

Module 7 - Security with Jenkins

Securing Jenkins

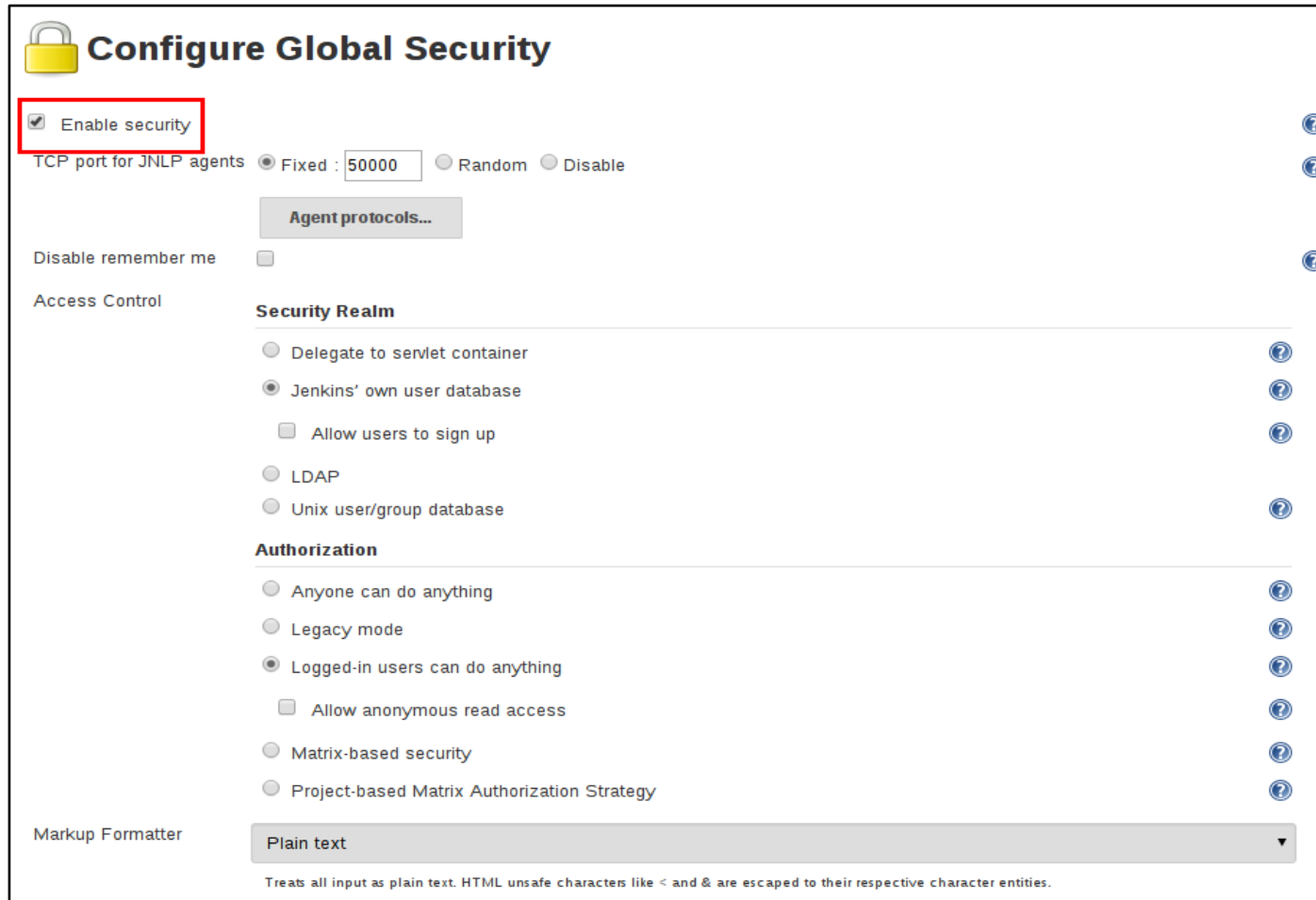
In the default configuration of Jenkins , Jenkins does not perform any security checks.

Securing Jenkins helps with the below:

- Access control, which ensures users are authenticated when accessing Jenkins and their activities are authorized.
- Protecting Jenkins against external threats.

Enabling Security

- The Enable Security section of the web UI allows a Jenkins administrator to enable, configure, or disable key security features which apply to the entire Jenkins environment.



Configure Global Security

☒ Enable security

TCP port for JNLP agents: ☒ Fixed : 50000 ☐ Random ☐ Disable

Agent protocols...

Disable remember me: ☐

Access Control

Security Realm

☐ Delegate to servlet container

☒ Jenkins' own user database

☐ Allow users to sign up

☐ LDAP

☐ Unix user/group database

Authorization

☐ Anyone can do anything

☐ Legacy mode

☒ Logged-in users can do anything

☐ Allow anonymous read access

☐ Matrix-based security

☐ Project-based Matrix Authorization Strategy

Markup Formatter: Plain text

Treats all input as plain text. HTML unsafe characters like < and & are escaped to their respective character entities.

Ref: <https://www.jenkins.io/doc/book/managing/security/>

Role Strategy Plugin


The Role Strategy plugin is meant to be used from Jenkins to add a new role-based mechanism to manage users' permissions. Supported features

- Creating global roles, such as admin, job creator, anonymous, etc., allowing to set Overall, Slave, Job, Run, View and SCM permissions on a global basis.
- Creating project roles, allowing to set only Job and Run permissions on a project basis.
- Creating agent roles, allowing to set node-related permissions.
- Assigning these roles to users and user groups
- Extending role and permissions matching via Macro extensions

Role Strategy Plugin –Install and Enable

- The Role Strategy plugin can be installed from any Jenkins installation connected to the Internet using the Plugin Manager screen. Activate the Role-Based Strategy by using the standard *Manage Jenkins > Manage Global Security* screen:

Authorization

- ☐ Anyone can do anything 
- ☐ GitHub Committer Authorization Strategy 
- ☐ Legacy mode 
- ☐ Logged-in users can do anything 
- ☐ Matrix-based security 
- ☐ Project-based Matrix Authorization Strategy 
- ☒ Role-Based Strategy 

Manage and Assign Roles

- Global roles apply to any item in Jenkins and override anything you specify in the Project Roles.
- For project and agent roles you can set a regular expression pattern for matching items. The regular expression aimed at matching the full item name.
- For example, if you set the field to `Roger-.*`, then the role will match all jobs which name starts with `Roger-`.
- Patterns are case-sensitive. To perform a case-insensitive match, use `(?i)` notation: upper, `Roger-.*` vs. lower, `roger-.*` vs. case-insensitive, `(?i)roger-.*`.
- Folders can be matched using expressions like `^foo/bar.*`

Manage Roles



Manage Roles

Global roles

Role	Overall		Slave		Job						Run			View			SCM
	Administer	Read	Configure	Delete	Create	Delete	Configure	Read	Build	Workspace	Delete	Update	Artifacts	Create	Delete	Configure	Tag
admin	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
anonymous	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
job-creator	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Role to add

Add

Project roles

Role	Pattern	Job					Run		
		Delete	Configure	Read	Build	Workspace	Delete	Update	Artifacts
		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Sample	Sample.*	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Role to add

Pattern

Add

Save

Adding Roles for users

- User groups represent authorities provided by the Security Realm (e.g. LDAP plugin can provide groups)
- There are also two built-in groups: authenticated (users who logged in) and anonymous (any users, including ones who have not logged in)

Global roles

User/group	admin	anonymous	job-creator	
██████████	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
██████████	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
██████████	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
██████████	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
██████████	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Anonymous	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

User/group to add

Add

Adding Project Roles

Project roles

User/group				Sample	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anonymous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

User/group to add

Add

THANKS