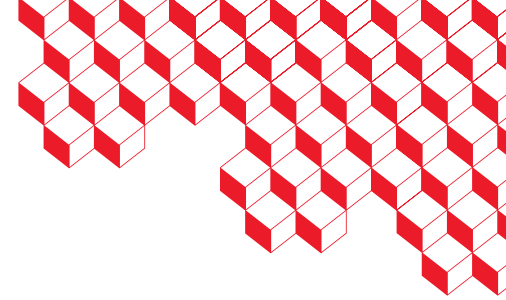




irfu



Deploying every* Phoebus service on a single machine with EPNix

*Well, not exactly *every* service, but close enough...

Rémi NICOLE

2026-04-22

Why??





Why??

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 - Most with the budget for only one physical machine
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- For our Phoebus developers, to test their developments against deployed services
- For our newcomers, to test using the various Phoebus client features inside a realisticTM environment

General configuration

```
{  
  networking.hostName = "phoebus-ecosystem";  
  users.users.root.initialHashedPassword = "";  
  
  services.openssh = {  
    enable = true;  
    settings = {  
      PermitRootLogin = "yes";  
      PermitEmptyPasswords = "yes";  
    };  
  };  
  security.pam.services.sshd.allowNullPassword = true;  
}
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Archiver Appliance

```
{  
  services.archiver-appliance = {  
    enable = true;  
    stores.lts.location = "/srv/lts";  
    stores.mts.location = "/srv/mts";  
  };  
}
```



Phoebus services

```
{  
  services = {  
  
    phoebus-olog = {  
      enable = true;  
      settings = {  
        "server.http.enable" = true;  
        "server.http.port" = 8083;  
        "demo_auth.enabled" = true;  
      };  
    };  
  };  
};
```



```
phoebus-alarm-server = {  
  enable = true;  
  settings."org.phoebus.applications.alarm/server" = kafkaAddr;  
};
```

```
phoebus-alarm-logger.settings = {  
  "server.port" = 8081;  
  "bootstrap.servers" = kafkaAddr;  
};
```

```
phoebus-save-and-restore = {  
  enable = true;  
  settings = {  
    "server.port" = 8082;  
    "auth.impl" = "demo";  
  };  
};
```



```
channel-finder = {  
  enable = true;  
  settings = {  
    "server.http.port" = 8084;  
    "demo_auth.enabled" = true;  
  };  
};
```

```
receiver = {  
  enable = true;  
  channelfinderapi.DEFAULT = {  
    BaseURL = "http://localhost:8084/ChannelFinder";  
    username = "admin"; password = "adminPass";  
  };  
  settings = { ... };  
};
```



```
# Kafka & Elasticsearch configuration omitted  
# for brevity's sake...  
};  
}
```



Example IOC

```
{
  services.iocs.exampleIoc = {
    package = myExampleIocPackage;
    workingDirectory = "iocBoot/iocExample";
  };

  environment.epics = {
    ca_addr_list = [ "127.0.0.1" ];
    ca_auto_addr_list = false;
  };
}
```

RAM usage

```
{
  services.apache-kafka.jvmOptions = [ "-Xmx256m" ];
  services.elasticsearch.extraJavaOptions = [ "-Xmx256m" ];
  services.tomcat.javaOpts = "-Xmx256m";

  swapDevices = [ {
    device = "/var/swapfile";
    size = 2048; # MiB
  } ];

  boot.kernel.sysfs.module.zswap.parameters.enabled = true;
}
```

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 - ISO file
 - ...