

Jenkins R Build Support.

Pre-requisites for Creating a R application repo on Bit-Bucket.

1. Bit-Bucket for repository.
2. R studio or R compiler.
3. Installation process of R studio on Linux/Windows.
4. Run the application.

Process of Bit bucket repo creation.

Requirements for the creation of Bit bucket

Account of Bit bucket.

1. Credentials to login.

A bare repository is created .

Git clone <http://novartis.devops.altimetrik.io:7990/scm/r/r-helloworld.git> to clone the bare repository in the local machine.

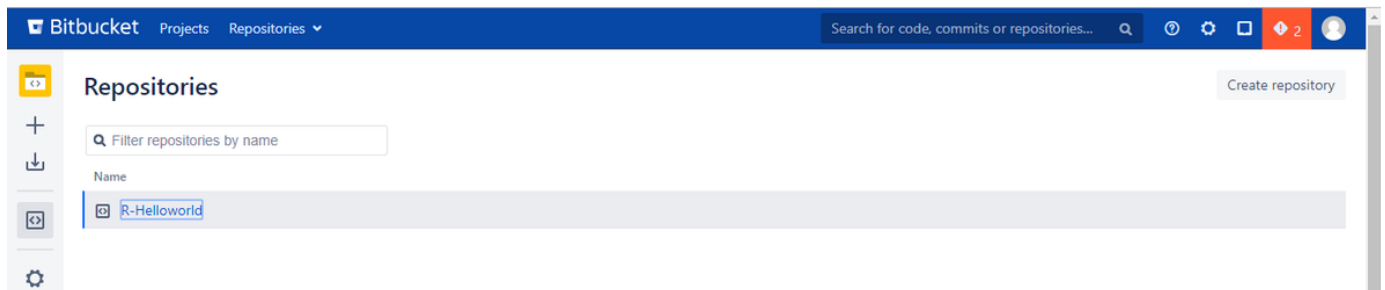
User creation on the bare repository.

```
git config --global user.name "prasad"
git config --global user.email "pmoka@altimetrik.com"
```

Work with repository to push the code with remote

```
cd existing-project
git init
git add --all
git commit -m "Initial Commit"
git remote add origin http://novartis.devops.altimetrik.io:7990/scm/r/r-helloworld.git
git push -u origin master
```

Once the "git push" command is triggered the push to the repository in the bit bucket.



Setup of R compiler and R studio on Bit bucket.

Install R studio on the Windows environment.

Provide the details of the cloned project in the local environment.

The screenshot shows the RStudio interface. The top menu bar includes File, Edit, Code, View, Plots, Session, Build, Debug, Profile, Tools, and Help. Below the menu is a toolbar with icons for file operations and a search bar labeled 'Go to file/function'. The main editor window displays a script named 'helloworld.R' with the following content:

```
1  
2 print("helloworldR from R")  
3  
4  
5  
6
```

The line `print("helloworldR from R")` is circled in red. The status bar at the bottom of the editor shows '3:1 (Top Level)' and 'R Script'. Below the editor is a console window with the following output:

```
~/prasad/  
'help.start()' for an HTML browser interface to help.  
Type 'q()' to quit R.  
  
[workspace loaded from ~/prasad/.RData]  
  
>  
>  
> print("helloworldR from R")  
[1] "helloworldR from R"  
>  
> print("helloworldR from R")  
[1] "helloworldR from R"  
> print("helloworldR from R")  
[1] "helloworldR from R"
```

The execution of the `print` statements is circled in red.

Install R Packages on Linux environment and run the cloned program of hello world from the repo

git clone <http://novartis.devops.altimetrik.io:7990/scm/r/r-helloworld.git>

Rscript helloworld.R

Repository used for creating testing and packaging the code available

code for multiplication :

```
new.function <- function(a,b) {
result <- a * b
print(result)
}
```

Code used for testing:

```
for(a in 0:100)
for (b in 0:100)
new.function(a,b)
```

Explanation for code to be executed for test cases:

The function function(a,b) is being assigned to the new.function()

Function can be called and executed or tested multiple times on Jenkins.

The new function can called once packaged

Command : Rscript test.R

Invoke the interpreter present on the machine and Jenkins Slave.

Jenkins pipeline with Poll SCM ,Compilation and Package.

```
//SCRIPT : CONFIGURATION
node ('slave1') {

    //Node Configuration which contains slave internally which has R interpreter installed
    //Node: The node needs to be present online to run the job smoothly

    //STAGE : POLL SCM
    stage("POLL SCM") {
        git credentialsId: 'fefe1963-b4e0-4d09-bd5b-f8a95b934ce0', url: 'http://novartis.devops.altimetrik.io:7990/scm/rtes/r-mul.git'
    }

    //To Provide the details of the Repository configured and provide credential details for the URL.
    //STAGE COMPILATION
    stage("compile") {
        sh label: '', script: 'Rscript /home/jenkins/workspace/Jenkins_pipeline_R/Rmul/R/test.R'
    }

    //To invoke the script present on the Repository
    //Stage : Package
    stage("Package"){
        sh label: '', script: 'R CMD build /home/jenkins/workspace/Jenkins_pipeline_R/Rmul/R --save'
    }

    //To provide the details of the nexus repository and push the artifact to the nexus.
    //Stage: Deploy/upload to artifact
    stage("Deploy"){
        nexusArtifactUploader artifacts: [[artifactId: 'com.nova', classifier: '', file: '/home/jenkins/workspace/Jenkins_pipeline_R/Rmul_0.1.0.tar.gz', type:
        'tar.gz']], credentialsId: 'nexus', groupId: 'com.nova', nexusUrl: 'novartis.devops.altimetrik.io:8082',
        nexusVersion: 'nexus3', protocol: 'http',
        repository: 'Rproject', version: '${BUILD_NUMBER}'
    }
}
```