**Developing and Deploying in the cloud**

- (Development in the cloud) Google Cloud offers various products and services for developing and deploying applications in the cloud. Users can store and manage source code using Git repositories, either through their own instances or using a hosted-Git provider. An alternative option is Cloud Source Repositories, which provides private Git repositories hosted on Google Cloud with IAM permissions for security. These repositories support collaborative development and integrate with Google Cloud diagnostic tools like Debugger and Error Reporting.

For event-driven applications, Cloud Functions offer a serverless solution. Developers can create small, single-purpose functions that respond to cloud events, such as image uploads, without managing a server. Cloud Functions support various programming languages, and developers are billed only while the code is running, based on the nearest 100 milliseconds.

Events from Cloud Storage and Pub/Sub can trigger Cloud Functions asynchronously, or HTTP invocation can be used for synchronous execution. This allows for seamless integration with various cloud services and the construction of application workflows from individual business logic tasks.

- (Deployment: Infrastructure as Code) Using Terraform in Google Cloud allows you to create templates written in HCL ( HashiCorp Configuration Language ) that define your application environment. These templates can be quickly deployed to create identical environments, and any changes can be easily made by updating the template and using Terraform to apply the changes. Storing these templates in Cloud Source Repositories enables version control and efficient collaboration. This approach streamlines the process of setting up and managing environments in Google Cloud.