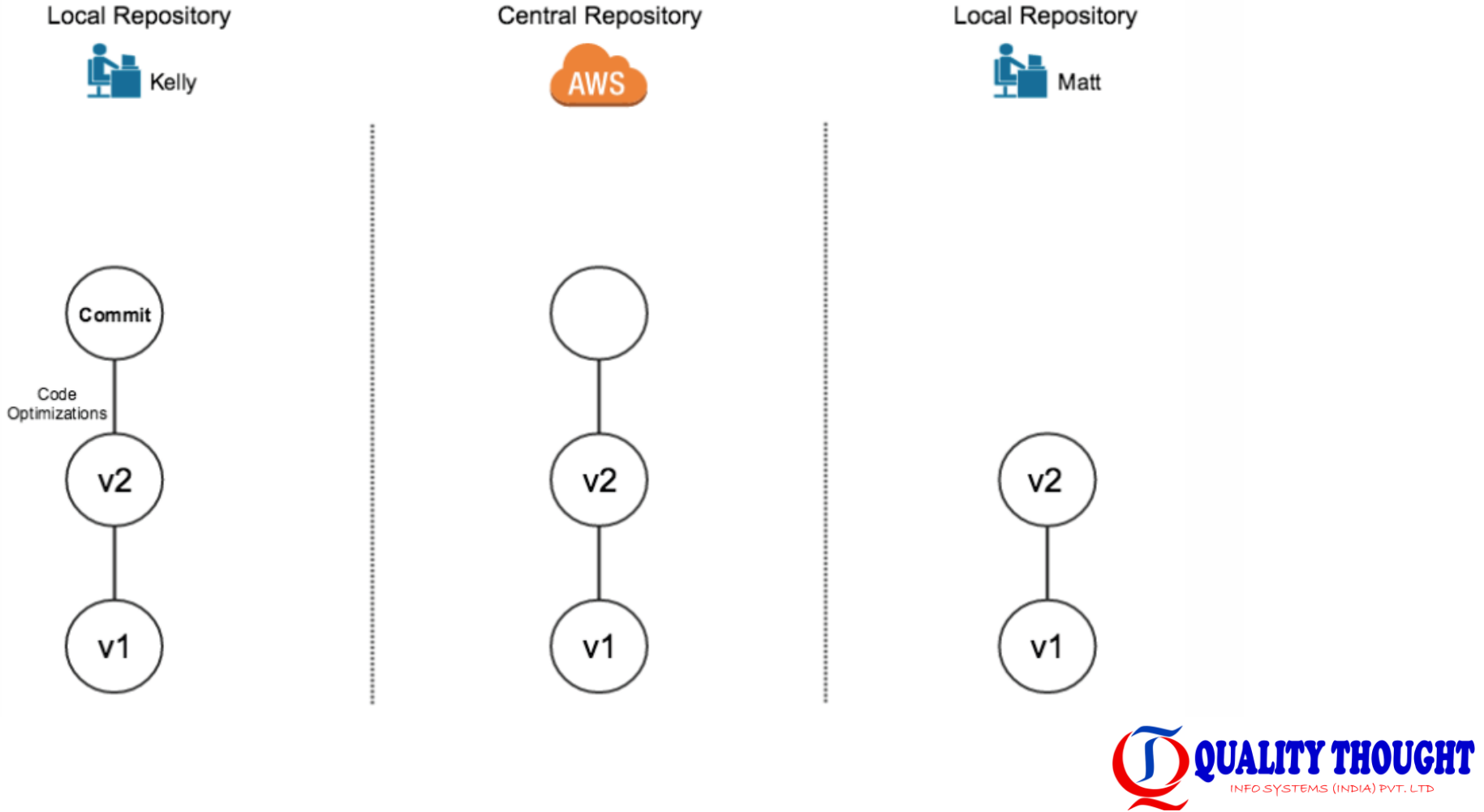

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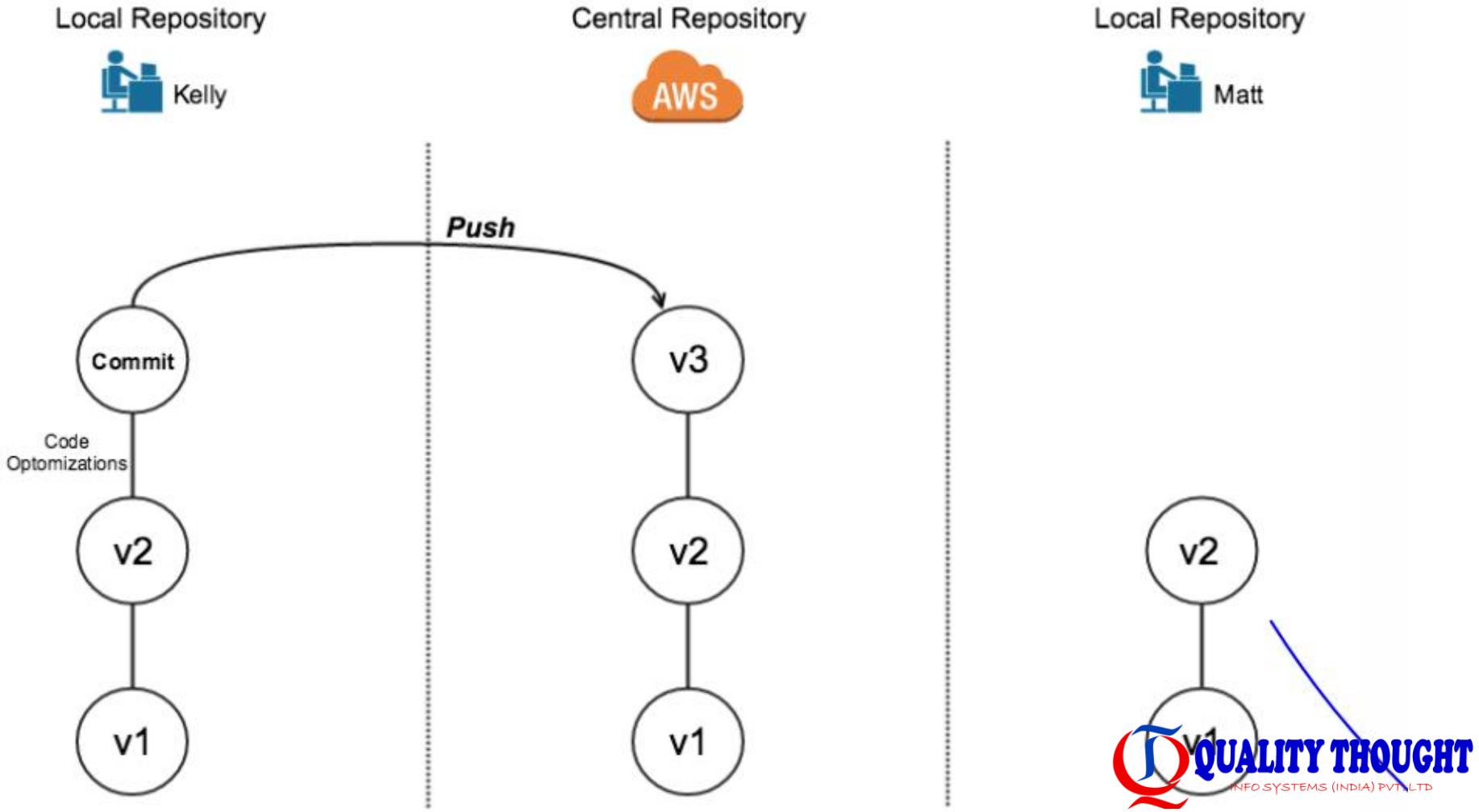
Local Repository
Kelly
Central Repository
AWS
Local Repository
Matt
Push
Commit
Code
Optomizations
v2
v1
v3
v2
v1
v2
v1
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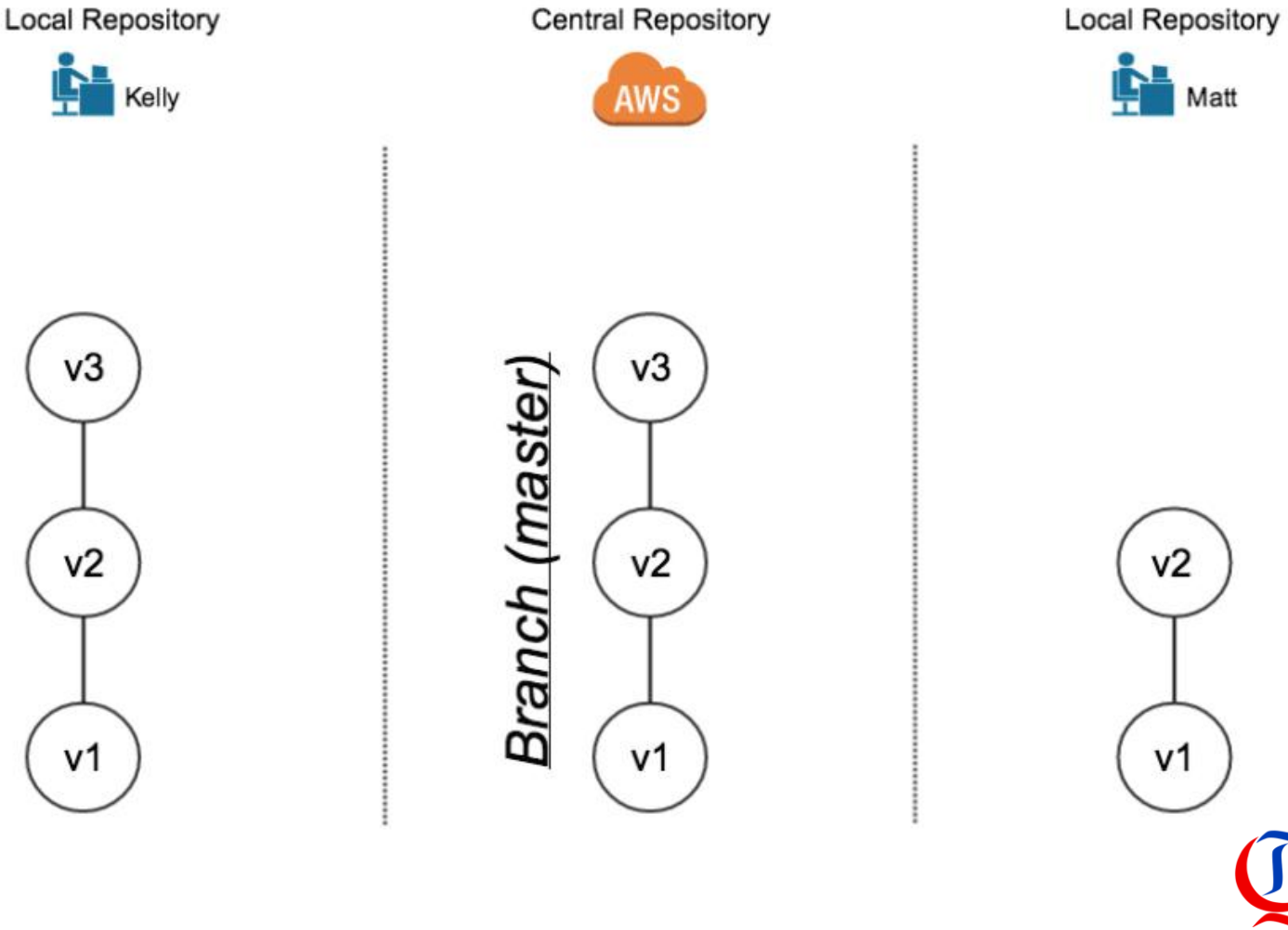

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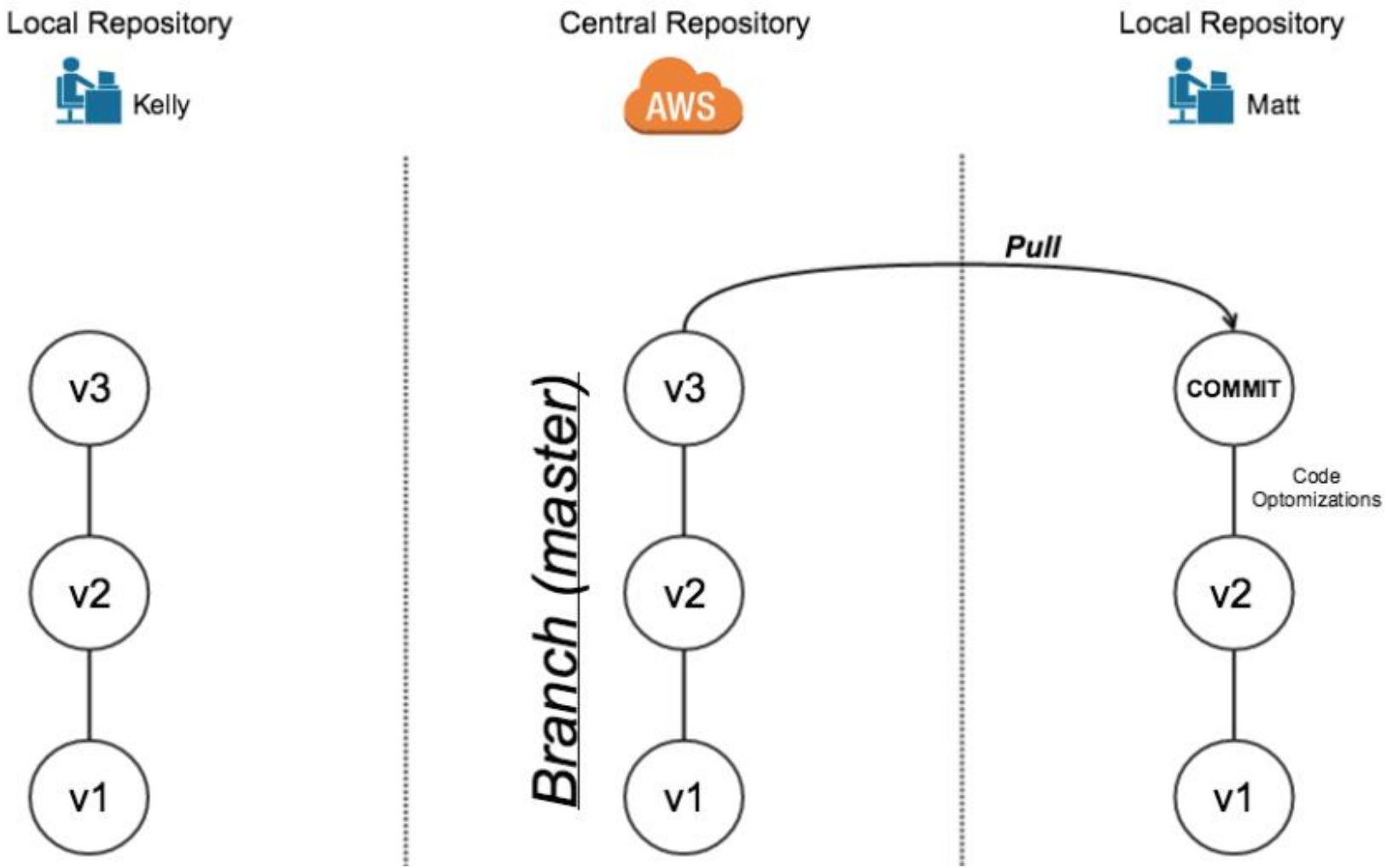
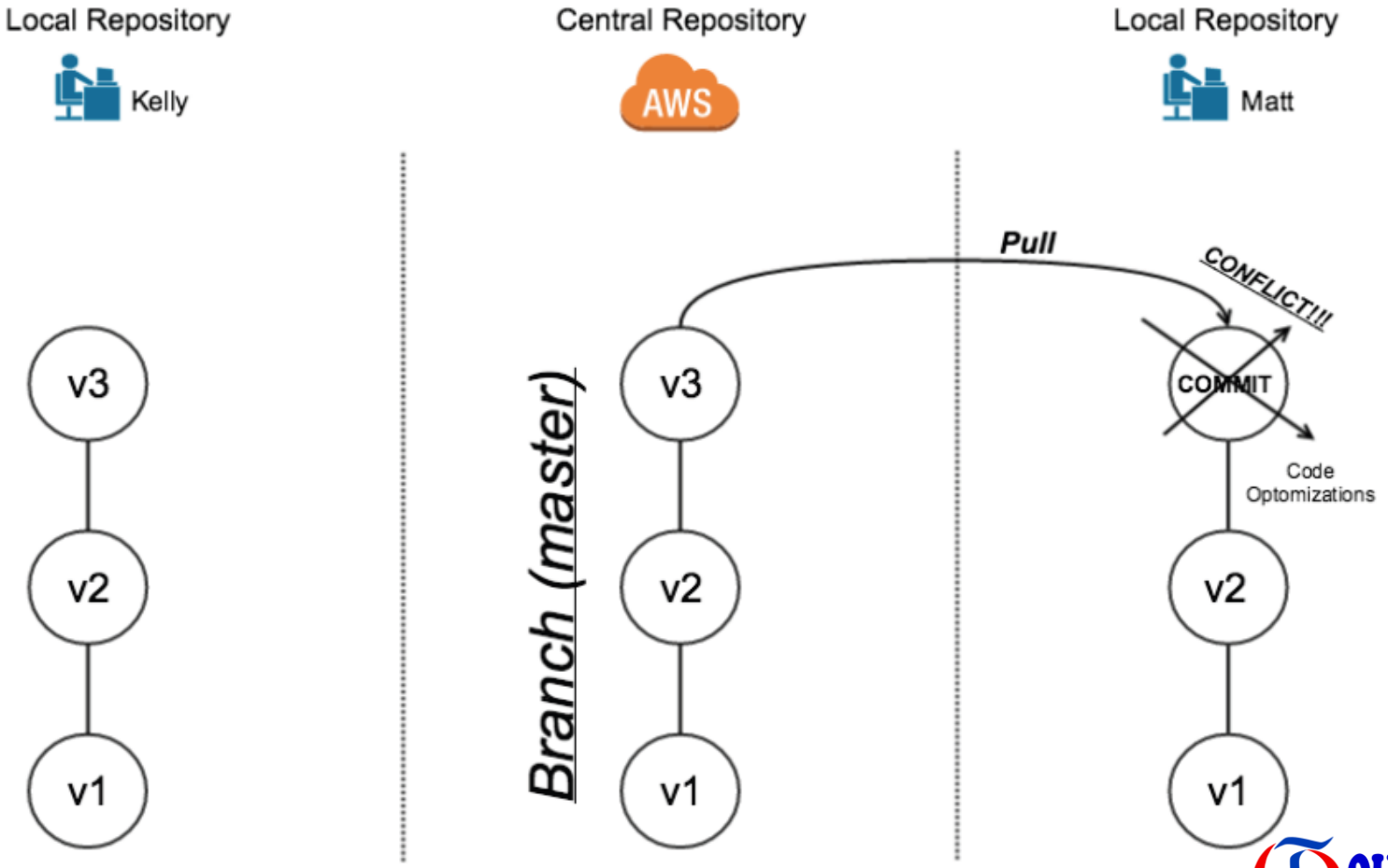

Local Repository
Kelly
Central Repository
AWS
Local Repository
Matt
Pull
Branch (master)
v3
v2
v1
v3
v2
v1
COMMIT
Code
Optomizations
v2
v1



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Setup & Configuration

- Tools we need to use CodeCommit
  - AWS CLI -> create, edit, delete, and view Repositories
  - Git -> clone, commit, push, pull, and create branches

- Communication Protocols
  - SSH
  - HTTPS

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Pricing

- Free Teir (first 5 active users)
  - Unlimited repositories
  - 50 GB per month of storage
  - 10,000 Git request per month

- $1 Per Month (each active user above the first 5)
  - Unlimited repositories
  - 10 GB per month of storage per active user
  - 2,000 Git request per month per active user

  For Example: If you have 8 active users, you totally bill will be $3, assuming you don't exceed any of the above limits.

- Overage
  - $0.06 per GB per month
  - $0.001 per Git request

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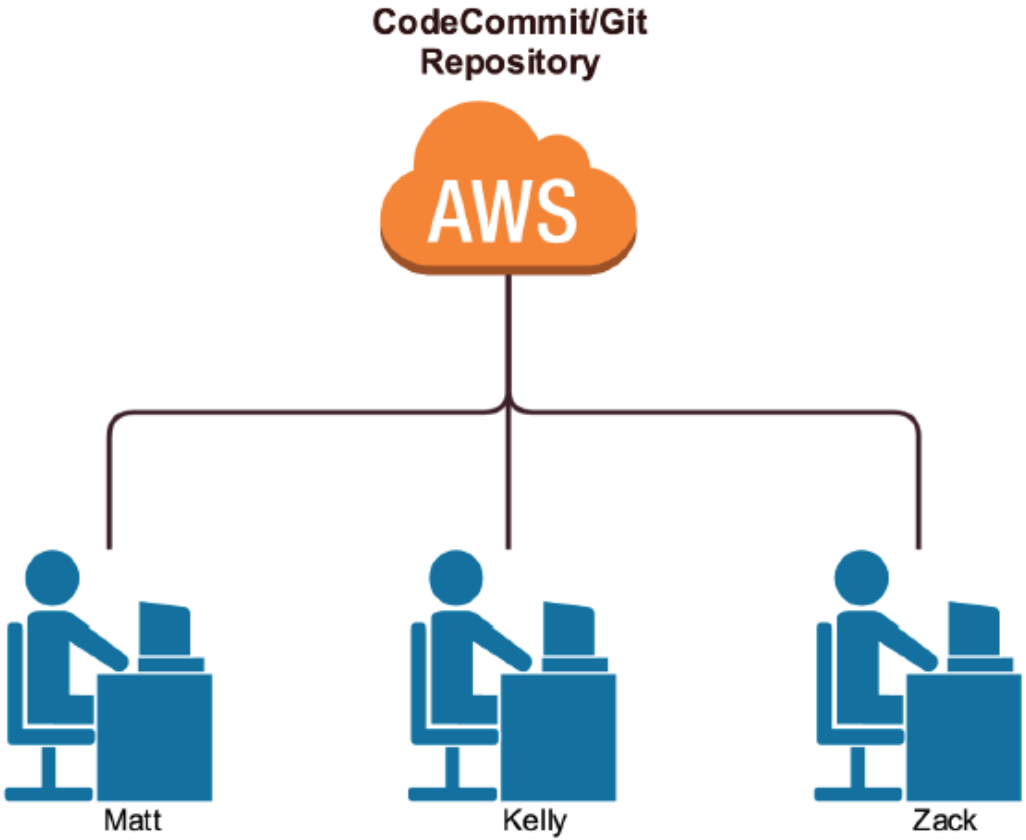
WonderWidgets Development Team



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HTTPS or SSH

- Functionally, both protocols are basically the same
  - git clone ***https***://git-codecommit.us-east-1.amazonaws.com/v1/repos/MyDemoRepo my-demo-repo
  - git clone ***ssh***://git-codecommit.us-east-1.amazonaws.com/v1/repos/MyDemoRepo my-demo-repo
- Storing and verifying credentials is a main point of difference
  - HTTPS: Credential Helper
  - SSH: RSA Key Pairs
- Port access (your firewall and network security)
  - HTTPS: Port 443
  - SSH: Port 22

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HTTPS or SSH

- HTTPS Pros:
  - Simple credential management
  - All data transfers are encrypted
  - Firewalls are often setup to allow traffic through port 443
- HTTPS Cons:
  - MAC OSX Keychain issues
- SSH Pros:
  - SSH is efficient
  - All data transfers are encrypted
- SSH Cons:
  - Credential management can be slightly more cumbersome
  - Firewalls can sometimes block port 22

HTTPS or SSH: Recommendation

- Windows & Linux: HTTPS
- Mac OSX: SSH (due to keychain issues)

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Windows

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STEPS

1. Install git
2. Install AWS CLI and configure in cli
3. Create a user with IAM Policy for Code Commit
4. Install AWS sdk for .net
5. Navigate to C:\Program Files (x86)\AWS Tools\CodeCommit
6. Launch command prompt and enter git-credential-AWSS4 and in prompted dialog enter ok
7. Git config --global --edit to check

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