# Git and Github

## Introduce the problem to be solved

## What is GIT?

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1. Developers have programming projects in a directory structure:

**/RobotErnie**

/src

file1.java file2.java

/bin

1. Many people manage multiple versions by creating multiple copies of the directory structure

**/RobotErnieOriginal**

/src

file1.java file2.java

/bin

**/RobotErnieBack**

/src

file1.java file2.java

/bin

**/RobotErnieCompetition**

/src

file1.java file2.java file3.java

/bin

* The problem is it is hard to remember what changes were made to each version (folder)
* If you make a change to one folder structure, it is hard to know if the change made it into other folders/versions.

## What is GIT?

**Git** is a distributed version control system

* Records changes to files over time – **in one folder**
* Ability to retrieve files at certain point in time (backup)
* Work on new features (experimental) without messing up the “master” code. (i.e. branches)
* Easily collaborate with other developers

## Install Git

Install Git from here: <https://git-scm.com/downloads>

## Initalize Git

git –version

// set user.name and user.email

git config –global user.name tomharron

git config –global user.email [tom.harron@sap.com](mailto:tom.harron@sap.com)

// display my user name

git config user.name

// initialize git for one of your project

cd /your/project/folder

git init

// show all file (even hidden files)

ls -a

## Basic commands

// show status of your files

Git status