TASK REPORT – 2

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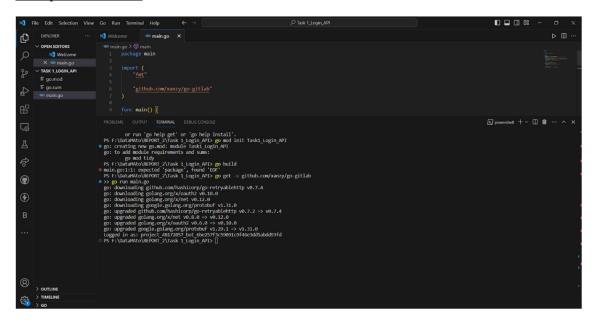
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TASK 1: how to login to GitLab using Golang

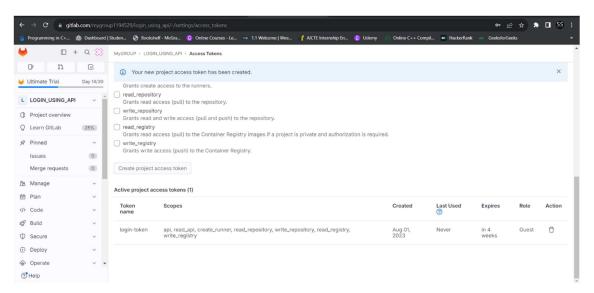
```
package main
import (
         "fmt"
         "github.com/xanzy/go-gitlab"
)
func main() {
         gitlabToken := "glpat-QYxpBHSxGp9xLEq8kB95"
         gitlabEndpoint := "https://gitlab.com" \mathbin{//} Or \ your \ GitLab \ instance
URL
         // Create a GitLab API client
git, err := gitlab.NewClient(gitlabToken, gitlab.WithBaseURL(gitlabEndpoint))
         if err != nil {
                   fmt.Println("Error creating GitLab client:", err)
                   return
         }
         // Test the API connection
         user, _, err := git.Users.CurrentUser()
         if err != nil {
                   fmt.Println("Error getting current user:", err)
                   return
```

```
// Print user details
fmt.Println("Logged in as:", user.Username)
}
```

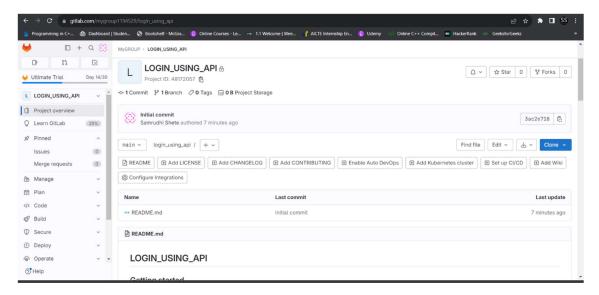
1.Output at Terminal



2.Personal Access Token used



3.Project

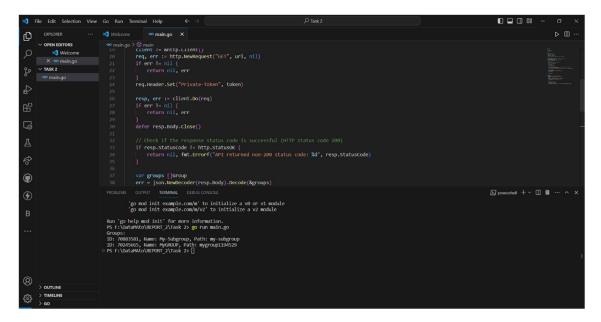


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TASK 2: how to call GitLab API in Golang

```
package main
import (
          "encoding/json"
          "fmt"
          "net/http"
// GitLab Group structure
type Group struct {
          ID int 'json:"id"'
          Name string 'json:"name"'
          Path string `json:"path"`
          // Add more fields as needed based on your requirements
}
// Function to call the GitLab API
func callGitLabAPI(url string, token string) ([]Group, error) {
          client := &http.Client{}
          req, err := http.NewRequest("GET", url, nil)
          if err != nil {
                    return nil, err
          req.Header.Set("Private-Token", token)
          resp, err := client.Do(req)
          if err != nil {
                    return nil, err
          defer resp.Body.Close()
          // Check if the response status code is successful (HTTP status code 200)
```

```
if resp.StatusCode != http.StatusOK {
                   return nil, fmt.Errorf("API returned non-200 status code: %d",
resp.StatusCode)
         }
         var groups []Group
         err = json.NewDecoder(resp.Body).Decode(&groups)
         if err != nil {
                   return nil, err
         return groups, nil
}
func main() {
         gitLabToken := "glpat-5zUAG25QXqFz7Muej\_Rf"
         gitLabURL := "https://gitlab.com/api/v4/groups"
         // Get a list of groups
         groups,\,err:=callGitLabAPI(gitLabURL,\,gitLabToken)
         if err != nil {
                   fmt.Println("Error getting groups:", err)
                   return
         // Print the list of groups
         fmt.Println("Groups:")
         for _, group := range groups {
                   fmt.Printf("ID: %d, Name: %s, Path: %s\n", group.ID,
group.Name, group.Path)
}
```



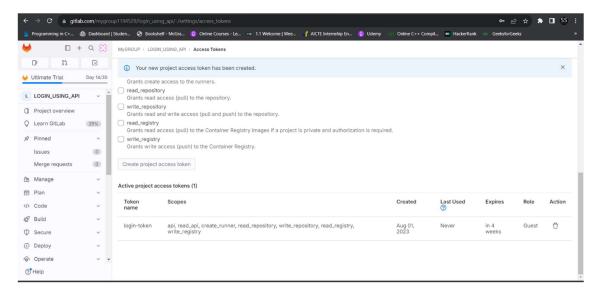
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TASK 3: how to create personal access token GitLab

Code:

YOUR_PROJECT >> Settings >> Access Token >> Generate project access token

Output:



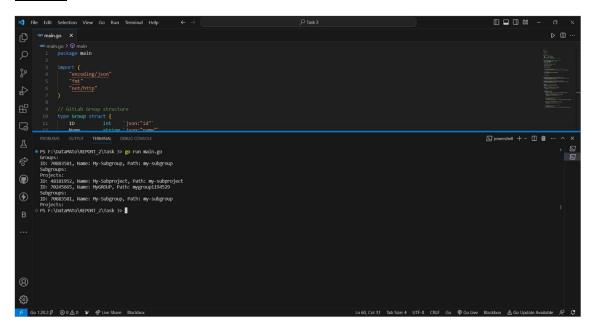
Issues: Completed Successfully

TASK 4,5 & 6: how to call groups and subgroup and projects in Gitlab using Golang API

```
package main
import (
          "encoding/json"
          "fmt"
          "net/http"
)
// GitLab Group structure
type Group struct {
          ID
                   int 'json:"id"'
          Name
                     string 'json:"name"'
          Path
                   string `json:"path"`
          Description string 'json:"description"`
          // Add more fields as needed based on your requirements
}
// Function to call the GitLab API
func callGitLabAPI(url string, token string) ([]Group, error) {
          client := \&http.Client\{\}
          req, err := http.NewRequest("GET", url, nil)
          if err != nil {
                    return nil, err
          req.Header.Set("Private-Token", token)
          resp, err := client.Do(req)
```

```
if err != nil {
                    return nil, err
          defer resp.Body.Close()
          // Check if the response status code is successful (HTTP status code 200)
          if resp.StatusCode != http.StatusOK {
                    return nil, fmt.Errorf("API returned non-200 status code: %d",
resp.StatusCode)
          }
          var groups []Group
          err = json.NewDecoder(resp.Body).Decode(&groups)
          if err != nil {
                    return nil, err
          return groups, nil
}
// Function to call the GitLab API and get subgroups for a specific group
func getSubgroupsForGroup(groupID int, token string) ([]Group, error) {
          subgroupsURL := \\
fmt.Sprintf("https://gitlab.com/api/v4/groups/%d/subgroups", groupID)
          return callGitLabAPI(subgroupsURL, token)
}
// Function to call the GitLab API and get projects for a specific group
func\ getProjectsForGroup(groupID\ int,\ token\ string)\ ([]Group,\ error)\ \{
          projectsURL := fmt. Sprintf("https://gitlab.com/api/v4/groups/%d/projects", \\
groupID)
          return callGitLabAPI(projectsURL, token)
}
```

```
func main() {
         gitLabToken := "glpat-5zUAG25QXqFz7Muej\_Rf"
         gitLabURL := "https://gitlab.com/api/v4/groups"
         // Get a list of groups
         groups, err := callGitLabAPI(gitLabURL, gitLabToken)
         if err != nil {
                   fmt.Println("Error getting groups:", err)
                   return
         // Print the list of groups
         fmt.Println("Groups:")
         for _, group := range groups {
                   fmt.Printf("ID: %d, Name: %s, Path: %s\n", group.ID,
group.Name, group.Path)
                   // Get subgroups for the current group
                   subgroups, err := getSubgroupsForGroup(group.ID, gitLabToken) \\
                   if err != nil {
                             fmt.Println("Error getting subgroups:", err)
                             return
                   // Print the list of subgroups for the current group
                   fmt.Println("Subgroups:")
                   for _, subgroup := range subgroups {
                             fmt.Printf("ID: %d, Name: %s, Path: %s\n",
subgroup.ID, subgroup.Name, subgroup.Path)
                   // Get projects for the current group
                   projects, err := getProjectsForGroup(group.ID, gitLabToken)
```



Issues: Completed Successfully

TASK 7: how to generate excel sheet with your Golang project

```
package main
//https://docs.gitlab.com/ee/integration/gitlab.html
import (
        "fmt"
        "math/rand"
        "strings"
        "time"
        "github.com/xuri/excelize/v2"
)
type Menu struct {
        itemNo uint
        itemName string
        itemPrice float64
}
var menu = []Menu{}
         {1, "Adrakh Chai", 20},
        {2, "Filter Coffee", 25},
        {3, "Chhas", 35.50},
         {4, "Lassi", 30},
         {5, "Mango Lassi", 60},
         {6, "Kadi Chaawal", 50},
```

```
{7, "Chhole Bhature", 45},
        {8, "Khasta Kachori", 30},
        {9, "Raj Kachori", 30},
        {10, "Veg. Sandwich", 20},
        {11, "Veg. Masala Maggi", 60.00},
        {12, "Samosa", 20},
        {13, "Cream Roll", 15},
}
var subTotalBill float64
var customerOrder = make(map[string]uint, 0)
func main() {
        var customerName string
        fmt.Println("Welcome here.....")
        fmt.Println("What is your first name?")
        fmt.Scan(&customerName)
        greet(customerName)
        orderItems()
        displayGeneratingBill()
        generateBill()
        modifyOrder()
        printFinalBill(customerName)
        sayTata(customerName)
        // Save order data to Excel file
        // Save order data to Excel file
        err := saveOrderDataToExcel(customerName)
        if err != nil {
```

```
fmt.Println("Failed to save order data to Excel:", err)
                  return
        fmt.Println("Order data saved to Excel successfully!")
}
func greet(customerName string) {
        fmt.Printf("%52s %s\n", "Namaste ", customerName)
        fmt.Printf("%72s\n", "_/\\_ Welcome to Jaipur Bhojanalya! _/\\_ ")
        fmt.Println()
}
func sayTata(customerName string) {
        fmt.Println()
        fmt.Printf("%17s", " ")
        fmt.Printf("\_\wedge \backslash\_ Thank\ you\ \%v\ for\ visiting\ Jaipur\ Bhojanalya!
_/\\_\n", customerName)
        fmt.Printf("%55s\n", "We hope to see you again!")
        fmt.Printf("%51s\n", "Have a nice day! ")
func orderItems() {
        printMenu()
        var itemNumber uint
        var noOfPlates uint
        for {
                  fmt.Println()
                  fmt.Println("Enter '0' to exit.")
                  fmt.Print("Enter the serial no. of the item to order: ")
```

```
if itemNumber == 0 {
                         break
                 var choiceName string
                 var itemPrice float64
                 for index, item := range menu {
                         if index+1 == int(itemNumber) {
                                  choiceName = item.itemName
                                  itemPrice = item.itemPrice
                                  break
                         }
                 fmt.Printf("How many %v do you want: ", choiceName)
                 fmt.Scan(&noOfPlates)
                 if noOfPlates == 0 {
                         continue
                 } else {
                         for index := range menu {
                                  if index+1 == int(itemNumber) {
                                          customerOrder[choiceName] +=
noOfPlates
                                          subTotalBill += itemPrice *
float64(noOfPlates)
                                          break
                                  }
                         fmt.Printf("\nYou just ordered %v %v which
amounts to ₹%v.\n", noOfPlates, choiceName,
itemPrice*float64(noOfPlates))
```

fmt.Scan(&itemNumber)

```
orderTillNow()
                 }
                 fmt.Println()
        }
}
func orderTillNow() {
        fmt.Println("\nYour order till now: ")
        fmt.Printf("%s\n", strings.Repeat("-", 32))
        fmt.Printf(" %-12s %s\n", "Quantity", "Item")
        fmt.Printf("%s\n", strings.Repeat("-", 32))
        for i := range customerOrder {
                 fmt.Printf(" %-12v %v\n", customerOrder[i], i)
        }
        fmt.Printf("%s\n", strings.Repeat("-", 32))
}
func modifyOrder() {
        for {
                 var isOrderOK string
                 fmt.Println("Do you want to change your order? [y/n]")
                 fmt.Scan(&isOrderOK)
                 if isOrderOK != "y" {
                          return
                 var serialNo uint
                 var modifyType uint
```

```
fmt.Println("Please enter the respective number to
proceed:")
                  fmt.Println("Press '1' to update item quantity.")
                  fmt.Println("Press '2' to delete an item from the order list.")
                  fmt.Println("Press '3' to add item(s) to the order list.")
                  fmt.Scan(&modifyType)
                  switch modifyType {
                  case 1:
                           printMenu()
                           fmt.Println("Please enter the serial no. of the item
to be updated: ")
                           fmt.Scan(&serialNo)
                           updateQuantity(serialNo)
                  case 2:
                           printMenu()
                           fmt.Println("Please enter the serial no. of the item
to be deleted: ")
                           fmt.Scan(&serialNo)
                           delFromOrder(serialNo)
                  case 3:
                           insertIntoOrder()
                  default:
                           return
                  displayGeneratingBill()
                  generateBill()
         }
}
```

```
func updateQuantity(serialNo uint) {
        var newQuantity uint
        for _, targetItem := range menu {
                 if serialNo == targetItem.itemNo {
                         itemName := targetItem.itemName
                         oldQuantity := customerOrder[itemName]
                         fmt.Printf("Current quantity of %v is %v.\n",
itemName, oldQuantity)
                         fmt.Printf("Enter the updated quantity of %v to be
ordered: \n", itemName)
                         fmt.Scan(&newQuantity)
                         if newQuantity == 0 {
                                  delFromOrder(serialNo)
                                  return
                         customerOrder[targetItem.itemName] =
newQuantity
                         fmt.Printf("Updated the quantity of %v from %v
to %v.\n", itemName, oldQuantity, newQuantity)
                         subTotalBill -= float64(oldQuantity) *
float64(targetItem.itemPrice)
                         subTotalBill += float64(newQuantity) *
float64(targetItem.itemPrice)
                         break
```

```
func delFromOrder(serialNo uint) {
        for _, targetItem := range menu {
                if serialNo == targetItem.itemNo {
                         itemName := targetItem.itemName
                         subTotalBill -=
float64(customerOrder[itemName]) * float64(targetItem.itemPrice)
                         delete(customerOrder, itemName)
                         fmt.Printf("%v removed from the order list.\n",
itemName)
                         break
}
func insertIntoOrder() {
        orderItems()
func printMenu() {
        fmt.Printf("%15s\n", "Menu")
        fmt.Printf("%s\n", strings.Repeat("-", 35))
        fmt.Printf("%-7s %6s %12s\n", "S.No.", "Price", "Item Name")
        fmt.Printf("%s\n", strings.Repeat("-", 35))
        for _, element := range menu {
                fmt.Printf(" %-7d %.2f %-4s\n", element.itemNo,
element.itemPrice, element.itemName)
        }
```

```
fmt.Printf("%s\n", strings.Repeat("-", 35))
         fmt.Println()
}
// just beautifying my code :P
func displayGeneratingBill() {
        fmt.Println()
        billDisplayText := "************************
Generating Bill *********
         for _, element := range billDisplayText {
                 fmt.Printf("%c", element) // if you use "%v" instead of
"%c" then convert element into string, as shown in the comment below
                 // fmt.Print("%v", string(element))
                 time.Sleep(time.Millisecond * 15)
        }
}
// prints item name, price, quantity and total price and sub total amount.
func generateBill() {
        fmt.Println()
        fmt.Printf("+%s+\n", strings.Repeat("-", 90))
         fmt.Printf(" %-30s %-20s %-20s %-20s\n", "Item Name",
"Price(₹)", "Quantity", "Total Price(₹)")
        fmt.Printf("+%s+\n", strings.Repeat("-", 90))
        //prints the details of the food item that you've ordered.
        printOrderData()
        fmt.Printf("+%s+\n", strings.Repeat("-", 90))
```

```
//print sub total amount in a cool way!
         fmt.Printf("%47s", " ")
         for _, element := range "Sub Total(excluding GST): ₹" {
                  fmt.Printf("%c", element)
                  time.Sleep(time.Millisecond * 50)
         fmt.Printf("%.2f\n", subTotalBill)
// prints the data of the items that you ordered.
func printOrderData() {
         for key := range customerOrder {
                 //key -> it is the key values
                  for _, element := range menu {
                          if key == element.itemName {
                                   //customerOrder[key] -> will provide the
no. of plates of that item
         //float64(customerOrder[key])*element.itemPrice -> this will result
in the cost of each item
                                   totalCostOfItem :=
float64(customerOrder[key]) * element.itemPrice
                                   fmt.Printf(" %-30s %-20.2f %-20v %-
20.2f\n", key, element.itemPrice, customerOrder[key], totalCostOfItem)
         fmt.Println()
}
func printFinalBill(customerName string) {
```

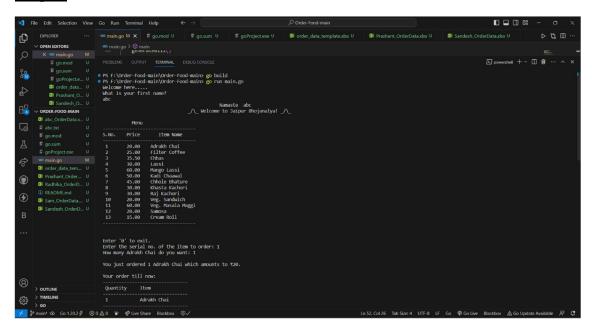
```
for , element := range "Here is your final bill:-" {
                 fmt.Printf("%c", element)
                 time.Sleep(time.Millisecond * 50)
        fmt.Println()
        fmt.Printf("\n%52s\n", "JAIPUR BHOJANALYA")
        time.Sleep(time.Millisecond * 200)
        fmt.Printf("%s\n", strings.Repeat("*", 91))
        time.Sleep(time.Millisecond * 200)
        fmt.Printf("%86s\n", "Bhawani Singh Road, First Floor, Jaipur
Bhojanalya, Jaipur, Jaipur 302005, Bharat")
        time.Sleep(time.Millisecond * 200)
        fmt.Printf("%50s\n", "Tel: 92145623XX")
        fmt.Printf("%60s\n\n", "Email: jaipur.bhojanalaya@gmail.com")
        time.Sleep(time.Millisecond * 200)
        fmt.Printf("%s", strings.Repeat("-", 42))
        fmt.Printf("%s", "INVOICE")
        fmt.Printf("%s\n", strings.Repeat("-", 42))
        time.Sleep(time.Millisecond * 200)
        rand.Seed(time.Now().Unix()) //necessary to produce random
integers
        fmt.Printf(" Ticket No: %d\n", rand.Intn(550)+1)
        fmt.Printf(" Date: %v\n", time.Now().Local().Format("06-Jan-02"))
//display date
        fmt.Printf(" Time: %v", time.Now().Local().Format("3:4 PM"))
//display time
        time.Sleep(time.Millisecond * 200)
        generateBill() //prints details of the bill, like, item name, price,
```

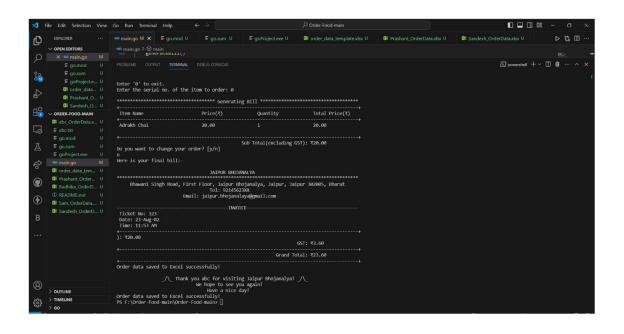
quantity and total price and sub total amount.

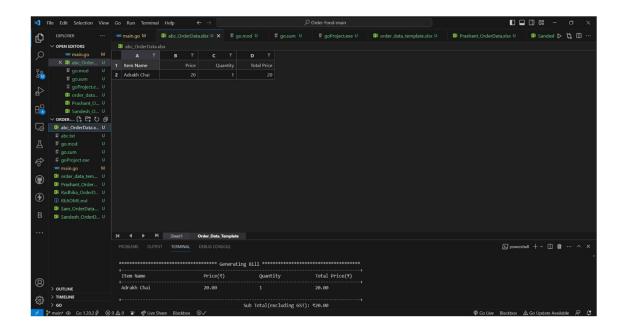
```
tax := 18 * subTotalBill / (100)
         grandTotal := subTotalBill + tax
         time.Sleep(time.Millisecond * 200)
         fmt.Printf("%71s: ₹%.2f\n", "GST", tax) //display tax amount
         fmt.Printf("+%s+\n", strings.Repeat("-", 90))
         time.Sleep(time.Millisecond * 200)
         fmt.Printf("%71s: ₹%.2f\n", "Grand Total", grandTotal) //display
final bill
         fmt.Printf("+%s+\n", strings.Repeat("-", 90))
         err := saveOrderDataToExcel(customerName)
         if err != nil {
                  fmt.Println("Failed to save order data to Excel:", err)
                  return
         fmt.Println("Order data saved to Excel successfully!")
}
// Funstion to call the gitlab api
// here the function is for to make the api call and retrieve data
// Personal access token
// glpat-7yDJQhx6ngTqdusLzksK
///excel file
// Function to save order data to Excel file
func saveOrderDataToExcel(customerName string) error {
```

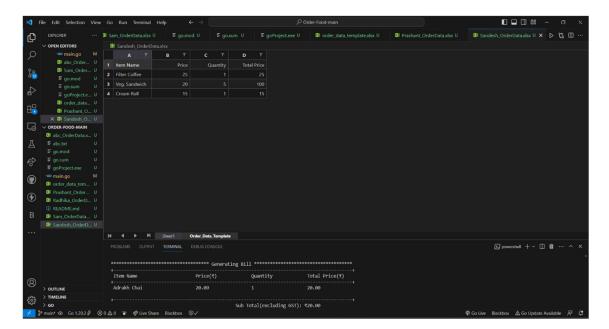
```
file := excelize.NewFile()
        sheetName := "Order_Data_Template"
        // Create a new sheet
        index, err := file.NewSheet(sheetName)
        if err != nil {
                 return err
        // Set the column headers
        file.SetCellValue(sheetName, "A1", "Item Name")
        file.SetCellValue(sheetName, "B1", "Price")
        file.SetCellValue(sheetName, "C1", "Quantity")
        file.SetCellValue(sheetName, "D1", "Total Price")
        // Write the order data to the sheet
        row := 2
        for key, value := range customerOrder {
                 itemName := key
                 quantity := value
                 itemPrice := getItemPrice(itemName)
                 totalPrice := itemPrice * float64(quantity)
                 file.SetCellValue(sheetName, fmt.Sprintf("A%d", row),
itemName)
                 file.SetCellValue(sheetName, fmt.Sprintf("B%d", row),
itemPrice)
                 file.SetCellValue(sheetName, fmt.Sprintf("C%d", row),
quantity)
                 file.SetCellValue(sheetName, fmt.Sprintf("D%d", row),
totalPrice)
```

```
row++
        }
        // Set the active sheet
        file.SetActiveSheet(index)
        // Save the Excel file
        err = file.SaveAs(customerName + "\_OrderData.xlsx")
        if err != nil {
                 return err
        return nil
}
func getItemPrice(itemName string) float64 {
        for \_, item := range menu {
                 if\ item.itemName == itemName\ \{
                          return item.itemPrice
                 }
        }
        panic(fmt.Sprintf("Item '%s' not found in the menu.", itemName))
}
```









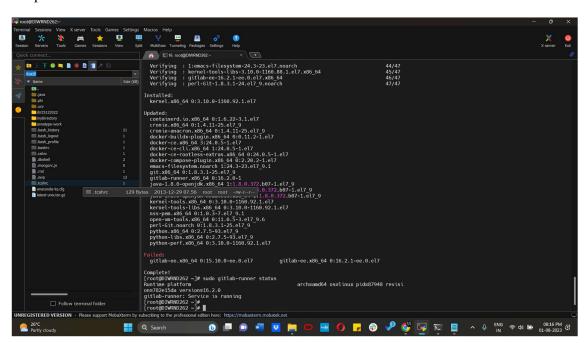
Issues: Completed Successfully

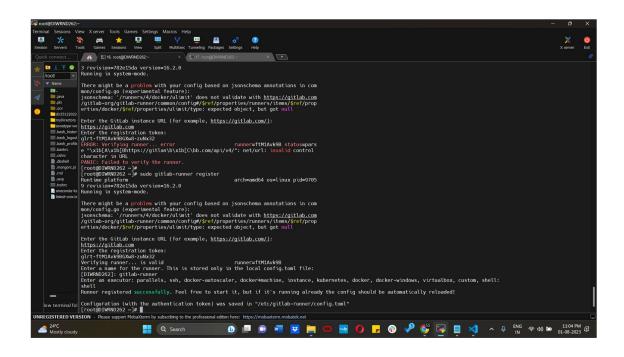
TASK 8 & 9: how to build run go project using CICD

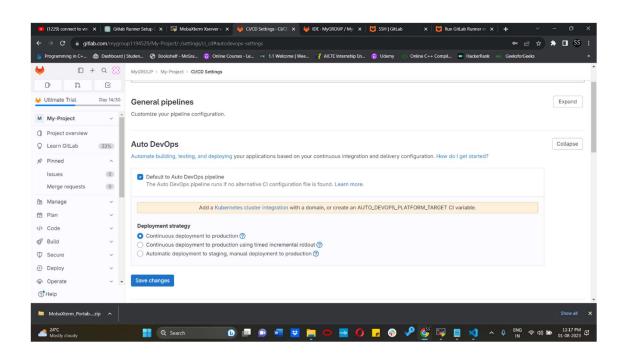
Code:

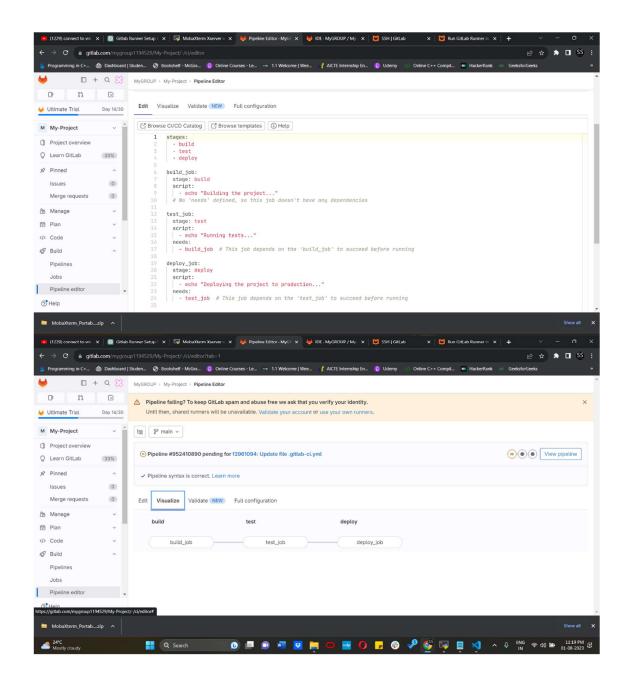
```
stages:
  - build
  - test
  - deploy
build job:
  stage: build
  script:
   - echo "Building the project..."
  # No 'needs' defined, so this job doesn't have any dependencies
test job:
  stage: test
  script:
   - echo "Running tests..."
  needs:
   - build_job  # This job depends on the 'build_job' to succeed before
running
deploy_job:
  stage: deploy
  script:
   - echo "Deploying the project to production..."
  needs:
    - test job # This job depends on the 'test job' to succeed before
running
```

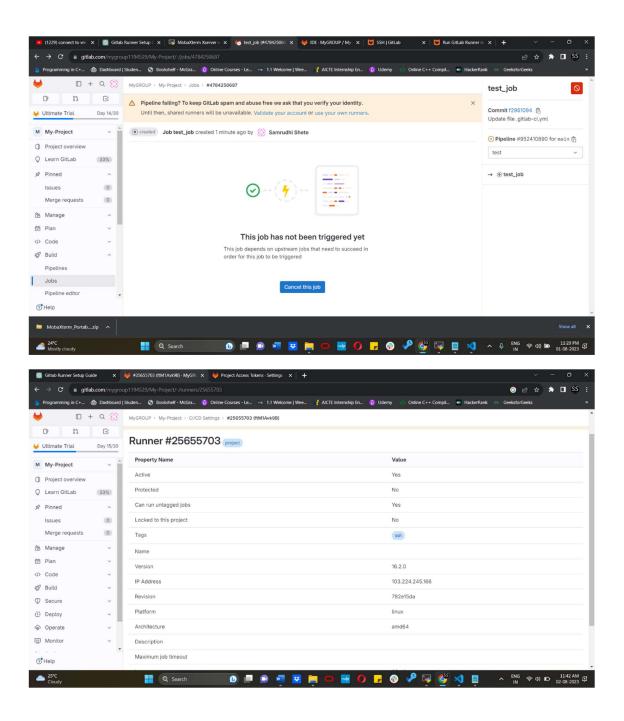
Output:

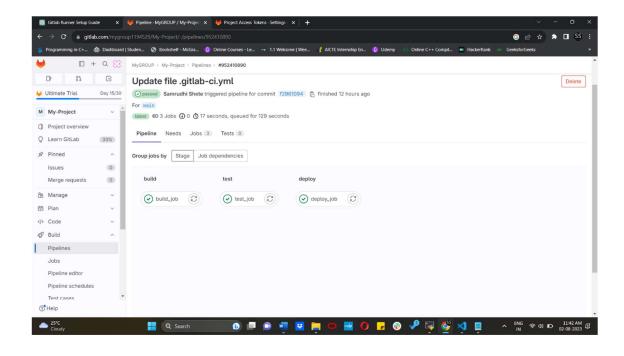


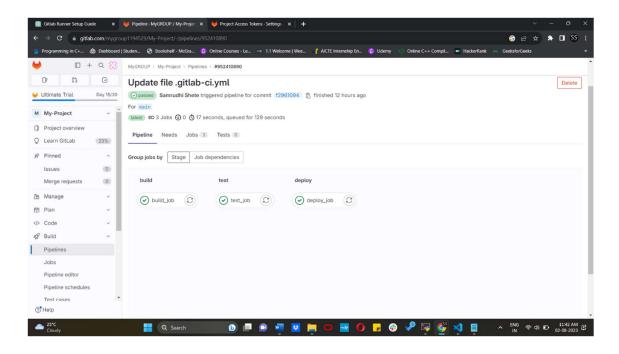


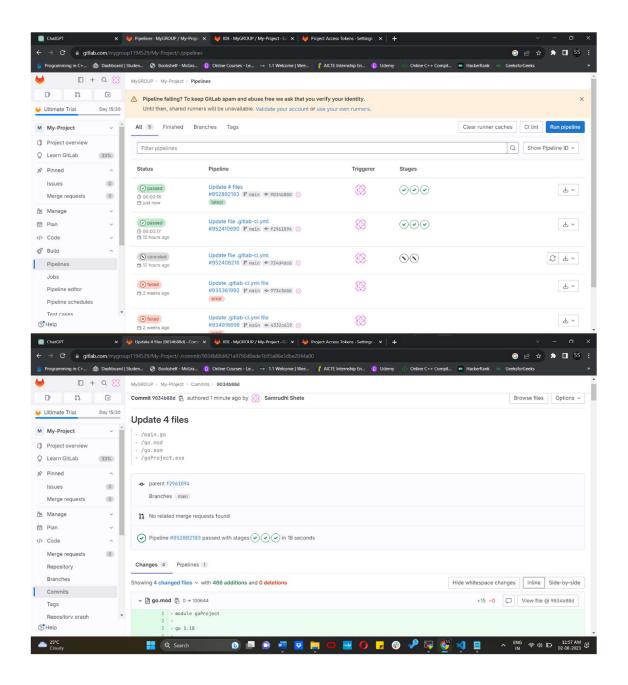


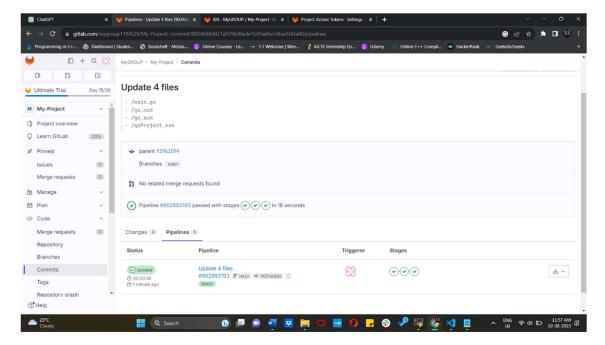












Issues: Completed Successfully

TASK 10: how to perform git local operations

Code:

- Initialize a New Repository git init
- Stage Files for Commit:

```
# Stage all changes
git add .
```

Stage specific files

git add file1 file2

• Check Repository Status:

git status

• View Commit History:

git log

• Create a Branch:

git branch new-branch-name

• Merge Branches:

git merge branch-name

• Create and Apply Patches:

```
git format-patch commit-hash # Create patch
git apply patch-file # Apply patch
```

View Differences:

git diff # Show differences between working tree and staged changes

```
Microsoft Windows [Version 10.0.22621.1992]
(c) Microsoft Corporation. All rights reserved
 F:\Order-Food-main\Order-Food-main>git init
Reinitialized existing Git repository in F:/Order-Food-main/Order-Food-main/.git/
F:\Order-Food-main\Order-Food-main>git add .
warning: LF will be replaced by CRLF in main.go.
The file will have its original line endings in your working directory
warning: LF will be replaced by CRLF in go.mod.
The file will have its original line endings in your working directory
warning: LF will be replaced by CRLF in go.sum.
The file will have its original line endings in your working directory
     :\Order-Food-main\Order-Food-main>git add main.go
 F:\Order-Food-main\Order-Food-main>git add main.go
F:\Order-Food-main\Order-Food-main>git status
On branch main
Changes to be committed:

(use "git restore --staged <file>..." to unstage)

new file: Prashant_OrderData.xlsx

new file: Radhika_OrderData.xlsx

new file: Radhika_OrderData.xlsx

new file: Sandesh_OrderData.xlsx

new file: Sandesh_OrderData.xlsx

new file: abc_OrderData.xlsx

new file: go.mod

new file: go.sum

new file: go.sum

new file: go.sum

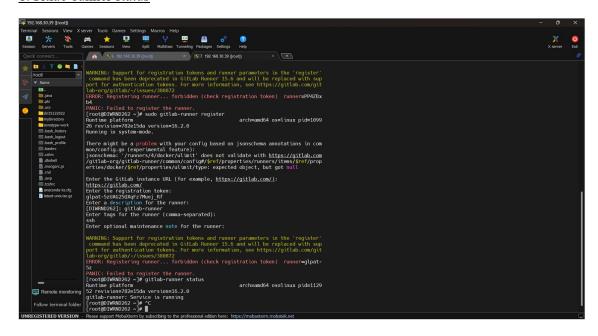
new file: go.sum

new file: order_data_template.xlsx
F:\Order-Food-main\Order-Food-main>git log
commit d635b83ee413b6821657661eb3c9c7ec1eca9bf (HEAD -> main)
Author: Samrudhi00 <shetesamrudhi5990gamail.com>
Date: Tue Jul 18 17:01:02 2023 +0530
          Update GitLab URLs
F:\Order-Food-main\Order-Food-main>git cheakout newbranch
git: 'cheakout' is not a git command. See 'git --help'.
The most similar command is checkout
 F:\Order-Food-main\Order-Food-main>git format-patch commit-hash
fatal: ambiguous argument 'commit-hash': unknown revision or path not in the working tree.
Use '--- to separate paths from revisions, like this:
'git <command> [<revision>...] -- [<file>...]'
 F:\Order-Food-main\Order-Food-main>git apply patch-file error: can't open patch 'patch-file': No such file or directory
 F:\Order-Food-main\Order-Food-main>git apply patch-file error: can't open patch 'patch-file': No such file or directory
   ::\Order-Food-main\Order-Food-main>git diff
   F:\Order-Food-main\Order-Food-main>git status
  F: \Order=Food main \(\text{Close}\); \\ \text{Order}\) on branch main \(\text{Changes to be committed}\); \(\text{(use "git restore --staged <file>..." to unstage)}\)
\[
\text{(use "git restore --staged <file>..." to unstage)}\]
                       "git restore --staged file>.."
rem file:
Prashant_OrderData.xlsx
new file:
READNE.ad
new file:
Radhika_OrderData.xlsx
new file:
Sam_OrderData.xlsx
new file:
Sam_OrderData.xlsx
new file:
abc.txt
new file:
do.TderData.xlsx
new file:
go.DrderData.xlsx
new file:
go.sum
new file:
go.sum
new file:
go.sum
new file:
doffied:
abain_go
new file:
order_data_template.xlsx
  F:\Order-Food-main\Order-Food-main>
```

Issues: Completed Successfully

TASK 11: OpenVPN and Monotreme

1.Gitlab-runner status



2. SSH Key

