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64-194 Projekt Parallelrechnerevaluation
Abschlussbericht

Automatisierte Build-Tests
für Spack

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1 Einleitung

Wissenschaftliche High Performance Computing (HPC) Zentren verwenden eine große Vielfalt an wissenschaftlicher Software, die oft auf spezielle Compiler und Bibliotheken angewiesen sind [GLC+15]. Vor allem der Message Passing Interface (MPI) Standard ist bei der Arbeit mit verteilten Computersystemen von Bedeutung, für MPI gibt es aber zum Beispiel auch verschiedene Implementationen. Da jede konkrete Anwendung unter Umständen eigene Spezifikationen benötigt und die Komplexität der HPC Software rapide ansteigt, ist eine Paket-Management Software unumgänglich, die in der Lage ist, wissenschaftliche Software und viele mögliche Konfigurationen an Bibliotheken, Abhängigkeiten, Compilern und anderen Parametern zu verwalten. Eine spezifische Konfiguration eines Softwarepaketes wird im Folgenden als Build bezeichnet. In der Regel hängt ein Paket von anderen Paketen ab. Ohne Verwaltungssoftware müsste ein Anwender also alle Abhängigkeiten händisch installieren, bevor die gewünschte Software auf dem Rechner kompiliert werden kann. Abhilfe soll die Verwaltungssoftware Spack (Supercomputing Package Manager) schaffen, die es erlaubt, auf einem System eine beliebige Anzahl von Builds parallel existieren zu lassen, Parameter bei der Installation zu setzen und die automatisch die Pakete installiert, von denen die gewünschte Software abhängt.

1.1 Motivation

Momentan unterstützt Spack etwas über dreitausend wissenschaftlicher Softwarepakete. Diese sind Open Source Software (OSS) und werden teilweise laufend aktualisiert oder auch nicht mehr weiterentwickelt. Da die Pakete häufig aufeinander aufbauen kann dies natürlich zu Problemen führen. Ist ein Paket mit der aktuellsten Version einer Abhängigkeit nicht mehr kompatibel, so kommt es beim Kompilieren zu einer Fehlermeldung. Spack erlaubt es einem unter anderem bestimmte Versionen für die Abhängigkeiten vorzugeben, um solche Probleme zu umgehen und auf ältere Versionen zuzugreifen. Trotzdem wäre es wünschenswert, wenn ein in Spack enthaltenes Paket in der Standardkonfiguration kompilierbar wäre oder, wenn das nicht so ist, die potenziellen Probleme bereits bekannt wären. Dazu benötigt es Build-Tests, die automatisiert alle Spack Pakete zu kompilieren versuchen und die eventuell entstehenden Fehlernachrichten analysieren und damit eine Liste anlegen, die Nutzern in der Zukunft Informationen zur Problemlösung bietet. Im Rahmen dieses Projektes wurden solche Tests geschrieben und auf dem CPU-Cluster des Arbeitsbereiches Wissenschaftliches Rechnen der Universität Hamburg durchgeführt. Die dabei entstandene Software und die Ergebnisse der Tests sollen im

Folgenden dargestellt werden.

1.2 Vorbereitungen

1.2.1 Spack

Das offensichtlichste mit dem sich beschäftigt werden musste ist die Paketverwaltungs-software Spack. Um sich mit Spack vertraut zu machen und zu lernen wie man die Pakete installiert und weiter damit umgeht, bietet www.spack.io ein „Getting Started" - Tutorial an. Für dieses Projekt war vor allem das Unterkapitel „Installation" wichtig, da nicht mit den Inhalten der Pakete gearbeitet werden soll, sondern nur überprüft wird, ob die Installation in Standardkonfiguration fehlerfrei abläuft[spa].

1.2.2 Python

Eine Möglichkeit die späteren Tests zu schreiben, war die weit verbreitete Programmier-sprache Python.

> „Python is a high-level general-purpose programming language that can be applied to many different classes of problems. The language comes with a large standard library that covers areas such as string processing (regular expressions, Unicode, calculating differences between files),[...] "[pyt].

In diesem Fall war vor allem die Verarbeitung von Textdateien und Strings wichtig, unsere Startinformation zu Spack war ja, dass es etwa 3000 Pakete gibt, die sich erst mal nur im Namen unterscheiden. Es war absehbar, dass während des Projektes viele Logs, also Textdateien, ausgewertet werden müssen. Hierfür bietet Python eine Vielzahl von Paketen an, die den Umgang mit Textdateien einfacher gestalten.

Um sich in die Sprache einzuarbeiten und sie kennenzulernen, wurde eine Unterrichts-einheit des Projekts Software Carpenty absolviert.

> „Since 1998, Software Carpentry has been teaching researchers the computing skills they need to get more done in less time and with less pain. Our volunteer instructors have run hundreds of events for more than 34,000 researchers since 2012. All of our lesson materials are freely reusable under the Creative Commons - Attribution license "[sofc].

Die Python Unterrichtseinheit [sofa] besteht aus interaktiven Aufgaben, die anhand eines Beispiels in die Sprache einführt und gleichzeitig durch ein Datenanalyseproblem (hier Entzündungswerte von vielen Patienten) führt. Hierbei werden alle gängigen Grundprinzipien der Sprache wie zum Beispiel das Arbeiten mit Variablen, das Im- und Exportieren von Werten, Listen oder auch Fallunterscheidungen erklärt. In diesem Fall besonders wichtig war das letzte Kapitel über die Verknüpfung von Python mit Bashskripten, da diese für das Absenden einzelner Jobs an das Cluster nötig sind.

1.2.3 Unix-Shell

Die Unix-Shell ein Kommandozeileninterpreter. Eingegebene Befehle werden sofort ausgeführt. Dieser Vorgang erinnert dabei an einen interaktiven Dialog, der Benutzer wird aufgefordert etwas einzugeben und bekommt von der Shell darauf eine Antwort. Dabei macht sich die Unix-Shell die Eigenschaften des zugrunde liegenden Betriebssystems zu Nutze und implementiert nur das nötigste. Verwendbare Kommandos sind hierbei unter anderem Tätigkeiten zur Textverarbeitung wie Suchen, Ersetzen, Worte zählen, Zeichenübersetzung oder das Abschneiden von Zeilen. Die moderne Shell hilft dem Benutzer in der Zwischenzeit mit vielen Annehmlichkeiten wie der Tabulator-Vervollständigung von Kommandos oder das zwischen schon einmal verwendeten Befehlen mit den Pfeiltasten hin und her gesprungen werden kann.

Um überhaupt mit dem Cluster kommunizieren zu können, bietet es eine Benutzerschnittstelle, auf der als Grundeinstellung die Unix-Shell Bash läuft [wr-]. Auch zum Thema Bash bietet Software Carpentry eine Unterrichtseinheit, in der der Umgang mit der Shell gelernt werden kann [sofb], diese Einheit ist interaktiv und Aufgabenstellungen können sofort umgesetzt und dabei die meisten gängigen Kommandos erlernt werden. Für das Projekt waren die Lektionen über die Dateihandhabung von besonderem Nutzen, also das Erstellen, Löschen und Bearbeiten von Dateien und Ordnern. Befehlssequenzen, die in der Unix-Shell erfolgten, werden im weiteren Verlauf der Arbeit in kursiv gesetzt (zum Beispiel der Befehl zum Erstellen eines Ordners *mkdir Ordnername*).

1.2.4 Slurm

Da viele verschiedene Benutzer auf dem Rechenzentrum arbeiten wollen, kann die Organisation der Jobs nicht dem Zufall überlassen werden. Diese Aufgabe übernimmt Slurm. Hiermit können Jobs verwaltet, in bestimmte Reihenfolgen gebracht oder überwacht werden. In den Grundeinstellungen von Slurm können von den Administratoren auch Regeln festgelegt werden, wie Slurm Jobs priorisiert. Gerade in solchen Fällen wie diesem Projekt, bei dem etwa 3500 Jobs losgeschickt werden, kann ja nicht für die ganze Rechenzeit das Zentrum für andere Benutzer blockiert werden. Slurm erwartet eine bestimmte Konfiguration in Bash-Skripten, die wiederum mit bestimmten Befehlen abgeschickt werden müssen. In diesen Befehlen wird Slurm mitgeteilt, wie ein Job zu bearbeiten ist, also zum Beispiel können die Rechenleistung, Hardwarekonfigurationen wie die zu benutzenden Knoten, Abhängigkeiten verschiedener Jobs oder das Senden einer E-Mail nach dem Fertigstellen eingefordert werden. In diesem Fall war vor allem auch wichtig, wo Slurm die Dateien speichert, die bei Fehlern oder Problemen der Jobs angelegt werden, da ja mit diesen Dateien festgestellt werden kann, welche Pakete gebaut und welche gescheitert sind. Die Anbieter von slurm bieten Videotutorials an (ebd.) und im DKRZ „BeginnersGuide" werden die nötigen Standardinformationen hierzu genannt [wr-]. Trotzdem ergaben sich im Laufe der Zeit immer wieder neue Herausforderungen,

da es viele Abhängigkeiten und Konfigurationsmöglichkeiten gibt, die Slurm in seiner Dokumentation beschreibt (ebd.) und die über die Standardkonfiguration hinaus gehen, hier aber benötigt werden. Die Suche nach Lösungen gestaltete sich oft recht zeitaufwendig, da die Dokumentation an vielen Stellen nicht so selbsterklärend ist wie man es sich vielleicht wünscht. Viel musste dann einfach oft in veränderter Programmierung ausprobiert werden.

1.2.5 GitHub

Die Programmierung der Tests erfolgte in einem Team aus zwei Studierenden. Um die verschiedenen Versionen der Programme nachvollziehen zu können, wurde das Angebot von GitHub, einem weit verbreiteten Online-Dienst, der unter anderem filehosting und Versionsverwaltung anbietet, genutzt. Um git verwenden zu können, wird zunächst ein eigenes Repository erstellt. Mit diesem können dann verschiedenen Programm-Versionen aktualisiert, geteilt und verglichen werden. Dazu ist eine Menge an git-Befehlen nötig, die aus der Unix-Shell, über die GitHub-Website oder einen eigenständigen Desktop-Client aufgerufen werden können [gitb]. Das Versionskontrollsystem git wurde als open source Projekt von Linus Tovalds, dem Begründer von Linux, gestartet. Im Gegensatz zu früheren Systemen ähnlicher Funktion, arbeitet git nicht mit einem zentralen Repository an dem Änderungen direkt vorgenommen werden, sonder jeder Entwickler kopiert das Repository stattdessen zunächst auf sein lokales System (git clone). Dort wird der Inhalt bearbeitet und dann als Version gespeichert (git commit). Dabei wird auf GitHub bei jedem neuen Commit die Vorgängerversion gespeichert, außerdem ist nachvollziehbar, an welchen Dateien Änderungen vorgenommen wurden und welchen Umfang diese hatten. Soll die zuletzt abgespeicherte Version nun zur Hauptversion hinzugefügt werden, muss die Änderungen dem Eigner des Repositorys über ein so genanntes „pull-request" vorgeschlagen werden, woraufhin der Eigner diese mit einem Klick in das Projekt übertragen kann. Auch Spack ist über GitHub verfügbar [gita].

Wenn nur die Basis der Hauptversion verwendet werden möchte, können neue Entwicklungszweige für die Arbeit erstellt werden. So kann an verschiedenen Lösungen gearbeitet werden. Die oben erwähnten Pull-Requests sind bei der Arbeit am Projekt entfallen, da beide Studierenden Schreibrechte an dem Repository haben. Ein typischer Arbeitsvorgang sieht dann aus, wie in Listing 1.1 dargestellt.

Listing 1.1: Arbeitsabläufe mit GitHub

```
1  git clone "Link zum Repository" #Kopiert das Repository
2  #Bearbeiten der Dateien, z.B. skript-a.py und skript-b.sh
3
4  #Zeigt GitHub an, welche Dateien verfolgt werden sollen
5  git add skript-a.py skript-b.sh
6  #Erstellt einen neuen Commit mit einem Vermerk,
7  #der in "Nachricht" angegeben wird
```

```
 8
 9  git commit -m "Nachricht"
10  #pusht den commit von "origin" (dem lokalen Repository) an den
11  #master-branch des Repository's
12  git push origin master
13  "master" kann durch den Namen eines anderen Branches ersetzt werden.
```

2 Code

2.1 Automatisiertes Abrufen und Installieren von Spack-Paketen

Nach der Einarbeitungsphase war der erste Schritt, ein Skript zu schreiben, das automatisiert nach Spack-Paketen sucht und diese installiert. Dazu soll der *spack list* Befehl genutzt werden, dessen Output in einer Textdatei gespeichert wird. Zur Verarbeitung von Textdateien bietet sich, wie in der Einarbeitungsphase festgestellt, ein Pythonskript an.

2.1.1 Python Skript: install_all_packets.py

Diesem Ansatz folgend wurde das Skript install_all_packets.py geschrieben. In Python folgt der Programmfluss seriell einer Mainfunktion, die die Reihenfolge der aufzurufenden Unterfunktionen vorgibt. Das Skript soll alte Logdateien löschen, um zu verhindern, dass sich alte und neue Datensätze mischen, eine Textdatei mit einer Liste aller Spack-Pakete erstellen und diese Pakete dann schließlich installieren, sodass sich die in Listing 2.1 dargestellte Abfolge ergibt.

Listing 2.1: main-Funktion von install_all_packets.py

```
1  def main():
2    remove_old_logfiles()
3    write_spack_packet_list()
4    install_packets_from_list()
5
6  if __name__ == "__main__":
7    main()
```

Schreiben der Paketliste

Die Funktion write_spack_packet_list(), dargestellt in (Listing 2.2), öffnet oder erstellt die Textdatei spack_packet_list.txt mit Schreibrechten und schreibt die aktuelle Zeit in die erste Zeile der Datei, einen so genannten Timestamp, um später auf Aktualität prüfen zu können. Das Python Paket „subprocess" bietet die Funktion check_output, die Befehle an die Konsole weitergibt und gleichzeitig den Output in dem Pythonskript verfügbar

macht. Der Output des Konsolenbefehls *spack list* enthält alle Paketnamen, er wird als lokale String Variable gespeichert und dann in die Textdatei geschrieben, die abschließend geschlossen wird.

Listing 2.2: Funktion zum Abfragen der Spack Paketliste

```python
1  def write_spack_packet_list():
2
3      # Adds or opens text-file
4      f = open('scripts/spack_packet_list.txt','w')
5
6      # Writes a timestamp in the first line
7      readable = str(datetime.datetime.now()).split('.')[0]
8      f.write(readable)
9      f.write("\n")
10
11     # Gets the spack list
12     output = subprocess.check_output(['spack','list'])
13     f.write(output)
14
15     f.close()
```

Installation der Pakete

Die letzte Funktion in der main-Methode ist install_packets_from_list(). Hierin soll das Skript über die eben erstellte .txt-Datei iterieren und die Pakete daraus installieren. Die Funktion (vgl. Listing 2.3) öffnet die Textdatei mit den Paketnamen und nutzt die Pythonfunktion readlines, um die Zeilen der Textdatei in einer Liste zu speichern. Es folgt eine for-Schleife, die über allen Einträgen in der Liste iteriert, gleichzeitig wird ein Zähler i hochgezählt, der mit 0 initiiert wird. Der erste Eintrag der Liste (also für $i = 0$) wird ignoriert, da er den Timestamp enthält. Ansonsten wird der i-te String der Liste ausgewertet und per rstrip() von Formatierungszeichen befreit, sodass ausschließlich der Paketname in der Variablen package_name gespeichert wird. Der Paketname wird dann wieder an subprocess weitergegeben, diesmal mit .call, da der Output des Befehls nicht benötigt wird. Außerdem werden manuell die Strings spack und install übergeben, sodass der Konsolenaufruf „spack install paketname" lautet.

Listing 2.3: Funktion zum Installieren der Pakete aus einer Textdatei

```python
1  def install_packets_from_list():
2
3      # open the text-file generated by "write_spack_packet_list"
4      f = open('scripts/spack_packet_list.txt','r')
5
6      # reads every line
```

```
7     list_of_spack_packages = f.readlines()
8     i = 0
9
10    #iterates over the lines and installs the spack package
11    for line in list_of_spack_packages:
12        if not i == 0:
13            # get that packages name
14            package_name = list_of_spack_packages[i].rstrip()
15            subprocess.call(['spack', 'install', package_name])
16        i += 1
17    f.close()
```

Diese Funktion nutzt für die Installation den lokalen Rechner, nicht das Cluster. Um das Cluster zu nutzen sind weitere Bash-Skripte für den Slurm-Workloadmanager notwendig. Zeile 15 von Listing 2.3 ändert sich dann zu:

```
1  subprocess.call([ 'bash','./scripts/sendJob.sh', package_name])
```

2.2 Batch-Jobskripte

Slurm erwartet ein Bash-Skript, das die entsprechenden Parameter, gekennzeichnet mit #SBATCH für den Job festlegt und den eigentlichen Befehl, in diesem Fall also „spack install paketname" , mit dem Befehl srun oder sbatch abschickt (vgl. Listing 2.4). Srun erlaubt Interaktivität, sbatch ist vor allem zur Stapelverarbeitung von Aufträgen geeignet und wird hier vorgezogen. Die Parameter umfassen die Anzahl von Nodes, auf denen das Skript ausgeführt werden soll, hier nur einer, da die Installation kein parallelisierbarer Prozess ist, den Namen des Knotens (magny), die Job-ID, festgelegt durch -J, sie soll der Name des Paketes sein sowie Speicherorte und Namen der automatisch von Slurm angelegten Output- und Fehlerlogdateien. Um der Job-ID und den Logdateien den Paketnamen übergeben zu können, braucht es ein Hilfsskript, da in den #SBATCH-Parametern keine Variablen aufgerufen werden können, die dem Skript übergeben wurden. Abhilfe schafft das in Listing 2.5 gezeigte Skript, das beim Aufruf den Paketnamen übergeben bekommt und den Inhalt von Skript 2.4 in eine temporäre Datei schreibt, dabei die Variable mit dem Paketnamen verwendet und das temporäre Skript per sbatch an das Cluster abschickt und anschließend wieder löscht.

Listing 2.4: Das durch das sendJob Skript (2.5) erstellte Subskript jobscript.sh

```
1  #!/bin/bash
2  #SBATCH --nodes=1
3  #SBATCH --partition=magny
4  #SBATCH -J=paketname
5  #SBATCH --error=installation_logs/errors/paketname.err
```

```
6   #SBATCH --output=installation_logs/output/paketname.out
7
8   spack install paketname
```

Listing 2.5: Jobskript zur Installation von Paketen via Slurm

```
1   #! /bin/bash
2
3   # Skript:
4   echo "#!/bin/bash" > jobscript.sh
5   # Run task on 1 node
6   echo "#SBATCH --nodes=1" >> jobscript.sh
7   # Define partition.
8   echo "#SBATCH --partition=magny" >> jobscript.sh
9   echo "#SBATCH -J=$1" >> jobscript.sh
10  echo "#SBATCH --error=installation_logs/errors/$1.err" >> jobscript.sh
11  echo "#SBATCH --output=installation_logs/output/$1.out" >> jobscript.sh
12
13  echo "spack install $1" >> jobscript.sh
14
15  sbatch jobscript.sh
16
17  rm jobscript.sh
```

Dieses Verfahren hat den Vorteil, dass die Logdateien leicht zuzuordnen sind, da die Dateinamen einfach paketname.err lauten, hat aber den Nachteil, dass das Abschicken der fast 3500 Pakete länger dauert, da ständig neue Skripte angelegt und gelöscht werden müssen. Der Vorteil überwiegt hier aber eindeutig, vor allem, da der Zeitverlust gemessen an der Ausführungsdauer der Installationen der Pakete verschwindend klein ist.

2.2.1 Test mit drei Paketen

Zu diesem Zeitpunkt des Projekts kann also die Liste aller Spack-Pakete abgerufen werde, und als einzelne Installations-Jobs an das Cluster weitergegeben werden. Um nicht ständig ca. 3500 Jobs zu generieren und dann abzubrechen, wurde die Datei spack_packet_list.txt im Skript install_all_packets.py, die ja alle abgerufenen Namen der Spack-Pakete enthält, durch eine sehr viel kleinere Liste ersetzt, die genau drei Paketnamen enthält. Gewählt wurden hierbei die recht kleinen Pakete zlib und tcl. Ein weiteres Paket namens mvapich2 komplettiert die Reihe. Bei diesem Paket ist bekannt, dass es nicht installiert werden kann und somit eine Fehlermeldung produzieren soll (vgl. Listing 2.3).

Der Verlauf dieser Test verlief so, wie es zu erwarten war. Zlib und tcl wurden installiert, das konnte manuell in der Shell mit dem Befehl *spack find* überprüft werden. Auch

wurden für beide eine paketname.err und paketname.out Datei angelegt und im vorgegebenen Ordner installation_logs/ abgelegt. In beiden Fällen war die packetname.err Datei zwar vorhanden, aber leer, da es ja keinen Error gab. Mvapich2 wurde nicht installiert, hier wurde jetzt aber in die paketname.err Datei eine Fehlermeldung geschrieben.

2.3 Analyseskript

Das nächste Ziel war, die Fehlerlogs, die im Unterordner installation_logs/errors/ angelegt werden, auszuwerten. Diese Aufgabe übernimmt ein weiteres Pythonskript (runDiagnostics.py). Da Slurm auch für erfolgreiche Jobs Fehlerlogs anlegt, sollten diese zunächst gelöscht werden. In runDiagnostics.py übernimmt die Funktion checking_for_errors() diese Aufgabe (vgl. Listing 2.6). Hilfreich sind dabei die Pythonpakete glob und os, mit denen auf das Dateisystem des Betriebssystems zugegriffen werden kann. So kann in Zeile 3 der Pfad zu den Fehlerlogs als string Variable zusammengesetzt werden, mittels glob kann der Asterisk als beliebige Zeichenkette interpretiert werden, was eine Liste aller Dateipfaden der Fehlerlogs zurückgibt. Über dieser Liste wird iteriert, für jedes Element, also für jeden Dateipfad eines Logs, wird zum einen ein Zähler hochgezählt, dann wird die Textdatei geöffnet und der Inhalt auf die Schlagwörter „Error:" und „error:" durchsucht, da jedes Fehlerlog bei einer fehlgeschlagenen Paketinstallation eines dieser Schlagwörter enthält. Enthält das Log eine Fehlermeldung wird ein zweiter Zähler für eine spätere Ausgabe hochgezählt und der Dateipfad der Logdatei an eine zweite Liste angehängt, die dann nur noch Logs mit Fehlermeldungen enthält. Das Paket os erlaubt es dann, die Logdateien, die keine Fehlermeldungen enthalten mittels os.remove(Dateipfad) zu löschen. Am Ende wird noch in der Konsole ausgegeben, wie viele Fehler in wie vielen Logdateien gefunden wurden.

Listing 2.6: Analyseskript: Suche nach Fehlern und Löschen von leeren Logdateien

```
1  def checking_for_errors():
2      #filepathErrors ->Dateipfad zum Ordner mit Logdateien
3      filepathErrors = os.getcwd() + '/installation_logs/errors/*.err'
4
5      #make list with log files for all runs
6      fileListErrors = glob.glob(filepathErrors)
7
8      list_of_logs_with_errors = []
9      count = 0
10     files = 0
11     for file_path in fileListErrors:
12         files = files+1
13         try:
14             current_file=open(file_path,'r')
15             content=current_file.read()
```

```
16              if 'Error:' in content or 'error:'in content:
17                  count += 1
18                  list_of_logs_with_errors.append(file_path)
19              else:
20                  try:
21                      #deletes all empty files !
22                      os.remove(file_path)
23                  except:
24                      print ("Error while deleting file : " + file_path)
25
26          except:
27              print (" Error in Errorchecking ")
28
29      if count == 0:
30          print 'There are 0 errors in ',files, 'checked error_logs'
31      else:
32          print 'There are ' , count ,'errors in ',
33          files, ' checked error_logs',"\n"
```

Während der ersten Tests mit nur drei Paketen wurde das Analyseskript einfach nach dem Durchlauf der anderen Pakete von Hand gestartet. Da dies auf Dauer aber nicht gewünscht ist, wurde das Skript in der nächsten Version einfach automatisch, nachdem alle anderen Jobs abgeschickt waren, gestartet. Dabei verglich es die gesendete Paketzahl mit der abgearbeiteten und sobald die Zahlen gleich waren wurde die oben beschriebene Auswertung durchgeführt. Das Skript wurde also nicht als Job an das Cluster geschickt, sondern in der lokalen Shell geöffnet. Bei drei Paketen, deren Installation in wenigen Minuten erfolgt war, stellte dies kein Problem dar, langfristig sollte aber auch die Analyse als Slurm-Job über das Cluster erfolgen.

2.3.1 Test mit 500 Paketen

In dieser Phase wurde ein erster größerer Testlauf mit 500 Paketen gestartet. Der Ablauf der Tests ist in Abbildung 2.1 auf Seite 14 dargestellt.

Die Installation dieser Pakete hat etwa zwei Tage gedauert und generierte eine ausreichend große Menge an verschiedenen Fehlerlogs, um diese auf Muster hin zu untersuchen. Dabei zeigte sich ein Problem, viele Builds scheiterten mit einem „Error: ProcessError: Command exited with status x:" , beim Aufruf des Befehls cmake. Als mögliche Ursache für diesen Fehler wurde die parallele Installation zweier Pakete mit überlappenden Abhängigkeiten in Betracht gezogen, sodass sich als neue Aufgabe ergab, die Installationen nicht mehr parallel an mehrere Nodes abzuschicken, sondern nacheinander auf einem Node ausführen zu lassen. Außerdem erfordern einige der Pakete während der Installation substanzielle Mengen an Arbeitsspeicher, weshalb für zukünftige Tests von der west- auf die magny-Partition gewechselt wurde. Der Testlauf war aber insofern ein

Erfolg, als dass sechs gängige Fehlertypen identifiziert werden konnten.

- Process Error: Wie oben beschrieben, treten auf, wenn bei der Installation ein Problem auftritt, etwa beim Erstellen einer Datei, eines Ordners oder Ähnlichem.

- Fetch Error: Das Paket oder ein Paket, das als Abhängigkeit gelistet ist, kann nicht geladen werden (in der Regel von gitHub)

- Conflict in Concretized Spec: Wie in Kapitel 1 beschrieben, versucht Spack zu einem Installationsauftrag zunächst einen abstrakten Spec zu konfigurieren und diesen dann mit bestimmten Versionen zu konkretisieren. Bei diesem Vorgang können zwischen den Paketen Konflikte entstehen, wenn beispielsweise ein Paket A von Paket B und C abhängt, B aber auch von C abhängt und eine andere Version von C anfordert als A. Diese Fehler sind mit die Interessantesten, da sie meistens leicht zu beheben sind, wenn man weiß, welche Versionen man für welche Abhängigkeiten setzen muss.

- Conflict in Spec: Unsatisfiable Variant constraint: Ähnlich wie Conflict in Concretized Spec.

- Checksum Error: Die Prüfsumme des heruntergeladenen Paketes stimmt nicht, entweder sind bei der Übertragung ein oder mehr Bitfehler aufgetreten oder die Software wurde verändert, ohne die Prüfsumme anzupassen. Unter Umständen funktioniert das Paket trotzdem fehlerfrei.

- No Valid Versions: Zu dem angeforderten Paket konnten keine gültigen Versionen gefunden werden.

Ein weiteres Problem, dass sich bei diesem Test herauskristallisierte, war der Zeitpunkt des Starts der Analyse. Wie in Abschnitt 2.3 beschrieben, wurde das Skript parallel zu den Installationen einfach in der Shell geöffnet. In dem Zustand musste die Shell, um eine Analyse durchzuführen, auch wirklich die ganze Zeit offen bleiben, da sonst das Analyseskript abgebrochen wird.

Aus diesem Test ergaben sich also drei Folgeschritte. Zum einen können Fehler jetzt sortiert werden, da ihre Typen bekannt sind. Zum anderen muss die Jobvergabe beinhalten, dass immer nur ein Paket installiert wird und nicht mehrere parallel. Und zu guter Letzt muss das Analyseskript auch an den Cluster als abgesendet werden. Es muss in der Reihenfolge immer der letzte zu bearbeitende Job sein.

2.3.2 Code zur Analyse der Error-Logs, forts.

Auf dieser Grundlage konnte das Analyseskript um eine Sortierfunktion erweitert werden, einer leichten Abwandlung derjenigen Funktion, die die Fehlerlogs nach den Worten

Abbildung 2.1: Ablauf der Skripte nach dem Test mit 500 Paketen
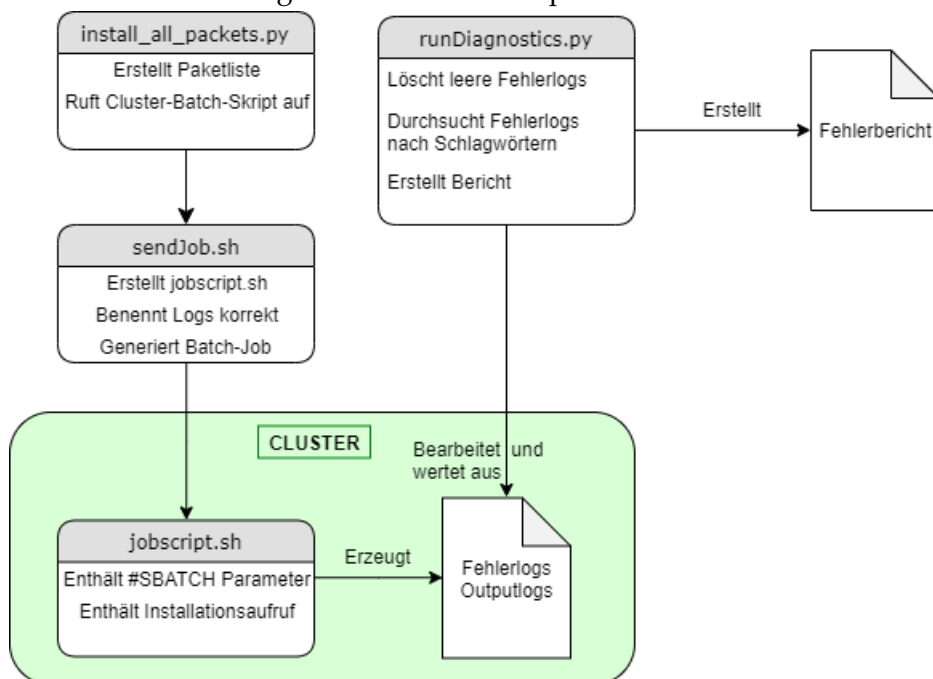
„Error" und „error" durchsucht. Über eine Reihe von if-Abfragen wird geprüft, ob die Schlüsselwörter zu den jeweiligen Fehlern in den Logs enthalten sind, je nach Schlüsselwort wird ein Eintrag in eine Textdatei geschrieben, die am Ende die Zusammenfassung des Tests enthalten soll.

write_error_list() in runDiagnostics.py

Der erste Schritt bestand darin, eine Liste aller Error-Pfade aus dem Benutzer-Verzeichnis heraus anzulegen (vgl. Listing 2.7). Dann wird die Ergebnis-Textdatei List_of_Spack_errors.txt erstellt und mit Schreibrechten geöffnet. Auch hier wird wieder in die erste Zeile ein Timestamp geschrieben, so dass der Zeitpunkt der Entstehung der Liste überprüft werden kann. Mit der geöffneten List_of_Spack_errors.txt-Datei, werden nun erst einmal alle Fehler-Variablen deklariert und mit 0 initialisiert. Nun folgt die Iteration über die vorher erstellte Liste. Im ersten Schritt wird der Dateiname in die Textdatei geschrieben, der ja gleich dem Paketnamen ist. Dann wird die momentane Datei hinter dem Dateipfad in der Liste auf die Schlagwörter ProcessError, FetchError, Conflicts in concretized spec, unsatisfiable, ChecksumError und no valid version hin untersucht. Das heißt, es wird verglichen, ob einer der Strings wie in Listing 2.7 zu sehen, in der Datei zu finden ist. Da dies über eine if-elif-Fallunterscheidung geschieht, springt der Kontrollfluss zum nächsten Befehl hinter der Fallunterscheidung, sobald eine der Abfragen positiv ist. Sollte keiner der Strings ein positives Ergebnis liefern, landet der Kontrollfluss im else-Zweig und der Fehler wird in diesem Fall ein Unknown Error.

Listing 2.7: Analyseskript: Suche nach Schlagwörtern und erstellen einer Fehlerliste

```python
1  def write_error_list():
2      # filepathErrors ->Dateipfad zum Ordner mit Logdateien
3      filepathErrors = os.getcwd() + '/installation_logs/errors/*.err'
4      # make list with log files
5      fileListErrors = glob.glob(filepathErrors)
6      # Create (or rewrite) text-file for a summary of ckecking_for_errors
7      f = open('List_of_Spack_errors.txt','w')
8      # Writes a timestamp in the first line
9      readable = str(datetime.datetime.now()).split('.')[0]
10     f.write(readable)
11     f.write("\n")
12     f.close()
13     with open('List_of_Spack_errors.txt', 'a') as f:
14         process_errors=0
15         fetch_errors=0
16         conflict_errors=0
17         unsatisfiable_errors=0
18         checksum_errors=0
19         no_valid_version_errors=0
20         unknown_errors=0
21         for file_path in fileListErrors:
22         current_file=open(file_path,'r'
23           content=current_file.read()
24           if "ProcessError" in content:
25               f.write("Process Error [...] \n")
26               process_errors =process_errors + 1
27           elif "FetchError" in content:
28             f.write("Fetch Error [...]"\n")
29             fetch_errors = fetch_errors + 1
30           elif "Conflicts in concretized spec" in content:
31             f.write("Conflicts in concretized spec [...]\n")
32             conflict_errors = conflict_errors + 1
33           elif "unsatisfiable" in content:
34             f.write("Conflict in spec [...]\n")
35             unsatisfiable_errors = unsatisfiable_errors + 1
36           elif "ChecksumError" in content:
37             f.write("Checksum Error [...]\n")
38             checksum_errors = checksum_errors + 1
39           elif "no valid version" in content:
40             f.write("No valid version [...] \n")
41             no_valid_version_errors = no_valid_version_errors + 1
42           else:
43             f.write("Unknown Error [...]\n")
44             unknown_errors = unknown_errors + 1
```

```
45          current_file.close()
46      f.close()
```

Im Fall eines Fehlers sind die Zeilen, die in den Bericht geschrieben werden, alle etwas unterschiedlich, da jeder Fehler ein wenig anders behandelt werden muss, im Code in Listing 2.7 sind die Zeilen der besseren Lesbarkeit wegen mit [...] abgekürzt. Allen gemeinsam ist aber, dass nach dem schon geschriebenen Paketname in das Textdokument nun der Fehlertyp mit einer kurzen Beschreibung geschrieben wird. Bei Spec-Konflikten wird die letzte Zeile des Fehlerlogs noch mit geschrieben, da sie den Konflikt spezifiziert, bei Fetch-Fehlern ist die Analyse noch etwas komplizierter, da auch ein Fetch-Fehler geworfen wird, wenn nicht das eigentliche Paket nicht verfügbar ist, sondern eines von dem es abhängt.

Für die Konflikte im Spack-spec wird die letzte Zeile des Errorlogs mit einer Unterfunktion get_last_line(filepath) gefunden (vgl. Listing 2.8).

Listing 2.8: Analysekript: Letzte Zeile einer Logdatei finden

```
1  #Get the last line of a textfile.
2  # parameter: Filepath to the textfile as string
3  # returns: the last line as a string
4  def get_last_line(filepath):
5      a = open(filepath,"rb")
6      lines = a.readlines()
7      a.close()
8      if lines:
9          return lines[-1]
```

Listing 2.9: Analysekript: Handling von Fetch-Fehlern

```
1  # Der file_path wird um errors/ zerschnitten, der String enthaelt dann den
2  # Paketnamen, der dann der get_output_path Funktion uebergeben wird
3  fetch_error_output_path=
4      get_output_filepath(file_path.split("errors/",1)[1].split(".",1)[0])
5
6  # Der Text, der in den Fehlerbericht geschrieben wird
7  f.write("Fetch Error \t\t \\
8  Failed to fetch the following package:\n"+ \\
9  get_n_last_lines(fetch_error_output_path,5) + "\n")
```

Im Falle eines Fetch-Fehlers ist die Information, welches Paket tatsächlich nicht verfügbar war, natürlich relevant, von daher muss dabei auch das Output-Log untersucht werden. Hier steht die Information immer in den letzten fünf Zeilen, diese werden also ausgelesen und mit in den Bericht geschrieben (vgl. Listing2.9). Dazu muss zunächst der Dateipfad zum Output-Log gefunden werden, das übernimmt eine Funktion get_output_filepath(Paketname) (vgl. Listing 2.10), die einen Paketnamen als Parameter übergeben bekommt.

Listing 2.10: Analyseskript: Hilfsfunktion zum Finden des Dateipfades des Output-Logs zu einem Paketnamen

```python
def get_output_filepath(package_name):
    return os.getcwd() + '/installation_logs/output/'+
            str(package_name)+".out"
```

Aus diesem Log sollen dann die letzten 5 Zeilen aufgerufen werden. Dazu dient eine Hilfsfunktion (vgl. Listing 2.11). Die Ausgabe im Fehlerbericht sieht dann aus, wie in 2.12 dargestellt.

Listing 2.11: Analyseskript: Hilfsfunktion zum Schreiben der n letzten Zeilen einer Textdatei

```python
def get_n_last_lines(filepath,n):
    a = open(filepath,"rb")
    lines = a.readlines()
    a.close()
    if lines:
        output="\t"+lines[-n]
    i=n-1
    while i>0:
        if lines:
            output=output+"\t" + lines[-i]
            i=i-1
    return output
```

Listing 2.12: Fehlerbericht zum Paket dysco, Beispiel fuer Fetch-Fehler bei Abhängigkeit

```
dysco:
  Fetch Error      Failed to fetch the following package:
  ==> Installing wcslib
  ==> Searching for binary cache of wcslib
  ==> No binary for wcslib found: installing from source
  ==> Fetching ftp://ftp.atnf.csiro.au/pub/software/wcslib/wcslib-5.18.tar.bz2
  ==> Fetching from ftp://ftp.atnf.csiro.au/pub/software/wcslib/wcslib-5.18.tar.bz2
```

2.4 Hintereinanderausführung der Installationen

Da es, wie beschrieben, bei der Installation von mehreren Paketen parallel zu Problemen mit Process-Errors kam, müssen die Paketinstallationen hintereinander ausgeführt werden. Dazu wird die Möglichkeit genutzt, Slurm eine Abhängigkeit für einen Job zu übermitteln, das heißt, ein Job darf erst begonnen werden, wenn ein bestimmter anderer Job beendet ist. So ergibt sich eine bestimmte Reihenfolge, in der die Jobs abgearbeitet werden. Der letzte zu bearbeitende Job ist dann das Diagnoseskript.

Dazu muss im Jobskript für das Cluster die Befehlssequenz

Listing 2.13: Parameter für Abhängigkeiten eines Slurm-Jobs

```
1  - -dependency=afterany:jobID1:jobID2:[...]
```

als Parameter an den sbatch-Befehl angehängt werden. Schwieriger gestaltet es sich, die Job-IDs aller anderen aktuell laufenden Jobs zu bekommen, da sie alle in dem Parameter angegeben werden. Slurm stellt eine Reihe von Shell-Befehlen zur Verfügung, mit denen die Aufträge verwaltet werden können, so liefert *squeue - u username* alle aktuell laufenden Jobs eines Anwenders zurück. Diesen Befehl kann man nun also verwenden, indem man den Output des Befehls in einer Textdatei speichert und diese so modifiziert, dass sie ausschließlich die Job-IDs enthält. Zwischen das Python-Skript (install_all_packets.py und das sendJob-Bash Skript kommt ein weiteres Bash-Skript, welches zum einen die IDs der Jobs des Benutzers abfragt, dann schaut, ob die nächste Installation von anderen Jobs abhängen soll und dann schließlich das sendJob-Skript mit einem String als Parameter aufruft, der alle laufenden Job-IDs enthält. Da es dazu dient, die Jobs vorzubereiten, wurde es prepareJob.sh genannt (vgl. Abbildung 2.1, Abbildung 2.2 und Listing 2.14). Da es zwei Fälle unterscheidet, nämlich zum einen einen Job, der zum ersten Paket gehört, bei dem es ja noch keine laufenden Jobs gibt und zum anderen alle sonstigen, es aber im eigentlichen Jobscript dabei kleine Unterschiede gibt, wurde eine leicht modifizierte Kopie des sendJob-Skriptes als sendJob_dependency.sh gespeichert, die einen weiteren Parameter, nämlich den String mit den Job-IDs übergeben bekommt. Abbildung 2.2 veranschaulicht den letztendlichen Ablauf der Skripte und die Nutzung des Clusters.

Eine elegantere Methode, die in einer zukünftigen Version implementiert werden könnte, würde nicht die Job IDs *aller* laufenden Jobs, sondern nur die des Vorgängers als Abhängigkeit nutzen. Wie sich gezeigt hat ist auch der Vorgang des Abschicken der Jobs an das Cluster sehr zeitaufwändig, er könnte wahrscheinlich beschleunigt werden, wenn in den Slurm-Skripten nicht bis zu 3500 Abhängigkeiten aus einer Textdatei ausgelesen werden müssen. Vor allem werden diese Textdateien auch für jeden Job neu erstellt und am Ende wieder gelöscht, was unnötig viel Rechenaufwand darstellt. Da der Zeitaufwand gemessen an der gesamten Laufzeit der Tests aber immer noch gering ist und die Funktionalität gegeben ist, handelt es sich nicht um ein schwerwiegendes Problem.

Listing 2.14: Job zum Finden der Slurm Job-IDs und Erstellen der Abhängigkeiten

```
1  user=$(whoami)
2  squeue -u $user > "$1_jobIDList.txt"
3  number_of_jobs=$(< "$1_jobIDList.txt" wc -l)
4  number_of_jobs=$(($number_of_jobs - 1))
5  if (($number_of_jobs>0)); then
6    #delete the first line
7    tail -n +2 "$1_jobIDList.txt" > "$1_jobIDList.tmp"
8         && mv "$1_jobIDList.tmp" "$1_jobIDList.txt"
9    #remove excessive spaces
10   file="$1_jobIDList.txt"
```

```
11   while IFS=' ' read -r f1
12   do
13     echo $f1 >> "$1_jobIDList.tmp"
14   done <"$file"
15   cut -d' ' -f1 "$1_jobIDList.tmp" > "$1_jobIDList.txt"
16   rm "$1_jobIDList.tmp"
17   dependency_string="--dependency=afterany"
18   file="$1_jobIDList.txt"
19   while IFS= read -r line
20   do
21     dependency_string="$dependency_string"":$line"
22   done <"$file"
23   bash scripts/sendJob_dependency.sh $1 $dependency_string
24 else
25   bash scripts/sendJob.sh $1
26 fi
27 rm "$1_jobIDList.txt"
```

2.4.1 Wrapper Skript

Zur Hintereinanderausführung wurde auch ein Wrapper-Skript geschrieben (vgl. Listing 2.15), das dafür sorgt, dass zum einen der Spack-Installationsordner vor jedem Durchlauf gelöscht wird um eine saubere Umgebung zu gewährleisten, zum anderen den Ablauf der Tests steuert und das Diagnoseskript nach derselben Methode wie bei den sendJob-Skripten in Abhängigkeit von allen Installationsjobs an das Cluster abschickt. Dadurch kann ein Benutzer den Test starten und die Shell muss nicht während des gesamten Zeitraums offen bleiben. Da dieses Skript am Ende das einzige sein soll, dass ein Anwender manuell startet, bekam es den Namen run_spack_buildtests.sh, da es den vollständigen Testlauf starten soll.

Das Löschen der vorigen Spack Installation über *rm -r -f spack* dauert sehr lange, da der Spack-Ordner (mit allen Paketen 112 GB groß) sehr viele einzelne, kleine Dateien enthält, was für den Löschbefehl eine ungünstige Performanz zur Folge hat. Derzeit sind kein Fortschrittsbalken oder Prozentanzeige vorgesehen, sodass das Skript während des Löschvorganges lange inaktiv scheint.

Nachdem das Wrapper-Skript hinzugefügt war, lag es nahe, die ganzen Sub-Skripte in einen Unterordner zu verschieben, was am übrigen Code keine nennenswerten Änderungen erforderte.

Abbildung 2.2: Ablauf der Skripte nach Einführung der Hintereinanderausführung der
Installationen und des Wrapper-Skriptes
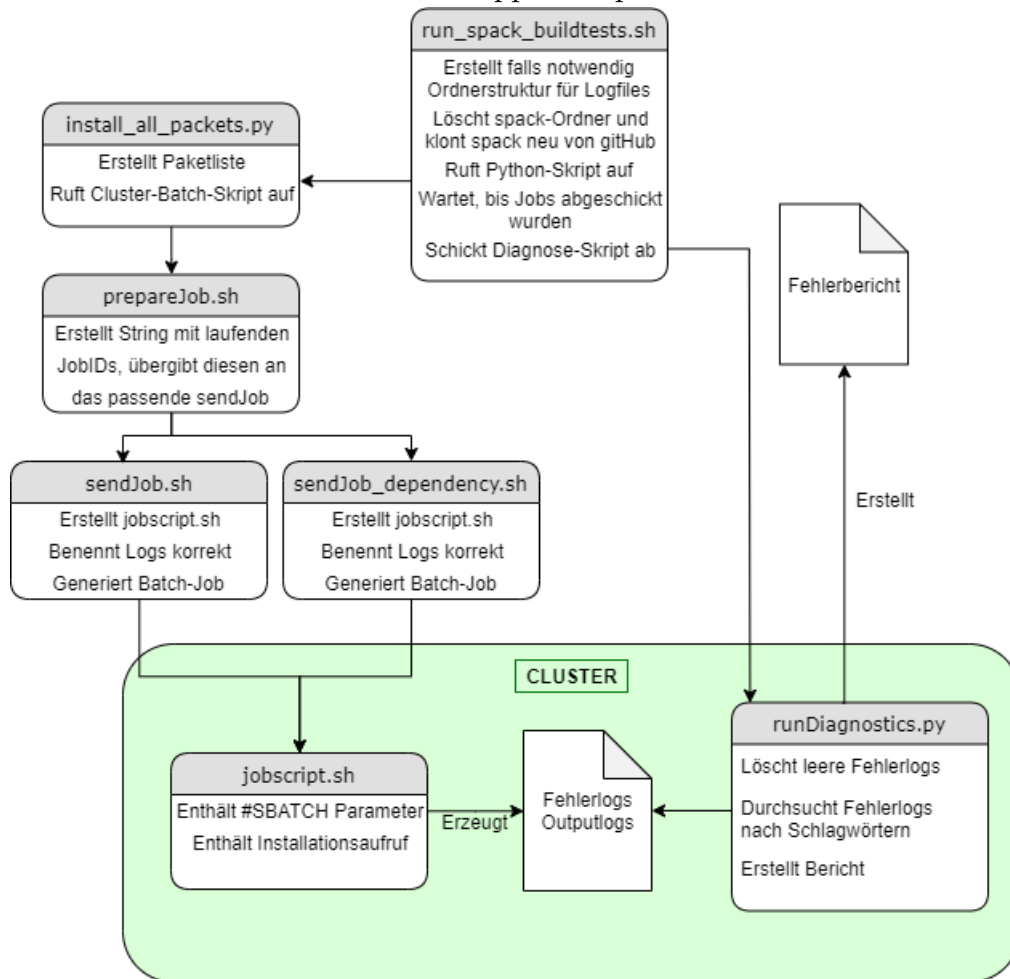
Listing 2.15: Wrapper Skript

```bash
#! /bin/bash
read -p "Please enter your email-adress:" user_email
user=$(whoami)
user_path=$PWD
if [ ! -d $user_path"/installation_logs/output" ]
then
  mkdir installation_logs/output
fi

if [ ! -d $user_path"/installation_logs/errors" ]
then
  mkdir installation_logs/errors
fi
#Um spack-Befehle zu nutzen, muss setup-env.sh gesourced werden
#hier ist der Pfad spezifiziert, wo das Skript zu finden ist.
spack_source_path="spack/share/spack/setup-env.sh"
```

```
17 if [ -d $user_path"/spack" ]
18 then
19   #Wenn der spack Ordner vorhanden ist, wird er geloescht
20   echo "There are Spack-packets allready installed,
21                    they will be deleted now"
22   rm -r -f spack
23 else
24   echo "Spack is not installed"
25 fi
26
27 if [ ! -d $user_path"/spack" ]
28 then
29   # Der Spack-ordner sollte jetzt entfernt sein, Spack wird von GitHub
30   # geklont
31   echo "Spack will now be cloned from github and installed locally"
32   git clone https://github.com/spack/spack
33 else
34   echo "Spack is installed in $string1/spack"
35 fi
36 # Jetzt wird das Setup-Skript gesourced
37 source $spack_source_path
38
39 # Start des Python-Skriptes, das alle Pakete installiert
40 python scripts/install_all_packets.py
41 wait
42
43 # Es folgt Code, der analog zum prepareJob-Skript
44 # die IDs der laufenden Jobs findet.
45 [...]
46 # Erstellt das Slurm-Skript, das per sbatch mitsamt der
47 # Abhaengigkeiten an das Cluster uebermittelt wird,
48 # Darin wird dann das Python Diagnoseskript aufgerufen
49 echo "#!/bin/bash" > diagnostics.sh
50 echo "#SBATCH --nodes=1" >> diagnostics.sh
51 echo "#SBATCH --partition=magny" >> diagnostics.sh
52 echo "#SBATCH --error=installation_logs/diagnostics.err" >> diagnostics.sh
53 echo "#SBATCH --output=installation_logs/diagnostics.out" >> diagnostics.sh
54 echo "#SBATCH --mail-type=END" >> diagnostics.sh
55 echo "#SBATCH --mail-user=$user_email" >> diagnostics.sh
56 echo "python scripts/runDiagnostics.py" >> diagnostics.sh
57 sbatch $dependency_string diagnostics.sh
58 rm diagnostics.sh
```

Damit waren alle Funktionalitäten hergestellt, um den Test mit allen Paketen durchzuführen, auch wenn der Code an einigen Stellen noch verbessert werden kann.

2.5 E-Mail Benachrichtigungen

Slurm hat die Möglichkeit den Benutzer darüber zu informieren, wann ein Job mit einem bestimmten Status beendet wurde, zum Beispiel bei einer erfolgreichen Bearbeitung oder einem Fehler. In diesem Fall ist der Status der meisten Jobs, nämlich der Installationen, aber egal, es geht nur darum, dass der letzte Job, also das Analyseskript, erfolgreich beendet wurde. Dieser Job wird aus run_spack_buildtest.sh abgeschickt und unterscheidet sich ein wenig von den anderen Jobs, da Slurm die Informationen für den E-Mail-Versand mitgegeben werden müssen. Dazu wird der Nutzer beim Aufruf des Wrapper-Skriptes aufgefordert, seine E-Mail Adresse einzugeben (vgl. Listing 2.15, Zeile 2). Diese Adresse wird am Ende des Skriptes als SBATCH-Parameter in das temporäre Skript diagnostics.sh geschrieben, das die Auswertung an das Cluster abschickt, sodass nach der Auswertung der Logs eine automatisierte Benachrichtigung an die angegebene Adresse stattfindet.

Ein großer Nachteil bei dieser Version des E-Mail-Versands ist, dass Slurm die Nachricht automatisiert verfasst und sie nicht verändert werden kann. Es kann weder der Betreff angepasst werden, noch der Fehlerbericht als Anhang mitgesendet werden, was eigentlich das Ziel war. Die Mail hat keinen Inhalt und als Betreff beispielsweise: *SLURM Job_Id=20765 Name=diagnostics.sh Ended. Run time 00:00:01, COMPLETED, Exit Code 0*.

An und für sich kann man über die Shell auch E-Mails versenden, der Befehl *mail -s „Betreff"max.muster@muster.de < List_of_Spack_errors.txt* verschickt eine E-Mail mit dem Inhalt der Textdatei List_of_Spack_errors.txt an die angegebene Adresse mit dem Betreff *Spack Build tests errors*, aber leider kann der mail-Befehl nicht in einem Slurm-Job verwendet werden, obwohl das mail-Paket eigentlich auf dem Cluster bereitgestellt wird. Der momentane Stand dazu ist also leider, dass nur die Benachrichtigung nach Beendigung der Tests automatisiert versendet wird. Um Nutzern, denen der mail-Befehl nicht geläufig ist, die Arbeit zu erleichtern, wurde er unter dem Namen send_results.sh als Skript abgespeichert, was nochmals die gewünschte E-Mail-Adresse abfragt und dann den Inhalt des Fehlerberichts als Inhalt der E-Mail verschickt. Auch das entspricht noch nicht exakt der gewünschten Funktion, da eigentlich die Textdatei als Anhang versendet werden soll. Dazu gibt man theoretisch dem mail-Befehl mit *-a „Name der Datei"* einen Anhang mit, bei allen Versuchen dazu wurde dann aber stets nur der Name der angehängten Datei verschickt.

3 Testlauf

3.1 Durchführung und Ergebnisse

Nachdem die Tests mit bis zu fünfhundert Paketen durchgelaufen waren und die Funktionalität als gegeben gesehen werden konnte, wurde der vollständige Testlauf mit allen Paketen gestartet. Abgeschickt wurde der Auftrag am 9.9.2019 nachmittags. Das erzeugen der Slurm-Jobs dauerte etwas über eine Stunde. Am 23.9.2019 um 13:36 wurde die Bestätigungsmail gesendet, dass das Diagnoseskript erfolgreich durchgelaufen war. Somit hat der gesamte Test tatsächlich eine Laufzeit von zwei Wochen gehabt. Insgesamt ergaben sich aus den 3462 Paketen 984 Fehler, etwa 28.4% der von Spack verwalteten Pakete ließen sich also in Standardkonfiguration nicht installieren (vgl. Abbildung 3.1)
.

3.2 Auswertung und Schlussfolgerungen

Mit Abstand die häufigste Fehlerart war der *Unsatisfiable Version Constraint* - Fehler. Besonders viele Pakete in Spack sind solche, die Funktionalitäten in Python bereitstellen. Dabei versucht Spack per default regelmäßig, eine Python 2.7.X Version zu nutzen, viele der Pakete erfordern aber Python 3.6. Als Beispiel sei das Paket py-colorpy aufgeführt. Es handelt sich um ein Paket, das Lichtspektren als Plots darstellen soll. Es hat als einzige Build-Abhängigkeit python und als Laufzeit-Abhängigkeiten noch py-matplotlib und py-numpy. Ohne zusätzliche Parameter versucht Spack, das Paket mit Python 2.7.16 zu bauen, py-matplotlib erfordert aber Python 3.6. Die Lösung des Problems ist einfach, stattdessen *spack install py-colorpy ^python @ 3.6* aufzurufen, da py-colorpy auch mit Python 3.6 funktioniert. So kann der Fehler im Spec behoben werden. In der Beschreibung

Abbildung 3.1: Verteilung der Fehlerarten

Fehlerart	Anzahl Fehler	Prozentualer Anteil der Fehlerart
Process Error	313	31.8%
Fetch Error	102	10.4%
Conflict in Spec	33	3.4%
Unsatisfiable Version Constraint	432	43.9%
Checksum Error	27	2.7%
No Valid Version	6	0.6%
Unbekannte Fehler	71	7.2%

von py-colorpy, die man mit *spack info py-colorpy* erhält, ist allerdings nirgendwo vermerkt, welche Python-Version das Paket anfordert. Hier wäre es wünschenswert, wenn die Entwickler des Paketes eine Version angäben, die zu einer erfolgreichen Installation in Standardkonfiguration führen würde.

Auffällig ist bei den Ergebnissen der immer noch sehr hohe Anteil an Process-Errors, also Fehlern beim Kompilieren der Pakete, obwohl Spack einen passenden Spec gefunden hat und die Pakete geladen werden konnten. Nach dem ersten größeren Testlauf aus Kapitel 2.1 war die Vermutung gewesen, dass dieser Fehlertyp seine Ursache in der parallelen Installation von Paketen haben könnte. Die hohe Präsenz des Fehlers trotz Hintereinanderausführung, fast ein Drittel der gesamten Fehlerzahl, legt nahe, dass diese Vermutung falsch war.

Immerhin 10.4% Fetch-Error machen ein weiteres Problem von Spack deutlich, dass nämlich keine Kontrolle stattfindet, ob Pakete weiter entwickelt werden oder überhaupt noch verfügbar sind. Die Ergebnisse des Tests könnten noch dahingehend ausgewertet werden, ob viele der Fetch-Errors wegen eines oder einiger weniger Pakete geworfen werden, die nicht mehr verfügbar sind, von denen aber viele andere Pakete abhängen. Die 71 Fehler, die in diesem Durchlauf als unbekannt eingestuft wurden, wurden einer erneuten Überprüfung auf wiederkehrende Muster unterworfen. Dabei ergaben sich die weiteren Fehlertypen:

- URL not found (404)

- Input- Output-Error

- Conflicting conditional dependencies for spec

- Package not found

- max. recursion depth exceeded

- AttributeError: 'Spec' object has no attribute

- Key Error

- Invalid Values

Danach waren lediglich zehn Fehlerlogs übrig, die nicht in eine der Fehlerkategorien passten.

3.3 Fazit und Ausblick

Das Ziel des Projektes, einen automatisierten Test für die von Spack verwalteten Softwarepakete zu schreiben, konnte erreicht werden. Die Ergebnisse dieses Testes zeigen

außerdem, dass ein solcher Test deutlich gerechtfertigt ist, da die Quote von in Standardkonfiguration nicht kompilierbaren Paketen fast bei einem Drittel liegt. Der Grund, für die Verwaltung der Softwarepakete Spack zu nutzen, liegt in dem geringeren Zeitaufwand seitens des Nutzers, der Zeitaufwand für die Installation ist auch mit Spack mitunter sehr hoch. Schlägt eine solche zeitaufwändige Installation auch noch fehl, ist die Folge unnötiger Arbeitszeitverlust. Die im Anhang vorgelegten Testergebnisse können vor der Installation neuer Pakete solchen Problemen vorbeugen, da zu erwartende Fehler antizipiert und durch entsprechende Konfigurationen verhindert werden können.

Die im Zuge des Projektes geschriebene Software ist voll funktionsfähig, es gibt aber noch einigen Raum für Verbesserungen. Zum einen ist derzeit der zu verwendende Knoten (magny oder west beispielsweise) noch „hart" in den Code geschrieben, eine Nutzerabfrage wäre hier noch wünschenswert. Der Test sollte in einem alternativen Branch außerdem noch einmal auf eine parallele Installation umgeschrieben werden, um valide Daten zu haben, ob die Anzahl an Process-Errors tatsächlich durch die parallele Ausführung der Installationen steigt. Ansonsten könnte natürlich viel Zeit gespart werden, wenn der Test parallel durchgeführt werden kann.

Der Grund für die Process-Errors ist herauszufinden, dazu wäre eine Analyse der Spack-Installationslogs von Nöten, die im zeitlichen Rahmen des Projekts nicht erfolgen konnte.

Die im Rahmen des großen Testlaufes neu dazugewonnenen Fehlertypen müssen noch untersucht werden, um zum einen mögliche Gründe für die Fehler zu finden, sofern noch nicht bekannt, und zum anderen die Fehlerbeschreibungen im Bericht genauer anpassen zu können, da diese momentan nur den Fehlertyp aufführen.

Ein weiterer Ansatz für eine Weiterentwicklung des Tests wäre, aus den Logs eine passende Konfiguration für ein Paket auszulesen und es automatisiert im Anschluss an die fehlerhafte Installation mit der veränderten Konfiguration noch einmal zu versuchen, sodass im Bericht am Ende nicht nur der Fehler, sondern auch mindestens eine funktionierende Konfiguration angegeben werden kann.

Möchte man den Test nur für Versionskonflikte durchführen und kein Process-Errors oder Fetch-Errors mit abfangen, könnte man auch einen leichtgewichtigeren Test schreiben, indem man die Pakete nicht installieren lässt, sondern sich über *spack graph paketname* den Graphen anzeigen lässt. Gibt es Versionskonflikte, so scheitert auch der *graph* Befehl mit derselben Fehlermeldung, wie wenn die Installation am Konflikt scheitert, da Spack vor der Installation denselben Graph-Algorithmus nutzt, um die Abhängigkeitsliste zu erstellen.

4 Schulische Relevanz

Das hier dargestellte Projekt erforderte eine Beschäftigung mit einer Vielzahl von Informatiksystemen und Konzepten. Inwiefern diese jeweils dazu geeignet sind, den Anforderungen an Informatikunterricht in Schulen, allgemeinbildenden wie beruflichen, zu entsprechen, soll im folgenden erörtert werden. Zum einen fand eine Auseinandersetzung mit einer neuen Programmiersprache statt, Python. Im Rahmenplan der Stadt Hamburg für den Informatikunterricht in der gymnasialen Oberstufe ist festgelegt, dass die Schülerinnen und Schüler sich mit objektorientierter Programmierung (OOP) und abhängig vom Niveau des Kurses, mit ein bis zwei weiteren Programmierparadigmen auseinandersetzen müssen [Lan09]. Für die OOP ist Java eine sehr verbreitete Programmiersprache, so finden sich auf dem Hamburger Bildungsserver auch die meisten Abschnitte zu dieser Sprache [bil]. Aber auch Python findet in dieser Liste seinen Platz. Ein direkter Vergleich von Java und Python führt zu mehreren Beobachtungen. Zum einen ist Java implizit objektorientiert, selbst ein „Hello World!" Programm benötigt in Java eine Klasse.

Listing 4.1: Hello World in Java

```java
public class HelloWorld {
  public static void main(String[] args){
    System.out.println("Hello World");
  }
}
```

Das heißt, dass die Schülerinnen und Schüler, die mit der Objektorientierung ein *neues* Paradigma erlernen sollen bei der Begegnung mit der Sprache direkt damit konfrontiert werden. Python dagegen kann zunächst rein imperativ verwendet werden. Der Umgang mit der Sprache kann damit vom neuen und potenziell problembehafteten Paradigma zunächst abgekoppelt werden. Dazu kommt, dass die Einrückungen in Python, die den Programmfluss beeinflussen, dazu führen, dass der Code zwangsläufig strukturiert wird, was den Schülerinnen und Schülern einerseits Arbeit erspart, darüber hinaus aber auch die Lesbarkeit fördert und die mitunter frustrierenden Fehlerquellen fehlender oder falscher Klammern und Semikola eliminiert. Während also die logischen Abläufe und Programmierkonzepte gleich vermittelt werden können, reduziert Python im Vergleich zu Java einige Hürden. Als Beispiel sei der Vergleich bei der Iteration über einer Liste von Elementen angeführt [Poh]:

Listing 4.2: Iteration über den Elementen einer Liste in Java

```
1  String[] namen = {"Linus","Bill"};
2
3  for(int i = 0;i < namen.length; i++){
4      System.out.println(namen[i]);
5  }
```

Listing 4.3: Iteration über den Elementen einer Liste in Python

```
1  namen = ["Linus", "Bill"]
2  for name in namen:
3      print name
```

Python kommt ohne Index aus, dass die Pythonvariante leichter zu überblicken ist, ist unschwer zu erkennen. Andererseits muss man als Lehrperson natürlich auch abwägen, ob das Konzept einer Zählvariablen nicht zu wichtig ist, um unterschlagen zu werden. Gerade für einen Kurs auf grundlegendem Niveau ist Python aber sicher eine adäquate Alternative zu Java, um die Schülerinnen und Schüler an formale Sprachen und Objektorientierung heranzuführen. Die im Zuge dieses Projektes bearbeiteten Python-Tutorials [sofa] bieten auf jeden Fall auch Möglichkeiten, diese in den Unterricht einzubeziehen.

Die Beschäftigung mit einer Unix-Shell ist im Lehrplan nicht explizit vorgegeben, ob diese sinnvoll ist hängt sehr von der Schule und den verwendeten Rechnern ab. Hat die Schule in den Computerräumen Linux oder Mac Rechner zur Verfügung, ist es nützlich, den Umgang mit der Shell zu erlernen. In den meisten Fällen dürfte eine Auseinandersetzung mit dem Thema an allgemeinbildenden Schulen, die über ein kurzes Tutorial hinausführt nicht angebracht sein, da keine vorgesehenen Lerninhalte vermittelt werden. Anders ist es im Bereich der beruflichen Schulen, vor allem für Fachinformatiker Systemintegration, da ein großer Teil der Auszubildenden hier im Berufsalltag IT-Systeme betreut. Hierbei ist die Handhabung einer Konsole unumgänglich und vor allem die Möglichkeiten und die Mächtigkeit muss übermittelt werden.

Interessanter wird es für die schulischen Aspekte wieder bei der Betrachtung des Rechnernetzes. Der Aufbau des Clusters wurde im Zuge des Projektes nicht detailliert betrachtet. Dies könnte aber Inhalt von schulischem Unterricht sein, da verteilte Systeme, Netze und Protokolle zu den verbindlichen Themen der Studienstufe gehören. In diesem Zuge könnte das Rechenzentrum als außerschulischer Lernort besucht und die entsprechenden Themen behandelt werden. Denkbar wäre auch eine Projektorientierte Unterrichtseinheit, etwa der Aufbau eines Parallelrechners aus mehreren Kleinrechnern, wie Arduinos, Raspberry Pies oder ähnlichem. Ein solches Projekt wäre wohl eher geeignet für einen Kurs auf erhöhtem Niveau, könnte aber einen interessanten Aspekt von Hochleistungsrechnern vermitteln. Softwareseitig wäre hierfür der MPI-Standard als Lerngegenstand denkbar.

Ein weiterer Lerngegenstand der Rahmenpläne ist die „Bewertung von Verfahren hinsichtlich Effizienz und Bedeutung aufgrund der Einsatzmöglichkeiten"[Lan09]. Die von

Kommilitonen durchgeführten Projekte im Rahmen des Moduls beschäftigten sich wiederholt mit Tests, die die Performanz verschiedener Informatiksysteme bewerten sollten. Auch in diesem Bereich kann die Parallelrechnerevaluation als praktisches Anwendungsbeispiel herangezogen werden. Aber auch bei dem vorliegenden Projekt ergaben sich wiederholt Fragestellungen bezüglich der Performanz. Insbesondere wurden die Zeiträume, über die das Programm am Ende lief, so groß, dass Verbesserungen an der Performanz sehr greifbar werden können.

Abbildungsverzeichnis

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5 Anhang

```
2019-10-04 12:22:46

mgis:
  Conflicting conditional dependencies for spec  ---------------   --------------
_____
perl-bio-perl:
  Process Error   Error while compiling   Check complete logfile
_____
py-numpy:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-numpy to find suitable spec and reinstall manually
_____
flecsale:
  Unknown Error  ---------------   Please check complete logfile
_____
ruby-svn2git:
  Conflict in spec, unsatisfiable variant
git requires pcre variant +jit, but spec asked for ~jit
 Try spack info ruby-svn2git to find suitable spec and reinstall manually
_____
py-ont-fast5-api:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-ont-fast5-api to find suitable spec and reinstall manually
_____
atk:
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info atk to find suitable spec and reinstall manually
_____
sas:
  Process Error   Error while compiling   Check complete logfile
_____
r-ctc:
  Conflict in spec, unsatisfiable variant
r-ctc requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-ctc to find suitable spec and reinstall manually
_____
mpibash:
  Process Error   Error while compiling   Check complete logfile
_____
intel-gpu-tools:
  Process Error   Error while compiling   Check complete logfile
_____
r-geomorph:
  URL Error 404   ---------------   --------------
_____
r-paleotree:
  Conflict in spec, unsatisfiable variant
r requires cairo variant ~X, but spec asked for +X
 Try spack info r-paleotree to find suitable spec and reinstall manually
_____
py-griddataformats:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-griddataformats to find suitable spec and reinstall manually
_____
bohrium:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info bohrium to find suitable spec and reinstall manually
_____
py-scientificpython:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
```

```
 Try spack info py-scientificpython to find suitable spec and reinstall manually
```

```
arrow:
  Process Error   Error while compiling   Check complete logfile
```

```
xprehashprinterlist:
  Process Error   Error while compiling   Check complete logfile
```

```
chlorop:
  Fetch Error   Failed to fetch the following package:
==> Installing chlorop
==> Searching for binary cache of chlorop
==> No binary for chlorop found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/chlorop-1.1.Linux.tar.gz
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/chlorop-1.1.Linux.tar.gz failed.
```

```
py-multiqc:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-multiqc to find suitable spec and reinstall manually
```

```
xdriinfo:
  Process Error   Error while compiling   Check complete logfile
```

```
libpeas:
  Unknown Error  ---------------  Please check complete logfile
```

```
nest:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info nest to find suitable spec and reinstall manually
```

```
amp:
  Fetch Error   Failed to fetch the following package:
==> Installing amp
==> Searching for binary cache of amp
==> No binary for amp found: installing from source
==> Cloning mercurial repository:
  https://bitbucket.org/AdvancedMultiPhysics/amp
```

```
vcftools:
  Process Error   Error while compiling   Check complete logfile
```

```
fastqvalidator:
  Process Error   Error while compiling   Check complete logfile
```

```
rgb:
  Process Error   Error while compiling   Check complete logfile
```

```
snap-korf:
  Conflicts in concretized spec
1. "%gcc@5:" conflicts with "snap-korf@2013-11-29"
 Try spack info snap-korf to find suitable spec and reinstall manually
```

```
tfel:
  Process Error   Error while compiling   Check complete logfile
```

```
meraculous:
  Process Error   Error while compiling   Check complete logfile
```

```
r-tmixclust:
  Conflict in spec, unsatisfiable variant
r-biocparallel requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-tmixclust to find suitable spec and reinstall manually
```

```
r-genefilter:
  Conflict in spec, unsatisfiable variant
r-annotationdbi requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-genefilter to find suitable spec and reinstall manually
```

```
py-mg-rast-tools:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-mg-rast-tools to find suitable spec and reinstall manually
```

```
perl-perl4-corelibs:
  Process Error   Error while compiling   Check complete logfile
```

```
pbsuite:
   Process Error   Error while compiling   Check complete logfile
```

```
r-affxparser:
   Conflict in spec, unsatisfiable variant
r-affxparser requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-affxparser to find suitable spec and reinstall manually
```

```
workrave:
   Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info workrave to find suitable spec and reinstall manually
```

```
gmtsar:
   Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info gmtsar to find suitable spec and reinstall manually
```

```
py-cdat-lite:
   Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-cdat-lite to find suitable spec and reinstall manually
```

```
py-crossmap:
   Conflict in spec, unsatisfiable variant
py-crossmap requires python version 3:, but spec asked for 2.7.16
 Try spack info py-crossmap to find suitable spec and reinstall manually
```

```
py-torchvision:
   Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-torchvision to find suitable spec and reinstall manually
```

```
yambo:
   Conflict in spec, unsatisfiable variant
netcdf requires hdf5 variant +hl, but spec asked for ~hl
 Try spack info yambo to find suitable spec and reinstall manually
```

```
f18:
   IOError  ---------------   --------------
```

```
fast-global-file-status:
   Process Error   Error while compiling   Check complete logfile
```

```
xgamma:
   Process Error   Error while compiling   Check complete logfile
```

```
py-bokeh:
   Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-bokeh to find suitable spec and reinstall manually
```

```
py-appnope:
   Process Error   Error while compiling   Check complete logfile
```

```
tophat:
   Process Error   Error while compiling   Check complete logfile
```

```
libpmemobj-cpp:
   Process Error   Error while compiling   Check complete logfile
```

```
r-annotationforge:
   Conflict in spec, unsatisfiable variant
r-annotationforge requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-annotationforge to find suitable spec and reinstall manually
```

```
lwm2:
   Fetch Error   Failed to fetch the following package:
==> Searching for binary cache of lwm2
==> No binary for lwm2 found: installing from source
==> Cloning mercurial repository:
   https://jay.grs.rwth-aachen.de/hg/lwm2
   at revision torus
```

```
trf:
   Fetch Error   Failed to fetch the following package:
==> Installing trf
==> Searching for binary cache of trf
```

```
==> No binary for trf found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/trf409.linux64
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/trf409.linux64 failed.
```

```
shiny-server:
  Conflict in spec, unsatisfiable variant
git requires pcre variant +jit, but spec asked for ~jit
 Try spack info shiny-server to find suitable spec and reinstall manually
```

```
lsof:
  Fetch Error   Failed to fetch the following package:
==> Installing lsof
==> Searching for binary cache of lsof
==> No binary for lsof found: installing from source
==> Fetching https://www.mirrorservice.org/sites/lsof.itap.purdue.edu/pub/tools/unix/lsof/lsof_4.89.tar.gz
==> Fetching from https://www.mirrorservice.org/sites/lsof.itap.purdue.edu/pub/tools/unix/lsof/lsof_4.89.tar.gz failed.
```

```
r-affyplm:
  Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-affyplm to find suitable spec and reinstall manually
```

```
libctl:
  Process Error   Error while compiling   Check complete logfile
```

```
py-mxnet:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-mxnet to find suitable spec and reinstall manually
```

```
xsetroot:
  Process Error   Error while compiling   Check complete logfile
```

```
r-biocinstaller:
  Conflict in spec, unsatisfiable variant
r-biocinstaller requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-biocinstaller to find suitable spec and reinstall manually
```

```
py-rpy2:
  Conflict in spec, unsatisfiable variant
py-rpy2 requires python version 3:, but spec asked for 2.7.16
 Try spack info py-rpy2 to find suitable spec and reinstall manually
```

```
gpgme:
  Process Error   Error while compiling   Check complete logfile
```

```
libcanberra:
  Process Error   Error while compiling   Check complete logfile
```

```
blast-legacy:
  Process Error   Error while compiling   Check complete logfile
```

```
plplot:
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info plplot to find suitable spec and reinstall manually
```

```
cpprestsdk:
  Checksum Error  Wrong Checksum   Package might still run, please try manually
```

```
r-analysispageserver:
  Conflict in spec, unsatisfiable variant
r-biobase requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-analysispageserver to find suitable spec and reinstall manually
```

```
casper:
  Process Error   Error while compiling   Check complete logfile
```

```
dftfe:
  Fetch Error   Failed to fetch the following package:
==> Installing libxc
==> Searching for binary cache of libxc
==> No binary for libxc found: installing from source
==> Fetching http://www.tddft.org/programs/octopus/down.php?file=libxc/4.3.2/libxc-4.3.2.tar.gz
==> Fetching from http://www.tddft.org/programs/octopus/down.php?file=libxc/4.3.2/libxc-4.3.2.tar.gz failed.
```

```
py-macs2:
  Conflict in spec, unsatisfiable variant
```

```
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-macs2 to find suitable spec and reinstall manually
```

```
unison:
  Fetch Error   Failed to fetch the following package:
==> Installing ocaml
==> Searching for binary cache of ocaml
==> No binary for ocaml found: installing from source
==> Fetching http://caml.inria.fr/pub/distrib/ocaml-4.6/ocaml-4.06.0.tar.gz
==> Fetching from http://caml.inria.fr/pub/distrib/ocaml-4.6/ocaml-4.06.0.tar.gz failed.
```

```
py-methylcode:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-methylcode to find suitable spec and reinstall manually
```

```
xqilla:
  Process Error   Error while compiling   Check complete logfile
```

```
py-biom-format:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-biom-format to find suitable spec and reinstall manually
```

```
braker:
  Key Error  ----------------   --------------
```

```
py-openpmd-validator:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-openpmd-validator to find suitable spec and reinstall manually
```

```
r-rhtslib:
  Conflict in spec, unsatisfiable variant
r-rhtslib requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-rhtslib to find suitable spec and reinstall manually
```

```
xeus:
  Conflict in spec, unsatisfiable variant
cppzmq requires zeromq version 4.2.5, but spec asked for 4.3.2
 Try spack info xeus to find suitable spec and reinstall manually
```

```
paraver:
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info paraver to find suitable spec and reinstall manually
```

```
py-bsddb3:
  Process Error   Error while compiling   Check complete logfile
```

```
libconfig:
  Process Error   Error while compiling   Check complete logfile
```

```
r-affycontam:
  Conflict in spec, unsatisfiable variant
r-biobase requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-affycontam to find suitable spec and reinstall manually
```

```
r-deseq2:
  Conflict in spec, unsatisfiable variant
r-biocparallel requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-deseq2 to find suitable spec and reinstall manually
```

```
hybpiper:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info hybpiper to find suitable spec and reinstall manually
```

```
migrate:
  Process Error   Error while compiling   Check complete logfile
```

```
dos2unix:
  Process Error   Error while compiling   Check complete logfile
```

```
libcroco:
  Process Error   Error while compiling   Check complete logfile
```

```
hunspell:
```

```
  Checksum Error  Wrong Checksum   Package might still run, please try manually
```
———
```
pngquant:
  Process Error   Error while compiling   Check complete logfile
```
———
```
guidance:
  Conflicts in concretized spec
1. "%gcc@6.2.0:" conflicts with "guidance"
 Try spack info guidance to find suitable spec and reinstall manually
```
———
```
thrift:
  Process Error   Error while compiling   Check complete logfile
```
———
```
soapsnp:
  Fetch Error   Failed to fetch the following package:
==> Installing soapsnp
==> Searching for binary cache of soapsnp
==> No binary for soapsnp found: installing from source
==> Fetching http://soap.genomics.org.cn/down/SOAPsnp-v1.03.tar.gz
==> Fetching from http://soap.genomics.org.cn/down/SOAPsnp-v1.03.tar.gz failed.
```
———
```
clamr:
  Process Error   Error while compiling   Check complete logfile
```
———
```
magics:
  Process Error   Error while compiling   Check complete logfile
```
———
```
pandoc:
  Process Error   Error while compiling   Check complete logfile
```
———
```
stress:
  Fetch Error   Failed to fetch the following package:
==> Installing stress
==> Searching for binary cache of stress
==> No binary for stress found: installing from source
==> Fetching https://people.seas.harvard.edu/~apw/stress/stress-1.0.4.tar.gz
==> Fetching from https://people.seas.harvard.edu/~apw/stress/stress-1.0.4.tar.gz failed.
```
———
```
py-google-cloud-storage:
  Fetch Error   Failed to fetch the following package:
==> py-six is already installed in /home/fock/informatik-cluster/Uni-Projekt-Spack/spack/opt/spack/linux-ubuntu18.04-x86_64/gcc-8.3.0/py-six-1.12.
==> py-google-auth is already installed in /home/fock/informatik-cluster/Uni-Projekt-Spack/spack/opt/spack/linux-ubuntu18.04-x86_64/gcc-8.3.0/py-g
==> Installing py-futures
==> Searching for binary cache of py-futures
==> No binary for py-futures found: installing from source
```
———
```
fpocket:
  Unknown Error  ---------------   Please check complete logfile
```
———
```
ds:
  Fetch Error   Failed to fetch the following package:
==> Installing ds
==> Searching for binary cache of ds
==> No binary for ds found: installing from source
==> Fetching http://ds9.si.edu/download/source/ds9.8.0.tar.gz
==> Fetching from http://ds9.si.edu/download/source/ds9.8.0.tar.gz failed.
```
———
```
cppad:
  Fetch Error   Failed to fetch the following package:
==> Installing cppad
==> Searching for binary cache of cppad
==> No binary for cppad found: installing from source
==> Fetching http://www.coin-or.org/download/source/CppAD/cppad-20170114.gpl.tgz
==> Fetching from http://www.coin-or.org/download/source/CppAD/cppad-20170114.gpl.tgz failed.
```
———
```
gtkmm:
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info gtkmm to find suitable spec and reinstall manually
```
———
```
py-goatools:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-goatools to find suitable spec and reinstall manually
```
———
```
everytrace-example:
  Process Error   Error while compiling   Check complete logfile
```
———

```
r-geor:
  Process Error   Error while compiling   Check complete logfile
```

```
ape:
  Fetch Error   Failed to fetch the following package:
==> Installing libxc
==> Searching for binary cache of libxc
==> No binary for libxc found: installing from source
==> Fetching http://www.tddft.org/programs/octopus/down.php?file=libxc/libxc-2.2.2.tar.gz
==> Fetching from http://www.tddft.org/programs/octopus/down.php?file=libxc/libxc-2.2.2.tar.gz failed.
```

```
nektar:
  Checksum Error  Wrong Checksum   Package might still run, please try manually
```

```
py-bcbio-gff:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-bcbio-gff to find suitable spec and reinstall manually
```

```
r-diagrammer:
  URL Error 404   ----------------   --------------
```

```
triangle:
  Process Error   Error while compiling   Check complete logfile
```

```
r-rhdf5:
  Conflict in spec, unsatisfiable variant
r-rhdf5 requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-rhdf5 to find suitable spec and reinstall manually
```

```
xvinfo:
  Process Error   Error while compiling   Check complete logfile
```

```
py-petsc4py:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-petsc4py to find suitable spec and reinstall manually
```

```
py-xpyb:
  Process Error   Error while compiling   Check complete logfile
```

```
wxpropgrid:
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info wxpropgrid to find suitable spec and reinstall manually
```

```
chill:
  Fetch Error    Failed to fetch the following package:
==> gettext is already installed in /home/fock/informatik-cluster/Uni-Projekt-Spack/spack/opt/spack/linux-ubuntu18.04-x86_64/gcc-8.3.0/gette
==> help2man is already installed in /home/fock/informatik-cluster/Uni-Projekt-Spack/spack/opt/spack/linux-ubuntu18.04-x86_64/gcc-8.3.0/help
==> Installing bison
==> Searching for binary cache of bison
==> No binary for bison found: installing from source
```

```
kitty:
  Process Error   Error while compiling   Check complete logfile
```

```
py-snuggs:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-snuggs to find suitable spec and reinstall manually
```

```
r-xmapbridge:
  Conflict in spec, unsatisfiable variant
r-xmapbridge requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-xmapbridge to find suitable spec and reinstall manually
```

```
cnvnator:
  max. recursion depth exceeded   ----------------   --------------
```

```
py-pybedtools:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pybedtools to find suitable spec and reinstall manually
```

```
r-quantro:
  Conflict in spec, unsatisfiable variant
r-illuminaio requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
```

```
 Try spack info r-quantro to find suitable spec and reinstall manually
```

```
r-cairo:
  Process Error   Error while compiling   Check complete logfile
```

```
py-dxchange:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-dxchange to find suitable spec and reinstall manually
```

```
tecplot:
  Fetch Error   Failed to fetch the following package:
==> Installing tecplot
==> Searching for binary cache of tecplot
==> No binary for tecplot found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/tecplot360ex2018r2_linux64.sh
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/tecplot360ex2018r2_linux64.sh failed.
```

```
py-scipy:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-scipy to find suitable spec and reinstall manually
```

```
qbank:
  Fetch Error   Failed to fetch the following package:
==> Installing qbank
==> Searching for binary cache of qbank
==> No binary for qbank found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/qbank-2.10.4.tar.gz
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/qbank-2.10.4.tar.gz failed.
```

```
ibmisc:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info ibmisc to find suitable spec and reinstall manually
```

```
r-convevol:
  Conflict in spec, unsatisfiable variant
r requires cairo variant ~X, but spec asked for +X
 Try spack info r-convevol to find suitable spec and reinstall manually
```

```
mxnet:
  Conflict in spec, unsatisfiable variant
opencv requires protobuf version 3.5.0, but spec asked for 3.7.1
 Try spack info mxnet to find suitable spec and reinstall manually
```

```
py-ipywidgets:
  Conflicts in concretized spec
1. "^python@2.7:2.8" conflicts with "py-ipython@7.0.0:"
 Try spack info py-ipywidgets to find suitable spec and reinstall manually
```

```
ecp-io-sdk:
  Process Error   Error while compiling   Check complete logfile
```

```
albany:
  Process Error   Error while compiling   Check complete logfile
```

```
r-askpass:
  URL Error 404   ----------------   --------------
```

```
unblur:
  Conflicts in concretized spec
1. "%gcc" conflicts with "unblur"
 Try spack info unblur to find suitable spec and reinstall manually
```

```
dsrc:
  Process Error   Error while compiling   Check complete logfile
```

```
r-category:
  Conflict in spec, unsatisfiable variant
r-annotationdbi requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-category to find suitable spec and reinstall manually
```

```
r-affycomp:
  Conflict in spec, unsatisfiable variant
r-biobase requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-affycomp to find suitable spec and reinstall manually
```


```
mesquite:
  Fetch Error   Failed to fetch the following package:
==> Installing mesquite
==> Searching for binary cache of mesquite
==> No binary for mesquite found: installing from source
==> Fetching https://software.sandia.gov/mesquite/mesquite-2.99.tar.gz
==> Fetching from https://software.sandia.gov/mesquite/mesquite-2.99.tar.gz failed.
```

```
r-devtools:
  URL Error 404   ----------------   --------------
```

```
r-biomart:
  Conflict in spec, unsatisfiable variant
r-biomart requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-biomart to find suitable spec and reinstall manually
```

```
py-pypar:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pypar to find suitable spec and reinstall manually
```

```
py-torch:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-torch to find suitable spec and reinstall manually
```

```
ceed:
  Process Error   Error while compiling   Check complete logfile
```

```
lastz:
  Process Error   Error while compiling   Check complete logfile
```

```
py-numexpr:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-numexpr to find suitable spec and reinstall manually
```

```
py-wcsaxes:
  Conflict in spec, unsatisfiable variant
py-matplotlib requires python version 3.6:, but spec asked for 2.7.16
 Try spack info py-wcsaxes to find suitable spec and reinstall manually
```

```
xcb-util-xrm:
  Process Error   Error while compiling   Check complete logfile
```

```
py-scikit-image:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-scikit-image to find suitable spec and reinstall manually
```

```
gtkplus:
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info gtkplus to find suitable spec and reinstall manually
```

```
ufo-core:
  Process Error   Error while compiling   Check complete logfile
```

```
fgsl:
  Process Error   Error while compiling   Check complete logfile
```

```
py-pysmartdl:
  Process Error   Error while compiling   Check complete logfile
```

```
py-igraph:
  Process Error   Error while compiling   Check complete logfile
```

```
py-pyfftw:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pyfftw to find suitable spec and reinstall manually
```

```
qtkeychain:
  Process Error   Error while compiling   Check complete logfile
```

```
uberftp:
  Fetch Error   Failed to fetch the following package:
==> Installing globus-toolkit
```

```
==> Searching for binary cache of globus-toolkit
==> No binary for globus-toolkit found: installing from source
==> Fetching http://toolkit.globus.org/ftppub/gt6/installers/src/globus_toolkit-6.0.1506371041.tar.gz
==> Fetching from http://toolkit.globus.org/ftppub/gt6/installers/src/globus_toolkit-6.0.1506371041.tar.gz failed.
```

```
glvis:
  Unknown Error  ---------------   Please check complete logfile
```

```
gcta:
  Fetch Error   Failed to fetch the following package:
==> Installing gcta
==> Searching for binary cache of gcta
==> No binary for gcta found: installing from source
==> Fetching http://cnsgenomics.com/software/gcta/gcta_1.91.2beta.zip
==> Fetching from http://cnsgenomics.com/software/gcta/gcta_1.91.2beta.zip failed.
```

```
mpir:
  Process Error   Error while compiling   Check complete logfile
```

```
argp-standalone:
  Process Error   Error while compiling   Check complete logfile
```

```
arlecore:
  Checksum Error  Wrong Checksum   Package might still run, please try manually
```

```
tethex:
  IOError  ----------------   --------------
```

```
py-csvkit:
  Fetch Error   Failed to fetch the following package:
==> Installing py-openpyxl
==> Searching for binary cache of py-openpyxl
==> No binary for py-openpyxl found: installing from source
==> Fetching https://pypi.io/packages/source/o/openpyxl/openpyxl-2.2.0-b1.tar.gz
==> Fetching from https://pypi.io/packages/source/o/openpyxl/openpyxl-2.2.0-b1.tar.gz failed.
```

```
git-lfs:
  Process Error   Error while compiling   Check complete logfile
```

```
trinotate:
  Conflict in spec, unsatisfiable variant
r-edger requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info trinotate to find suitable spec and reinstall manually
```

```
gmt:
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info gmt to find suitable spec and reinstall manually
```

```
r-protgenerics:
  Conflict in spec, unsatisfiable variant
r-protgenerics requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-protgenerics to find suitable spec and reinstall manually
```

```
py-psyclone:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-psyclone to find suitable spec and reinstall manually
```

```
apex:
  Process Error   Error while compiling   Check complete logfile
```

```
ldc:
  Process Error   Error while compiling   Check complete logfile
```

```
py-prometheus-client:
  Checksum Error  Wrong Checksum   Package might still run, please try manually
```

```
gcock:
  Package not found  ----------------   --------------
```

```
r-seqlogo:
  Conflict in spec, unsatisfiable variant
r-seqlogo requires r version 3.4.3:3.4.9, but spec asked for 3.6.1
 Try spack info r-seqlogo to find suitable spec and reinstall manually
```

```
targetp:
  Fetch Error   Failed to fetch the following package:
```

```
==> Installing chlorop
==> Searching for binary cache of chlorop
==> No binary for chlorop found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/chlorop-1.1.Linux.tar.gz
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/chlorop-1.1.Linux.tar.gz failed.
```

ssht:
  Process Error   Error while compiling   Check complete logfile

of-precice:
  Process Error   Error while compiling   Check complete logfile

enchant:
  Checksum Error Wrong Checksum   Package might still run, please try manually

activeharmony:
  Process Error   Error while compiling   Check complete logfile

r-anaquin:
  Conflict in spec, unsatisfiable variant
r-qvalue requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-anaquin to find suitable spec and reinstall manually

nix:
  Process Error   Error while compiling   Check complete logfile

r-rcppblaze:
  URL Error 404   ----------------   --------------

py-qtconsole:
  Conflict in spec, unsatisfiable variant
py-backports-shutil-get-terminal-size requires py-setuptools version :30.999.999, but spec asked for 41.0.1
 Try spack info py-qtconsole to find suitable spec and reinstall manually

sambamba:
  Process Error   Error while compiling   Check complete logfile

r-geneplotter:
  Conflict in spec, unsatisfiable variant
r-geneplotter requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-geneplotter to find suitable spec and reinstall manually

kaiju:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info kaiju to find suitable spec and reinstall manually

r-affydata:
  Conflict in spec, unsatisfiable variant
r-affydata requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-affydata to find suitable spec and reinstall manually

py-mdanalysis:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-mdanalysis to find suitable spec and reinstall manually

r-phytools:
  Conflict in spec, unsatisfiable variant
r requires cairo variant ~X, but spec asked for +X
 Try spack info r-phytools to find suitable spec and reinstall manually

xload:
  Process Error   Error while compiling   Check complete logfile

openfst:
  Conflicts in concretized spec
1. "%gcc@6:" conflicts with "openfst"
 Try spack info openfst to find suitable spec and reinstall manually

piranha:
  Process Error   Error while compiling   Check complete logfile

cups:
  Process Error   Error while compiling   Check complete logfile

librom:
  Process Error   Error while compiling   Check complete logfile

```
hic-pro:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info hic-pro to find suitable spec and reinstall manually
```

```
aspect:
  Process Error   Error while compiling   Check complete logfile
```

```
xorg-gtest:
  Process Error   Error while compiling   Check complete logfile
```

```
r-shortread:
  Conflict in spec, unsatisfiable variant
r-biobase requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-shortread to find suitable spec and reinstall manually
```

```
py-pyugrid:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pyugrid to find suitable spec and reinstall manually
```

```
py-google-api-core:
  Fetch Error   Failed to fetch the following package:
==> python is already installed in /home/fock/informatik-cluster/Uni-Projekt-Spack/spack/opt/spack/linux-ubuntu18.04-x86_64/gcc-8.3.0/python-2.7.1
==> py-setuptools is already installed in /home/fock/informatik-cluster/Uni-Projekt-Spack/spack/opt/spack/linux-ubuntu18.04-x86_64/gcc-8.3.0/py-se
==> Installing py-futures
==> Searching for binary cache of py-futures
==> No binary for py-futures found: installing from source
```

```
py-bx-python:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-bx-python to find suitable spec and reinstall manually
```

```
r-summarizedexperiment:
  Conflict in spec, unsatisfiable variant
r-iranges requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-summarizedexperiment to find suitable spec and reinstall manually
```

```
r-affyilm:
  Conflict in spec, unsatisfiable variant
r-biobase requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-affyilm to find suitable spec and reinstall manually
```

```
sst-macro:
  Process Error   Error while compiling   Check complete logfile
```

```
r-bfast:
  URL Error 404   ----------------   --------------
```

```
py-wand:
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info py-wand to find suitable spec and reinstall manually
```

```
tmhmm:
  Fetch Error   Failed to fetch the following package:
==> Installing tmhmm
==> Searching for binary cache of tmhmm
==> No binary for tmhmm found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/tmhmm-2.0c.Linux.tar.gz
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/tmhmm-2.0c.Linux.tar.gz failed.
```

```
py-mysqlclient:
  Process Error   Error while compiling   Check complete logfile
```

```
py-cdo:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-cdo to find suitable spec and reinstall manually
```

```
ioapi:
  Checksum Error  Wrong Checksum   Package might still run, please try manually
```

```
py-lazyarray:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
```

```
 Try spack info py-lazyarray to find suitable spec and reinstall manually
```

gts:
```
  Process Error   Error while compiling   Check complete logfile
```

strace:
```
  Process Error   Error while compiling   Check complete logfile
```

py-colorpy:
```
  Conflict in spec, unsatisfiable variant
py-matplotlib requires python version 3.6:, but spec asked for 2.7.16
 Try spack info py-colorpy to find suitable spec and reinstall manually
```

r-glimma:
```
  Conflict in spec, unsatisfiable variant
r-glimma requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-glimma to find suitable spec and reinstall manually
```

r-picante:
```
  URL Error 404   ----------------   --------------
```

py-geeup:
```
  Conflicting conditional dependencies for spec  ----------------   --------------
```

r-factoextra:
```
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info r-factoextra to find suitable spec and reinstall manually
```

pocl:
```
  Conflict in spec, unsatisfiable variant
pocl requires hwloc version :1.99.99, but spec asked for 2.0.2
 Try spack info pocl to find suitable spec and reinstall manually
```

pagmo:
```
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info pagmo to find suitable spec and reinstall manually
```

py-dask:
```
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-dask to find suitable spec and reinstall manually
```

r-sf:
```
  Process Error   Error while compiling   Check complete logfile
```

ea-utils:
```
  Process Error   Error while compiling   Check complete logfile
```

r-mice:
```
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info r-mice to find suitable spec and reinstall manually
```

r-affycoretools:
```
  Conflict in spec, unsatisfiable variant
r-annotationdbi requires r version 3.5.0:3.5.9, but spec asked for 3.4.4
 Try spack info r-affycoretools to find suitable spec and reinstall manually
```

of-catalyst:
```
  IOError   ----------------   --------------
```

itstool:
```
  Process Error   Error while compiling   Check complete logfile
```

ascent:
```
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info ascent to find suitable spec and reinstall manually
```

mefit:
```
  Unknown Error   ---------------   Please check complete logfile
```

py-pandas:
```
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pandas to find suitable spec and reinstall manually
```

```
blaze:
  Process Error   Error while compiling   Check complete logfile
```

```
py-netcdf4:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-netcdf4 to find suitable spec and reinstall manually
```

```
xcb-demo:
  Process Error   Error while compiling   Check complete logfile
```

```
intel-parallel-studio:
  Conflicts in concretized spec
1. "+mpi" conflicts with "intel-parallel-studio@professional.0:professional.9999"
 Try spack info intel-parallel-studio to find suitable spec and reinstall manually
```

```
nim:
  Checksum Error  Wrong Checksum   Package might still run, please try manually
```

```
beforelight:
  Process Error   Error while compiling   Check complete logfile
```

```
sailfish:
  Process Error   Error while compiling   Check complete logfile
```

```
py-abipy:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-abipy to find suitable spec and reinstall manually
```

```
dd4hep:
  Conflict in spec, unsatisfiable variant
root requires libxml2 variant +python, but spec asked for ~python
 Try spack info dd4hep to find suitable spec and reinstall manually
```

```
openmc:
  Checksum Error  Wrong Checksum   Package might still run, please try manually
```

```
gearshifft:
  Process Error   Error while compiling   Check complete logfile
```

```
gurobi:
  Fetch Error   Failed to fetch the following package:
==> Installing gurobi
==> Searching for binary cache of gurobi
==> No binary for gurobi found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/gurobi7.5.2_linux64.tar.gz
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/gurobi7.5.2_linux64.tar.gz failed.
```

```
oclint:
  Process Error   Error while compiling   Check complete logfile
```

```
i3:
  Process Error   Error while compiling   Check complete logfile
```

```
r-circlize:
  URL Error 404   ---------------   --------------
```

```
candle-benchmarks:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info candle-benchmarks to find suitable spec and reinstall manually
```

```
xorg-docs:
  Process Error   Error while compiling   Check complete logfile
```

```
r-gostats:
  Conflict in spec, unsatisfiable variant
r-annotationdbi requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-gostats to find suitable spec and reinstall manually
```

```
py-opppy:
  Fetch Error   Failed to fetch the following package:
==> Installing py-opppy
==> Searching for binary cache of py-opppy
==> No binary for py-opppy found: installing from source
==> Fetching https://github.com/lanl/OPPPY/archive/OPPPY-0.1.1.tar.gz
```

```
==> Fetching from https://github.com/lanl/OPPPY/archive/OPPPY-0.1.1.tar.gz failed.
```

py-pybigwig:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pybigwig to find suitable spec and reinstall manually

aoflagger:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info aoflagger to find suitable spec and reinstall manually

r-log4r:
  URL Error 404   ----------------   --------------

r-mzr:
  Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-mzr to find suitable spec and reinstall manually

py-periodictable:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-periodictable to find suitable spec and reinstall manually

intel:
  Process Error   Error while compiling   Check complete logfile

libemos:
  Process Error   Error while compiling   Check complete logfile

globus-toolkit:
  Fetch Error   Failed to fetch the following package:
==> Installing globus-toolkit
==> Searching for binary cache of globus-toolkit
==> No binary for globus-toolkit found: installing from source
==> Fetching http://toolkit.globus.org/ftppub/gt6/installers/src/globus_toolkit-6.0.1506371041.tar.gz
==> Fetching from http://toolkit.globus.org/ftppub/gt6/installers/src/globus_toolkit-6.0.1506371041.tar.gz failed.

py-scikit-learn:
  Conflict in spec, unsatisfiable variant
py-scikit-learn requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-scikit-learn to find suitable spec and reinstall manually

r-alsace:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info r-alsace to find suitable spec and reinstall manually

rose:
  Process Error   Error while compiling   Check complete logfile

r-simpleaffy:
  Conflict in spec, unsatisfiable variant
r-simpleaffy requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-simpleaffy to find suitable spec and reinstall manually

fstobdf:
  Process Error   Error while compiling   Check complete logfile

notmuch:
  Process Error   Error while compiling   Check complete logfile

r-gtrellis:
  Conflict in spec, unsatisfiable variant
r-gtrellis requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-gtrellis to find suitable spec and reinstall manually

xev:
  Process Error   Error while compiling   Check complete logfile

py-checkm-genome:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-checkm-genome to find suitable spec and reinstall manually

dia:
  Conflict in spec, unsatisfiable variant

```
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info dia to find suitable spec and reinstall manually
```

```
amber:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info amber to find suitable spec and reinstall manually
```

```
r-rodbc:
  URL Error 404   ----------------   --------------
```

```
py-guiqwt:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-guiqwt to find suitable spec and reinstall manually
```

```
r-lme4:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info r-lme4 to find suitable spec and reinstall manually
```

```
py-widgetsnbextension:
  Conflicts in concretized spec
1. "^python@2.7:2.8" conflicts with "py-ipython@7.0.0:"
 Try spack info py-widgetsnbextension to find suitable spec and reinstall manually
```

```
r-aneufinder:
  Conflict in spec, unsatisfiable variant
r-aneufinderdata requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-aneufinder to find suitable spec and reinstall manually
```

```
py-statsmodels:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-statsmodels to find suitable spec and reinstall manually
```

```
py-unicycler:
  IOError ----------------   --------------
```

```
motif:
  Process Error   Error while compiling   Check complete logfile
```

```
py-importlib-metadata:
  Package not found ----------------   --------------
```

```
mvapich2:
  Conflicts in concretized spec
1. "%gcc@6:" conflicts with "psm@3.3"
 Try spack info mvapich2 to find suitable spec and reinstall manually
```

```
tppred:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info tppred to find suitable spec and reinstall manually
```

```
py-yt:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-yt to find suitable spec and reinstall manually
```

```
r-ggbio:
  Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.4.4
 Try spack info r-ggbio to find suitable spec and reinstall manually
```

```
man-db:
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info man-db to find suitable spec and reinstall manually
```

```
cram:
  Process Error   Error while compiling   Check complete logfile
```

```
r-gwmodel:
  Process Error   Error while compiling   Check complete logfile
```

```
gource:
  Process Error   Error while compiling   Check complete logfile
```

```
augustus:
  Process Error   Error while compiling   Check complete logfile
```

```
flecsph:
  Fetch Error    Failed to fetch the following package:
==> Installing flecsi
==> Searching for binary cache of flecsi
==> No binary for flecsi found: installing from source
==> Cloning git repository: https://github.com/laristra/flecsi.git on branch feature/flecsph
==> Fetching from [git] https://github.com/laristra/flecsi.git on branch feature/flecsph failed.
```

```
memsurfer:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info memsurfer to find suitable spec and reinstall manually
```

```
py-slepc4py:
  Conflict in spec, unsatisfiable variant
py-slepc4py requires py-petsc4py version 3.10:3.10.99, but spec asked for 3.11.0
 Try spack info py-slepc4py to find suitable spec and reinstall manually
```

```
py-pyudev:
  Fetch Error   Failed to fetch the following package:
==> Installing py-pyudev
==> Searching for binary cache of py-pyudev
==> No binary for py-pyudev found: installing from source
==> Fetching https://pypi.io/packages/source/p/pyudev/pyudev-0.21.tar.gz
==> Fetching from https://pypi.io/packages/source/p/pyudev/pyudev-0.21.tar.gz failed.
```

```
py-pytest-xdist:
  Conflict in spec, unsatisfiable variant
py-pytest requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pytest-xdist to find suitable spec and reinstall manually
```

```
r-tfbstools:
  Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-tfbstools to find suitable spec and reinstall manually
```

```
xfwp:
  Process Error   Error while compiling   Check complete logfile
```

```
perl-readonly:
  Process Error   Error while compiling   Check complete logfile
```

```
r-pbdzmq:
  Process Error   Error while compiling   Check complete logfile
```

```
r-affyexpress:
  Conflict in spec, unsatisfiable variant
r-affyexpress requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-affyexpress to find suitable spec and reinstall manually
```

```
icedtea:
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info icedtea to find suitable spec and reinstall manually
```

```
py-apipkg:
  Checksum Error  Wrong Checksum   Package might still run, please try manually
```

```
py-numexpr3:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-numexpr3 to find suitable spec and reinstall manually
```

```
r-a4base:
  Conflict in spec, unsatisfiable variant
r-biobase requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-a4base to find suitable spec and reinstall manually
```

```
r-spdep:
  Process Error   Error while compiling   Check complete logfile
```

```
orthofiller:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
```

```
 Try spack info orthofiller to find suitable spec and reinstall manually
```

```
r-illuminaio:
  Conflict in spec, unsatisfiable variant
r-illuminaio requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-illuminaio to find suitable spec and reinstall manually
```

```
r-topgo:
  Conflict in spec, unsatisfiable variant
r-biocgenerics requires r version 3.6.0:, but spec asked for 3.4.4
 Try spack info r-topgo to find suitable spec and reinstall manually
```

```
r-msnbase:
  Conflict in spec, unsatisfiable variant
r-vsn requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-msnbase to find suitable spec and reinstall manually
```

```
wcslib:
  Fetch Error   Failed to fetch the following package:
==> Installing wcslib
==> Searching for binary cache of wcslib
==> No binary for wcslib found: installing from source
==> Fetching ftp://ftp.atnf.csiro.au/pub/software/wcslib/wcslib-5.18.tar.bz2
==> Fetching from ftp://ftp.atnf.csiro.au/pub/software/wcslib/wcslib-5.18.tar.bz2 failed.
```

```
py-geeadd:
  Conflict in spec, unsatisfiable variant
py-pytest requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-geeadd to find suitable spec and reinstall manually
```

```
r-genomeinfodb:
  Conflict in spec, unsatisfiable variant
r-genomeinfodbdata requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-genomeinfodb to find suitable spec and reinstall manually
```

```
py-symfit:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-symfit to find suitable spec and reinstall manually
```

```
psm:
  Conflicts in concretized spec
1. "%gcc@6:" conflicts with "psm@3.3"
 Try spack info psm to find suitable spec and reinstall manually
```

```
r-pathview:
  Conflict in spec, unsatisfiable variant
r-keggrest requires r version 3.4.3:3.4.9, but spec asked for 3.6.1
 Try spack info r-pathview to find suitable spec and reinstall manually
```

```
r-allelicimbalance:
  Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.4.4
 Try spack info r-allelicimbalance to find suitable spec and reinstall manually
```

```
r-jomo:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info r-jomo to find suitable spec and reinstall manually
```

```
py-pygobject:
  Conflict in spec, unsatisfiable variant
gtkplus requires cairo variant +X, but spec asked for ~X
 Try spack info py-pygobject to find suitable spec and reinstall manually
```

```
py-git2:
  Process Error   Error while compiling   Check complete logfile
```

```
py-misopy:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-misopy to find suitable spec and reinstall manually
```

```
py-nose2:
  Fetch Error   Failed to fetch the following package:
==> python is already installed in /home/fock/informatik-cluster/Uni-Projekt-Spack/spack/opt/spack/linux-ubuntu18.04-x86_64/gcc-8.3.0/python-2.7.1
==> py-setuptools is already installed in /home/fock/informatik-cluster/Uni-Projekt-Spack/spack/opt/spack/linux-ubuntu18.04-x86_64/gcc-8.3.0/py-se
==> Installing py-coverage
```

```
==> Searching for binary cache of py-coverage
==> No binary for py-coverage found: installing from source
```

```
grandr:
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info grandr to find suitable spec and reinstall manually
```

```
py-modred:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-modred to find suitable spec and reinstall manually
```

```
magma:
  Process Error   Error while compiling   Check complete logfile
```

```
ferret:
  Process Error   Error while compiling   Check complete logfile
```

```
py-metasv:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-metasv to find suitable spec and reinstall manually
```

```
py-edffile:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-edffile to find suitable spec and reinstall manually
```

```
sympol:
  Process Error   Error while compiling   Check complete logfile
```

```
py-testinfra:
  Conflict in spec, unsatisfiable variant
py-pytest requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-testinfra to find suitable spec and reinstall manually
```

```
py-gnuplot:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-gnuplot to find suitable spec and reinstall manually
```

```
r-annotationfilter:
  Conflict in spec, unsatisfiable variant
r-annotationfilter requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-annotationfilter to find suitable spec and reinstall manually
```

```
eqr:
  Process Error   Error while compiling   Check complete logfile
```

```
r-rgraphviz:
  Conflict in spec, unsatisfiable variant
r-rgraphviz requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-rgraphviz to find suitable spec and reinstall manually
```

```
r-coin:
  URL Error 404   ----------------   --------------
```

```
cgdb:
  Process Error   Error while compiling   Check complete logfile
```

```
r-geoquery:
  Conflict in spec, unsatisfiable variant
r-biobase requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-geoquery to find suitable spec and reinstall manually
```

```
r-genomicranges:
  Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-genomicranges to find suitable spec and reinstall manually
```

```
ecflow:
  Process Error   Error while compiling   Check complete logfile
```

```
fastx-toolkit:
  Process Error   Error while compiling   Check complete logfile
```

```
gaudi:
```

```
  max. recursion depth exceeded  ----------------   --------------
```

```
r-phyloseq:
  Conflict in spec, unsatisfiable variant
r-biobase requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-phyloseq to find suitable spec and reinstall manually
```

```
apple-libunwind:
  No valid version   ----------------   --------------
```

```
py-phonopy:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-phonopy to find suitable spec and reinstall manually
```

```
csdp:
  Process Error   Error while compiling   Check complete logfile
```

```
py-deeptools:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-deeptools to find suitable spec and reinstall manually
```

```
r-cner:
  Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-cner to find suitable spec and reinstall manually
```

```
py-dryscrape:
  Process Error   Error while compiling   Check complete logfile
```

```
fsl:
  Conflicts in concretized spec
1. "%gcc@6:" conflicts with "fsl@5.0.10"
 Try spack info fsl to find suitable spec and reinstall manually
```

```
r-gosemsim:
  Conflict in spec, unsatisfiable variant
r-annotationdbi requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-gosemsim to find suitable spec and reinstall manually
```

```
xkeyboard-config:
  Process Error   Error while compiling   Check complete logfile
```

```
conduit:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info conduit to find suitable spec and reinstall manually
```

```
relion:
  Conflicts in concretized spec
1. "%gcc@8:" conflicts with "relion+cuda ^cuda@10.0.130 arch=linux-None-x86_64"
 Try spack info relion to find suitable spec and reinstall manually
```

```
nccl:
  Process Error   Error while compiling   Check complete logfile
```

```
r-delayedarray:
  Conflict in spec, unsatisfiable variant
r-delayedarray requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-delayedarray to find suitable spec and reinstall manually
```

```
kaldi:
  Conflicts in concretized spec
1. "%gcc@6:" conflicts with "openfst"
 Try spack info kaldi to find suitable spec and reinstall manually
```

```
satsuma2:
  IOError  ----------------   --------------
```

```
r-diffusionmap:
  URL Error 404  ----------------   --------------
```

```
templight-tools:
  Process Error   Error while compiling   Check complete logfile
```

```
py-quantities:
  Conflict in spec, unsatisfiable variant
```

```
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-quantities to find suitable spec and reinstall manually
```

```
lighttpd:
  Process Error   Error while compiling   Check complete logfile
```

```
rodinia:
  Conflicts in concretized spec
1. "~cuda" conflicts with "rodinia"
 Try spack info rodinia to find suitable spec and reinstall manually
```

```
cistem:
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info cistem to find suitable spec and reinstall manually
```

```
wxwidgets:
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info wxwidgets to find suitable spec and reinstall manually
```

```
r-genomicalignments:
  Conflict in spec, unsatisfiable variant
r-biocparallel requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-genomicalignments to find suitable spec and reinstall manually
```

```
r-animation:
  Conflict in spec, unsatisfiable variant
r requires cairo variant ~X, but spec asked for +X
 Try spack info r-animation to find suitable spec and reinstall manually
```

```
perl-task-weaken:
  Process Error   Error while compiling   Check complete logfile
```

```
r-limma:
  Conflict in spec, unsatisfiable variant
r-limma requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-limma to find suitable spec and reinstall manually
```

```
gams:
  Fetch Error   Failed to fetch the following package:
==> Installing gams
==> Searching for binary cache of gams
==> No binary for gams found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/linux_x64_64_sfx.exe
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/linux_x64_64_sfx.exe failed.
```

```
r-rots:
  Conflict in spec, unsatisfiable variant
r-biobase requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-rots to find suitable spec and reinstall manually
```

```
py-pydv:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pydv to find suitable spec and reinstall manually
```

```
r-rsnns:
  URL Error 404   ----------------   --------------
```

```
r-hdf5r:
  Process Error   Error while compiling   Check complete logfile
```

```
r-gviz:
  Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.4.4
 Try spack info r-gviz to find suitable spec and reinstall manually
```

```
xcompmgr:
  Process Error   Error while compiling   Check complete logfile
```

```
py-pygpu:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pygpu to find suitable spec and reinstall manually
```

```
exiv2:
  Process Error   Error while compiling   Check complete logfile
```

```
py-ipdb:
  Conflicts in concretized spec
1. "^python@2.7:2.8" conflicts with "py-ipython@7.0.0:"
 Try spack info py-ipdb to find suitable spec and reinstall manually
```

```
converge:
  Conflict in spec, unsatisfiable variant
converge requires openmpi version 1.10.0:1.10.999, but spec asked for 3.1.4
 Try spack info converge to find suitable spec and reinstall manually
```

```
ltrace:
  Process Error   Error while compiling   Check complete logfile
```

```
homer:
  Conflict in spec, unsatisfiable variant
r-biocparallel requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info homer to find suitable spec and reinstall manually
```

```
py-picrust:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-picrust to find suitable spec and reinstall manually
```

```
py-pytest-cov:
  Conflict in spec, unsatisfiable variant
py-pytest requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pytest-cov to find suitable spec and reinstall manually
```

```
nlopt:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info nlopt to find suitable spec and reinstall manually
```

```
maq:
  Conflicts in concretized spec
1. "%gcc@4.7.0:" conflicts with "maq@0.7.1"
 Try spack info maq to find suitable spec and reinstall manually
```

```
trinity:
  Conflict in spec, unsatisfiable variant
r-edger requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info trinity to find suitable spec and reinstall manually
```

```
openslide:
  Process Error   Error while compiling   Check complete logfile
```

```
scalpel:
  IOError  ---------------   --------------
```

```
py-pyfasta:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pyfasta to find suitable spec and reinstall manually
```

```
aegean:
  Conflicts in concretized spec
1. "%gcc@7.1.0:" conflicts with "genometools"
 Try spack info aegean to find suitable spec and reinstall manually
```

```
py-pipits:
  Conflict in spec, unsatisfiable variant
py-pipits requires python version 3:, but spec asked for 2.7.16
 Try spack info py-pipits to find suitable spec and reinstall manually
```

```
the-platinum-searcher:
  Attribute Error  ---------------   --------------
```

```
percept:
  Process Error   Error while compiling   Check complete logfile
```

```
mathematica:
  Fetch Error   Failed to fetch the following package:
==> Installing mathematica
==> Searching for binary cache of mathematica
==> No binary for mathematica found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/Mathematica_12.0.0_LINUX.sh
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/Mathematica_12.0.0_LINUX.sh failed.
```

```
r-reportingtools:
  Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.4.4
 Try spack info r-reportingtools to find suitable spec and reinstall manually
```

```
neuron:
  Conflicts in concretized spec
1. "~shared" conflicts with "neuron+python"
 Try spack info neuron to find suitable spec and reinstall manually
```

```
perl-module-build-tiny:
  Process Error   Error while compiling   Check complete logfile
```

```
py-numba:
  Conflict in spec, unsatisfiable variant
py-numba requires python version 3.3:3.7.9999, but spec asked for 2.7.16
 Try spack info py-numba to find suitable spec and reinstall manually
```

```
libspatialite:
  Process Error   Error while compiling   Check complete logfile
```

```
py-stratify:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-stratify to find suitable spec and reinstall manually
```

```
xphelloworld:
  Process Error   Error while compiling   Check complete logfile
```

```
py-meep:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-meep to find suitable spec and reinstall manually
```

```
r-vsn:
  Conflict in spec, unsatisfiable variant
r-vsn requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-vsn to find suitable spec and reinstall manually
```

```
r-checkpoint:
  URL Error 404   ----------------   --------------
```

```
py-rasterio:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-rasterio to find suitable spec and reinstall manually
```

```
py-genders:
  Process Error   Error while compiling   Check complete logfile
```

```
r-alpine:
  Conflict in spec, unsatisfiable variant
r-iranges requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-alpine to find suitable spec and reinstall manually
```

```
py-iminuit:
  Conflict in spec, unsatisfiable variant
py-matplotlib requires python version 3.6:, but spec asked for 2.7.16
 Try spack info py-iminuit to find suitable spec and reinstall manually
```

```
octave-splines:
  Process Error   Error while compiling   Check complete logfile
```

```
slepc:
  Conflicting conditional dependencies for spec   ----------------   --------------
```

```
picsar:
  Process Error   Error while compiling   Check complete logfile
```

```
vizglow:
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info vizglow to find suitable spec and reinstall manually
```

```
r-do-db:
  Conflict in spec, unsatisfiable variant
r-annotationdbi requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
```

```
  Try spack info r-do-db to find suitable spec and reinstall manually
```

```
intel-mkl-dnn:
  Process Error   Error while compiling   Check complete logfile
```

```
openfdtd:
  Checksum Error  Wrong Checksum   Package might still run, please try manually
```

```
lsf:
  No valid version   ----------------   --------------
```

```
r-xde:
  Conflict in spec, unsatisfiable variant
r-biobase requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-xde to find suitable spec and reinstall manually
```

```
mrtrix3:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info mrtrix3 to find suitable spec and reinstall manually
```

```
r-org-hs-eg-db:
  Conflict in spec, unsatisfiable variant
r-annotationdbi requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-org-hs-eg-db to find suitable spec and reinstall manually
```

```
py-espressopp:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-espressopp to find suitable spec and reinstall manually
```

```
r-spatialreg:
  Process Error   Error while compiling   Check complete logfile
```

```
polymake:
  Process Error   Error while compiling   Check complete logfile
```

```
py-udunits:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-udunits to find suitable spec and reinstall manually
```

```
py-faststructure:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-faststructure to find suitable spec and reinstall manually
```

```
ufo-filters:
  Process Error   Error while compiling   Check complete logfile
```

```
r-mzid:
  Conflict in spec, unsatisfiable variant
r-protgenerics requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-mzid to find suitable spec and reinstall manually
```

```
exchanger:
  Process Error   Error while compiling   Check complete logfile
```

```
folly:
  Process Error   Error while compiling   Check complete logfile
```

```
libapplewm:
  Process Error   Error while compiling   Check complete logfile
```

```
py-spatialist:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-spatialist to find suitable spec and reinstall manually
```

```
elpa:
  Process Error   Error while compiling   Check complete logfile
```

```
hadoop:
  Fetch Error   Failed to fetch the following package:
==> Installing hadoop
==> Searching for binary cache of hadoop
==> No binary for hadoop found: installing from source
==> Fetching http://mirrors.ocf.berkeley.edu/apache/hadoop/common/hadoop-3.1.1/hadoop-3.1.1.tar.gz
```

```
==> Fetching from http://mirrors.ocf.berkeley.edu/apache/hadoop/common/hadoop-3.1.1/hadoop-3.1.1.tar.gz failed.
```

r-bsgenome:
  Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-bsgenome to find suitable spec and reinstall manually

r-chron:
  URL Error 404   ---------------   --------------

r-construct:
  URL Error 404   ---------------   --------------

py-onnx:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-onnx to find suitable spec and reinstall manually

py-pynn:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pynn to find suitable spec and reinstall manually

py-adios:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-adios to find suitable spec and reinstall manually

strelka:
  Process Error   Error while compiling   Check complete logfile

xfsinfo:
  Process Error   Error while compiling   Check complete logfile

usearch:
  Fetch Error   Failed to fetch the following package:
==> Installing usearch
==> Searching for binary cache of usearch
==> No binary for usearch found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/usearch10.0.240_i86linux32
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/usearch10.0.240_i86linux32 failed.

r-rmysql:
  Process Error   Error while compiling   Check complete logfile

r-rmpi:
  Process Error   Error while compiling   Check complete logfile

vtk:
  Conflict in spec, unsatisfiable variant
netcdf requires hdf5 variant +hl, but spec asked for ~hl
 Try spack info vtk to find suitable spec and reinstall manually

repeatmodeler:
  Fetch Error   Failed to fetch the following package:
==> Installing trf
==> Searching for binary cache of trf
==> No binary for trf found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/trf409.linux64
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/trf409.linux64 failed.

es:
  Process Error   Error while compiling   Check complete logfile

repeatmasker:
  Fetch Error   Failed to fetch the following package:
==> Installing trf
==> Searching for binary cache of trf
==> No binary for trf found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/trf409.linux64
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/trf409.linux64 failed.

stata:
  Fetch Error   Failed to fetch the following package:
==> Installing stata
==> Searching for binary cache of stata
==> No binary for stata found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/Stata15Linux64.tar.gz

```
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/Stata15Linux64.tar.gz failed.
```

```
py-neo:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-neo to find suitable spec and reinstall manually
```

```
json-glib:
  Process Error   Error while compiling   Check complete logfile
```

```
ants:
  Process Error   Error while compiling   Check complete logfile
```

```
xvidtune:
  Process Error   Error while compiling   Check complete logfile
```

```
denovogear:
  Process Error   Error while compiling   Check complete logfile
```

```
pdftk:
  Process Error   Error while compiling   Check complete logfile
```

```
masurca:
  Fetch Error   Failed to fetch the following package:
==> Installing masurca
==> Searching for binary cache of masurca
==> No binary for masurca found: installing from source
==> Fetching https://github.com/alekseyzimin/masurca/releases/download/v3.3.1/MaSuRCA-3.3.1.tar.gz
==> Fetching from https://github.com/alekseyzimin/masurca/releases/download/v3.3.1/MaSuRCA-3.3.1.tar.gz failed.
```

```
visit:
  Conflict in spec, unsatisfiable variant
visit requires vtk variant +python, but spec asked for ~python
 Try spack info visit to find suitable spec and reinstall manually
```

```
r-tidycensus:
  Process Error   Error while compiling   Check complete logfile
```

```
py-pywavelets:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pywavelets to find suitable spec and reinstall manually
```

```
biopieces:
  Process Error   Error while compiling   Check complete logfile
```

```
cdecimal:
  Process Error   Error while compiling   Check complete logfile
```

```
r-complexheatmap:
  Conflict in spec, unsatisfiable variant
r-complexheatmap requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-complexheatmap to find suitable spec and reinstall manually
```

```
py-ase:
  Conflict in spec, unsatisfiable variant
py-ase requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-ase to find suitable spec and reinstall manually
```

```
mofem-users-modules:
  Conflict in spec, unsatisfiable variant
petsc requires hdf5 variant +fortran, but spec asked for ~fortran
 Try spack info mofem-users-modules to find suitable spec and reinstall manually
```

```
votca-xtp:
  Fetch Error   Failed to fetch the following package:
==> Installing libxc
==> Searching for binary cache of libxc
==> No binary for libxc found: installing from source
==> Fetching http://www.tddft.org/programs/octopus/down.php?file=libxc/4.3.2/libxc-4.3.2.tar.gz
==> Fetching from http://www.tddft.org/programs/octopus/down.php?file=libxc/4.3.2/libxc-4.3.2.tar.gz failed.
```

```
py-shapely:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-shapely to find suitable spec and reinstall manually
```

```
perl-dbd-mysql:
```

```
   Process Error    Error while compiling    Check complete logfile
```
_____
```
go-md2man:
   Process Error    Error while compiling    Check complete logfile
```
_____
```
attr:
   Process Error    Error while compiling    Check complete logfile
```
_____
```
tcoffee:
   Conflicts in concretized spec
1. "%gcc@6:" conflicts with "dialign-tx"
 Try spack info tcoffee to find suitable spec and reinstall manually
```
_____
```
seacas:
   Process Error    Error while compiling    Check complete logfile
```
_____
```
openspeedshop:
   Conflict in spec, unsatisfiable variant
qt requires openssl version :1.0.999, but spec asked for 1.1.1c
 Try spack info openspeedshop to find suitable spec and reinstall manually
```
_____
```
ctffind:
   Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info ctffind to find suitable spec and reinstall manually
```
_____
```
xplsprinters:
   Process Error    Error while compiling    Check complete logfile
```
_____
```
cp2k:
   Fetch Error    Failed to fetch the following package:
==> Installing libxc
==> Searching for binary cache of libxc
==> No binary for libxc found: installing from source
==> Fetching http://www.tddft.org/programs/octopus/down.php?file=libxc/4.3.2/libxc-4.3.2.tar.gz
==> Fetching from http://www.tddft.org/programs/octopus/down.php?file=libxc/4.3.2/libxc-4.3.2.tar.gz failed.
```
_____
```
etsf-io:
   Process Error    Error while compiling    Check complete logfile
```
_____
```
showfont:
   Process Error    Error while compiling    Check complete logfile
```
_____
```
xtensor-python:
   Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info xtensor-python to find suitable spec and reinstall manually
```
_____
```
sandbox:
   Process Error    Error while compiling    Check complete logfile
```
_____
```
py-jupyterhub:
   Conflict in spec, unsatisfiable variant
node-js requires python version 2.7:2.8, but spec asked for 3.5:
 Try spack info py-jupyterhub to find suitable spec and reinstall manually
```
_____
```
r-gcrma:
   Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-gcrma to find suitable spec and reinstall manually
```
_____
```
ghostscript:
   Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info ghostscript to find suitable spec and reinstall manually
```
_____
```
py-line-profiler:
   Conflicts in concretized spec
1. "^python@2.7:2.8" conflicts with "py-ipython@7.0.0:"
 Try spack info py-line-profiler to find suitable spec and reinstall manually
```
_____
```
py-cclib:
   Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-cclib to find suitable spec and reinstall manually
```
_____
```
ompss:
   Conflict in spec, unsatisfiable variant
```
_____

```
openmpi requires hwloc version :1.999, but spec asked for 2.0.2
 Try spack info ompss to find suitable spec and reinstall manually
```
_____
```
r-rpart-plot:
   URL Error 404    ----------------    --------------
```
_____
```
halc:
   Process Error    Error while compiling    Check complete logfile
```
_____
```
imp:
   Process Error    Error while compiling    Check complete logfile
```
_____
```
openglu:
   No valid version    ----------------    --------------
```
_____
```
sosflow:
   Process Error    Error while compiling    Check complete logfile
```
_____
```
dakota:
   Fetch Error    Failed to fetch the following package:
==> Installing dakota
==> Searching for binary cache of dakota
==> No binary for dakota found: installing from source
==> Fetching https://dakota.sandia.gov/sites/default/files/distributions/public/dakota-6.9-release-public-src.zip
==> Fetching from https://dakota.sandia.gov/sites/default/files/distributions/public/dakota-6.9-release-public-src.zip failed.
```
_____
```
r-bumphunter:
   Conflict in spec, unsatisfiable variant
r-limma requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-bumphunter to find suitable spec and reinstall manually
```
_____
```
breakdancer:
   Process Error    Error while compiling    Check complete logfile
```
_____
```
parquet:
   Process Error    Error while compiling    Check complete logfile
```
_____
```
r-somaticsignatures:
   Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.4.4
 Try spack info r-somaticsignatures to find suitable spec and reinstall manually
```
_____
```
cln:
   Process Error    Error while compiling    Check complete logfile
```
_____
```
primer3:
   Process Error    Error while compiling    Check complete logfile
```
_____
```
py-pythonqwt:
   Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pythonqwt to find suitable spec and reinstall manually
```
_____
```
rdptools:
   Process Error    Error while compiling    Check complete logfile
```
_____
```
r-biomformat:
   Conflict in spec, unsatisfiable variant
r-biomformat requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-biomformat to find suitable spec and reinstall manually
```
_____
```
r-adegenet:
   Process Error    Error while compiling    Check complete logfile
```
_____
```
r-affyqcreport:
   Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-affyqcreport to find suitable spec and reinstall manually
```
_____
```
py-mo-pack:
   Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-mo-pack to find suitable spec and reinstall manually
```
_____
```
circos:
   Process Error    Error while compiling    Check complete logfile
```
_____
```
mofem-minimal-surface-equation:
```
_____

  Conflict in spec, unsatisfiable variant
petsc requires hdf5 variant +fortran, but spec asked for ~fortran
 Try spack info mofem-minimal-surface-equation to find suitable spec and reinstall manually

---

astyle:
  Process Error   Error while compiling   Check complete logfile

---

signify:
  Process Error   Error while compiling   Check complete logfile

---

r-clusterprofiler:
  Conflict in spec, unsatisfiable variant
r-qvalue requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-clusterprofiler to find suitable spec and reinstall manually

---

atompaw:
  Fetch Error   Failed to fetch the following package:
==> Installing libxc
==> Searching for binary cache of libxc
==> No binary for libxc found: installing from source
==> Fetching http://www.tddft.org/programs/octopus/down.php?file=libxc/libxc-2.2.1.tar.gz
==> Fetching from http://www.tddft.org/programs/octopus/down.php?file=libxc/libxc-2.2.1.tar.gz failed.

---

eclipse-gcj-parser:
  Process Error   Error while compiling   Check complete logfile

---

r-aer:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info r-aer to find suitable spec and reinstall manually

---

simulationio:
  Conflict in spec, unsatisfiable variant
simulationio requires python version 3:, but spec asked for 2.7.16
 Try spack info simulationio to find suitable spec and reinstall manually

---

ethminer:
  Process Error   Error while compiling   Check complete logfile

---

motioncor2:
  Fetch Error   Failed to fetch the following package:
==> Installing motioncor2
==> Searching for binary cache of motioncor2
==> No binary for motioncor2 found: installing from source
==> Fetching http://msg.ucsf.edu/MotionCor2/MotionCor2-1.1.0.zip
==> Fetching from http://msg.ucsf.edu/MotionCor2/MotionCor2-1.1.0.zip failed.

---

dataspaces:
  Fetch Error   Failed to fetch the following package:
==> Installing dataspaces
==> Searching for binary cache of dataspaces
==> No binary for dataspaces found: installing from source
==> Fetching http://personal.cac.rutgers.edu/TASSL/projects/data/downloads/dataspaces-1.6.2.tar.gz
==> Fetching from http://personal.cac.rutgers.edu/TASSL/projects/data/downloads/dataspaces-1.6.2.tar.gz failed.

---

hoomd-blue:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info hoomd-blue to find suitable spec and reinstall manually

---

libxstream:
  IOError ----------------   --------------

---

nekcem:
  IOError ----------------   --------------

---

memaxes:
  Process Error   Error while compiling   Check complete logfile

---

templight:
  Fetch Error   Failed to fetch the following package:
==> Installing templight
==> Searching for binary cache of templight
==> No binary for templight found: installing from source
==> Cloning git repository: https://github.com/mikael-s-persson/templight.git at commit 0899a4345607f1bb244cae477214f274ad2c52cc
==> Checking out subversion repository: http://llvm.org/svn/llvm-project/llvm/trunk

---

flit:

```
  Unknown Error  ---------------  Please check complete logfile
```

r-kegg-db:
```
  Conflict in spec, unsatisfiable variant
r-annotationdbi requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-kegg-db to find suitable spec and reinstall manually
```

mira:
```
  Conflicts in concretized spec
1. "%gcc@6:" conflicts with "mira@:4.0.2"
 Try spack info mira to find suitable spec and reinstall manually
```

r-biostrings:
```
  Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-biostrings to find suitable spec and reinstall manually
```

ncl:
```
  Conflict in spec, unsatisfiable variant
netcdf requires hdf5 variant +hl, but spec asked for ~hl
 Try spack info ncl to find suitable spec and reinstall manually
```

swiftsim:
```
  Process Error   Error while compiling   Check complete logfile
```

stat:
```
  Conflict in spec, unsatisfiable variant
dyninst requires boost version 1.61.0:1.69.99, but spec asked for 1.70.0
 Try spack info stat to find suitable spec and reinstall manually
```

exabayes:
```
  Conflicts in concretized spec
1. "%gcc@:4.5.4, 7.1.0:" conflicts with "exabayes"
 Try spack info exabayes to find suitable spec and reinstall manually
```

hc:
```
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info hc to find suitable spec and reinstall manually
```

pktools:
```
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info pktools to find suitable spec and reinstall manually
```

ravel:
```
  Process Error   Error while compiling   Check complete logfile
```

r-ensembldb:
```
  Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.4.4
 Try spack info r-ensembldb to find suitable spec and reinstall manually
```

talass:
```
  Fetch Error   Failed to fetch the following package:
==> Installing talass
==> Searching for binary cache of talass
==> No binary for talass found: installing from source
==> Cloning git repository: git@bitbucket.org:cedmav/talass.git at commit 5d459c0dd89e733fa301391908a5b79fe2850ad7
==> Fetching from [git] git@bitbucket.org:cedmav/talass.git at commit 5d459c0dd89e733fa301391908a5b79fe2850ad7 failed.
```

perl-star-fusion:
```
  Process Error   Error while compiling   Check complete logfile
```

py-mysqldb1:
```
  Process Error   Error while compiling   Check complete logfile
```

lazyten:
```
  Process Error   Error while compiling   Check complete logfile
```

py-crispresso:
```
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-crispresso to find suitable spec and reinstall manually
```

py-pytest-isort:
```
  Conflict in spec, unsatisfiable variant
py-pytest requires python version 3.5:, but spec asked for 2.7.16
```

```
 Try spack info py-pytest-isort to find suitable spec and reinstall manually
```

```
bbcp:
  Fetch Error   Failed to fetch the following package:
==> Installing bbcp
==> Searching for binary cache of bbcp
==> No binary for bbcp found: installing from source
==> Cloning git repository: http://www.slac.stanford.edu/~abh/bbcp/bbcp.git on branch master
==> Fetching from [git] http://www.slac.stanford.edu/~abh/bbcp/bbcp.git on branch master failed.
```

```
phist:
  Process Error   Error while compiling   Check complete logfile
```

```
py-pytest-cache:
  Package not found  ----------------   --------------
```

```
rust-bindgen:
  Process Error   Error while compiling   Check complete logfile
```

```
saga-gis:
  Conflict in spec, unsatisfiable variant
gdal requires proj version 6:, but spec asked for 5.2.0
 Try spack info saga-gis to find suitable spec and reinstall manually
```

```
r-sm:
  Process Error   Error while compiling   Check complete logfile
```

```
fenics:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info fenics to find suitable spec and reinstall manually
```

```
bwtool:
  Checksum Error  Wrong Checksum   Package might still run, please try manually
```

```
dislin:
  Process Error   Error while compiling   Check complete logfile
```

```
py-sncosmo:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-sncosmo to find suitable spec and reinstall manually
```

```
namd:
  Fetch Error   Failed to fetch the following package:
==> Installing namd
==> Searching for binary cache of namd
==> No binary for namd found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/NAMD_2.13_Source.tar.gz
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/NAMD_2.13_Source.tar.gz failed.
```

```
r-a4preproc:
  Conflict in spec, unsatisfiable variant
r-annotationdbi requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-a4preproc to find suitable spec and reinstall manually
```

```
harminv:
  Checksum Error  Wrong Checksum   Package might still run, please try manually
```

```
pmgr-collective:
  Process Error   Error while compiling   Check complete logfile
```

```
r-biocstyle:
  Conflict in spec, unsatisfiable variant
r-biocstyle requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-biocstyle to find suitable spec and reinstall manually
```

```
r-covr:
  URL Error 404   ----------------   --------------
```

```
quinoa:
  max. recursion depth exceeded  ----------------   --------------
```

```
r-yapsa:
  Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.4.4
 Try spack info r-yapsa to find suitable spec and reinstall manually
```

```
hpx5:
  Fetch Error   Failed to fetch the following package:
==> Installing hpx5
==> Searching for binary cache of hpx5
==> No binary for hpx5 found: installing from source
==> Fetching http://hpx.crest.iu.edu/release/hpx-4.1.0.tar.gz
==> Fetching from http://hpx.crest.iu.edu/release/hpx-4.1.0.tar.gz failed.
```

```
cairomm:
  Process Error   Error while compiling   Check complete logfile
```

```
py-pygdal:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pygdal to find suitable spec and reinstall manually
```

```
r-affypdnn:
  Conflict in spec, unsatisfiable variant
r-affypdnn requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-affypdnn to find suitable spec and reinstall manually
```

```
py-execnet:
  Checksum Error  Wrong Checksum   Package might still run, please try manually
```

```
spm:
  Fetch Error   Failed to fetch the following package:
==> Installing matlab
==> Searching for binary cache of matlab
==> No binary for matlab found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/matlab_R2018b_glnxa64.zip
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/matlab_R2018b_glnxa64.zip failed.
```

```
py-espresso:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-espresso to find suitable spec and reinstall manually
```

```
cosmomc:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info cosmomc to find suitable spec and reinstall manually
```

```
autogen:
  Process Error   Error while compiling   Check complete logfile
```

```
ibm-java:
  Conflicts in concretized spec
1. "target=x86_64" conflicts with "ibm-java" [ibm-java is only available for ppc64 and ppc64le]
 Try spack info ibm-java to find suitable spec and reinstall manually
```

```
dialign-tx:
  Conflicts in concretized spec
1. "%gcc@6:" conflicts with "dialign-tx"
 Try spack info dialign-tx to find suitable spec and reinstall manually
```

```
genometools:
  Conflicts in concretized spec
1. "%gcc@7.1.0:" conflicts with "genometools"
 Try spack info genometools to find suitable spec and reinstall manually
```

```
py-tuiview:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-tuiview to find suitable spec and reinstall manually
```

```
codar-cheetah:
  Invalid Values  ----------------   --------------
```

```
py-weblogo:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-weblogo to find suitable spec and reinstall manually
```

```
r-pbkrtest:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info r-pbkrtest to find suitable spec and reinstall manually
```

```
py-google-cloud-core:
  Fetch Error   Failed to fetch the following package:
==> python is already installed in /home/fock/informatik-cluster/Uni-Projekt-Spack/spack/opt/spack/linux-ubuntu18.04-x86_64/gcc-8.3.0/python
==> py-setuptools is already installed in /home/fock/informatik-cluster/Uni-Projekt-Spack/spack/opt/spack/linux-ubuntu18.04-x86_64/gcc-8.3.0
==> Installing py-futures
==> Searching for binary cache of py-futures
==> No binary for py-futures found: installing from source
```
_____

```
sspace-longread:
  Fetch Error   Failed to fetch the following package:
==> Installing sspace-longread
==> Searching for binary cache of sspace-longread
==> No binary for sspace-longread found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/40SSPACE-LongRead_v1-1.tar.gz
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/40SSPACE-LongRead_v1-1.tar.gz failed.
```
_____

```
py-seaborn:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-seaborn to find suitable spec and reinstall manually
```
_____

```
py-pytest:
  Conflict in spec, unsatisfiable variant
py-pytest requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pytest to find suitable spec and reinstall manually
```
_____

```
py-dlcpar:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-dlcpar to find suitable spec and reinstall manually
```
_____

```
flux-sched:
  Process Error   Error while compiling   Check complete logfile
```
_____

```
yorick:
  Checksum Error  Wrong Checksum   Package might still run, please try manually
```
_____

```
py-pyrad:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pyrad to find suitable spec and reinstall manually
```
_____

```
r-corhmm:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info r-corhmm to find suitable spec and reinstall manually
```
_____

```
r-genomicfeatures:
  Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-genomicfeatures to find suitable spec and reinstall manually
```
_____

```
py-jupyter-console:
  Conflicts in concretized spec
1. "^python@2.7:2.8" conflicts with "py-ipython@7.0.0:"
 Try spack info py-jupyter-console to find suitable spec and reinstall manually
```
_____

```
gdl:
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info gdl to find suitable spec and reinstall manually
```
_____

```
r-biobase:
  Conflict in spec, unsatisfiable variant
r-biobase requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-biobase to find suitable spec and reinstall manually
```
_____

```
py-pyarrow:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pyarrow to find suitable spec and reinstall manually
```
_____

```
partitionfinder:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info partitionfinder to find suitable spec and reinstall manually
```
_____

```
r-gseabase:
```
_____

```
  Conflict in spec, unsatisfiable variant
r-gseabase requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-gseabase to find suitable spec and reinstall manually
```

```
libxc:
  Fetch Error   Failed to fetch the following package:
==> Installing libxc
==> Searching for binary cache of libxc
==> No binary for libxc found: installing from source
==> Fetching http://www.tddft.org/programs/octopus/down.php?file=libxc/4.3.2/libxc-4.3.2.tar.gz
==> Fetching from http://www.tddft.org/programs/octopus/down.php?file=libxc/4.3.2/libxc-4.3.2.tar.gz failed.
```

```
pangomm:
  Process Error   Error while compiling   Check complete logfile
```

```
py-astropy:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-astropy to find suitable spec and reinstall manually
```

```
py-pynio:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pynio to find suitable spec and reinstall manually
```

```
meep:
  Process Error   Error while compiling   Check complete logfile
```

```
py-h5py:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-h5py to find suitable spec and reinstall manually
```

```
r-ergm:
  URL Error 404   ---------------   --------------
```

```
r-mlinterfaces:
  Conflict in spec, unsatisfiable variant
r-mlinterfaces requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-mlinterfaces to find suitable spec and reinstall manually
```

```
r-acde:
  Fetch Error   Failed to fetch the following package:
==> Installing r-acde
==> Searching for binary cache of r-acde
==> No binary for r-acde found: installing from source
==> Fetching https://www.bioconductor.org/packages/release/bioc/src/contrib/acde_1.6.0.tar.gz
==> Fetching from https://www.bioconductor.org/packages/release/bioc/src/contrib/acde_1.6.0.tar.gz failed.
```

```
aluminum:
  Conflict in spec, unsatisfiable variant
openmpi requires hwloc version :1.999, but spec asked for 2.0.2
 Try spack info aluminum to find suitable spec and reinstall manually
```

```
qmd-progress:
  Process Error   Error while compiling   Check complete logfile
```

```
ocaml:
  Fetch Error   Failed to fetch the following package:
==> Installing ocaml
==> Searching for binary cache of ocaml
==> No binary for ocaml found: installing from source
==> Fetching http://caml.inria.fr/pub/distrib/ocaml-4.6/ocaml-4.06.0.tar.gz
==> Fetching from http://caml.inria.fr/pub/distrib/ocaml-4.6/ocaml-4.06.0.tar.gz failed.
```

```
ftgl:
  URL Error 404   ---------------   --------------
```

```
gconf:
  Process Error   Error while compiling   Check complete logfile
```

```
r-dirichletmultinomial:
  Conflict in spec, unsatisfiable variant
r-s4vectors requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-dirichletmultinomial to find suitable spec and reinstall manually
```

```
r-mergemaid:
  Conflict in spec, unsatisfiable variant
```

```
r-biobase requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-mergemaid to find suitable spec and reinstall manually
```

```
soapdenovo2:
  Process Error   Error while compiling   Check complete logfile
```

```
libglvnd:
  Process Error   Error while compiling   Check complete logfile
```

```
r-dtw:
  URL Error 404   ---------------   --------------
```

```
py-ipython:
  Conflicts in concretized spec
1. "^python@2.7:2.8" conflicts with "py-ipython@7.0.0:"
 Try spack info py-ipython to find suitable spec and reinstall manually
```

```
graphicsmagick:
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info graphicsmagick to find suitable spec and reinstall manually
```

```
r-fgsea:
  Conflict in spec, unsatisfiable variant
r-biocparallel requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-fgsea to find suitable spec and reinstall manually
```

```
umoci:
  Process Error   Error while compiling   Check complete logfile
```

```
octopus:
  Fetch Error   Failed to fetch the following package:
==> Installing libxc
==> Searching for binary cache of libxc
==> No binary for libxc found: installing from source
==> Fetching http://www.tddft.org/programs/octopus/down.php?file=libxc/4.3.2/libxc-4.3.2.tar.gz
==> Fetching from http://www.tddft.org/programs/octopus/down.php?file=libxc/4.3.2/libxc-4.3.2.tar.gz failed.
```

```
py-tables:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-tables to find suitable spec and reinstall manually
```

```
pslib:
  Fetch Error   Failed to fetch the following package:
==> Installing pslib
==> Searching for binary cache of pslib
==> No binary for pslib found: installing from source
==> Fetching https://kent.dl.sourceforge.net/project/pslib/pslib/0.4.5/pslib-0.4.5.tar.gz
==> Fetching from https://kent.dl.sourceforge.net/project/pslib/pslib/0.4.5/pslib-0.4.5.tar.gz failed.
```

```
mofem-fracture-module:
  Conflict in spec, unsatisfiable variant
petsc requires hdf5 variant +fortran, but spec asked for ~fortran
 Try spack info mofem-fracture-module to find suitable spec and reinstall manually
```

```
r-a4core:
  Conflict in spec, unsatisfiable variant
r-biobase requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-a4core to find suitable spec and reinstall manually
```

```
py-pytools:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pytools to find suitable spec and reinstall manually
```

```
metabat:
  Process Error   Error while compiling   Check complete logfile
```

```
atlas:
  Process Error   Error while compiling   Check complete logfile
```

```
r-sseq:
  Fetch Error   Failed to fetch the following package:
==> Installing r-sseq
==> Searching for binary cache of r-sseq
==> No binary for r-sseq found: installing from source
==> Fetching https://www.bioconductor.org/packages/release/bioc/src/contrib/sSeq_1.20.0.tar.gz
```

```
==> Fetching from https://www.bioconductor.org/packages/release/bioc/src/contrib/sSeq_1.20.0.tar.gz failed.
```

```
r-keggrest:
  Conflict in spec, unsatisfiable variant
r-keggrest requires r version 3.4.3:3.4.9, but spec asked for 3.6.1
 Try spack info r-keggrest to find suitable spec and reinstall manually
```

```
r-cdcfluview:
  Process Error   Error while compiling   Check complete logfile
```

```
py-brian:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-brian to find suitable spec and reinstall manually
```

```
pindel:
  Process Error   Error while compiling   Check complete logfile
```

```
libxpresent:
  Process Error   Error while compiling   Check complete logfile
```

```
r-hypergraph:
  Conflict in spec, unsatisfiable variant
r-hypergraph requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-hypergraph to find suitable spec and reinstall manually
```

```
perl-params-validate:
  Process Error   Error while compiling   Check complete logfile
```

```
r-s4vectors:
  Conflict in spec, unsatisfiable variant
r-s4vectors requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-s4vectors to find suitable spec and reinstall manually
```

```
cntk:
  Process Error   Error while compiling   Check complete logfile
```

```
sortmerna:
  Unknown Error  ---------------  Please check complete logfile
```

```
r-a4reporting:
  Conflict in spec, unsatisfiable variant
r-a4reporting requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-a4reporting to find suitable spec and reinstall manually
```

```
r-affyio:
  Conflict in spec, unsatisfiable variant
r-affyio requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-affyio to find suitable spec and reinstall manually
```

```
archer:
  Checksum Error  Wrong Checksum   Package might still run, please try manually
```

```
xios:
  Fetch Error   Failed to fetch the following package:
==> perl-uri-escape is already installed in /home/fock/informatik-cluster/Uni-Projekt-Spack/spack/opt/spack/linux-ubuntu18.04-x86_64/gcc-8.3.0/per
==> Installing xios
==> Searching for binary cache of xios
==> No binary for xios found: installing from source
==> Checking out subversion repository: http://forge.ipsl.jussieu.fr/ioserver/svn/XIOS/branchs/xios-1.0
```

```
dbcsr:
  Process Error   Error while compiling   Check complete logfile
```

```
snap-berkeley:
  Conflicts in concretized spec
1. "%gcc@6:" conflicts with "snap-berkeley"
 Try spack info snap-berkeley to find suitable spec and reinstall manually
```

```
py-scikit-optimize:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-scikit-optimize to find suitable spec and reinstall manually
```

```
nccmp:
  Process Error   Error while compiling   Check complete logfile
```

```
r-bamsignals:
```

```
  Conflict in spec, unsatisfiable variant
r-rhtslib requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-bamsignals to find suitable spec and reinstall manually
```

```
py-imageio:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-imageio to find suitable spec and reinstall manually
```

```
mapserver:
  Conflict in spec, unsatisfiable variant
mapserver requires proj version :5, but spec asked for 6.1.0
 Try spack info mapserver to find suitable spec and reinstall manually
```

```
r-rsamtools:
  Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-rsamtools to find suitable spec and reinstall manually
```

```
libnrm:
  Process Error   Error while compiling   Check complete logfile
```

```
r-variantannotation:
  Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-variantannotation to find suitable spec and reinstall manually
```

```
r-aldex2:
  Conflict in spec, unsatisfiable variant
r-biocparallel requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-aldex2 to find suitable spec and reinstall manually
```

```
py-cogent:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-cogent to find suitable spec and reinstall manually
```

```
py-descartes:
  Conflict in spec, unsatisfiable variant
py-matplotlib requires python version 3.6:, but spec asked for 2.7.16
 Try spack info py-descartes to find suitable spec and reinstall manually
```

```
py-nestle:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-nestle to find suitable spec and reinstall manually
```

```
py-umi-tools:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-umi-tools to find suitable spec and reinstall manually
```

```
slate:
  Fetch Error   Failed to fetch the following package:
==> Installing slate
==> Searching for binary cache of slate
==> No binary for slate found: installing from source
==> Cloning mercurial repository:
  https://bitbucket.org/icl/slate
```

```
py-elephant:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-elephant to find suitable spec and reinstall manually
```

```
r-edger:
  Conflict in spec, unsatisfiable variant
r-edger requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-edger to find suitable spec and reinstall manually
```

```
texstudio:
  Process Error   Error while compiling   Check complete logfile
```

```
ppl:
  Process Error   Error while compiling   Check complete logfile
```

```
supernova:
  Process Error   Error while compiling   Check complete logfile
```

```
allinea-reports:
  Fetch Error   Failed to fetch the following package:
==> Installing allinea-reports
==> Searching for binary cache of allinea-reports
==> No binary for allinea-reports found: installing from source
==> Fetching http://content.allinea.com/downloads/allinea-reports-6.0.4-Redhat-6.0-x86_64.tar
==> Fetching from http://content.allinea.com/downloads/allinea-reports-6.0.4-Redhat-6.0-x86_64.tar failed.
```

```
opencv:
  Conflict in spec, unsatisfiable variant
netcdf requires hdf5 variant +hl, but spec asked for ~hl
 Try spack info opencv to find suitable spec and reinstall manually
```

```
sirius:
  Fetch Error   Failed to fetch the following package:
==> Installing libxc
==> Searching for binary cache of libxc
==> No binary for libxc found: installing from source
==> Fetching http://www.tddft.org/programs/octopus/down.php?file=libxc/4.3.2/libxc-4.3.2.tar.gz
==> Fetching from http://www.tddft.org/programs/octopus/down.php?file=libxc/4.3.2/libxc-4.3.2.tar.gz failed.
```

```
soapindel:
  Fetch Error   Failed to fetch the following package:
==> Installing soapindel
==> Searching for binary cache of soapindel
==> No binary for soapindel found: installing from source
==> Fetching http://soap.genomics.org.cn/down/SOAPindel_20130918_2.1.7.17.zip
==> Fetching from http://soap.genomics.org.cn/down/SOAPindel_20130918_2.1.7.17.zip failed.
```

```
py-pyomo:
  Fetch Error   Failed to fetch the following package:
==> py-nose is already installed in /home/fock/informatik-cluster/Uni-Projekt-Spack/spack/opt/spack/linux-ubuntu18.04-x86_64/gcc-8.3.0/py-nose-1.3
==> py-six is already installed in /home/fock/informatik-cluster/Uni-Projekt-Spack/spack/opt/spack/linux-ubuntu18.04-x86_64/gcc-8.3.0/py-six-1.12.
==> Installing py-pyutilib
==> Searching for binary cache of py-pyutilib
==> No binary for py-pyutilib found: installing from source
```

```
r-abadata:
  Fetch Error   Failed to fetch the following package:
==> Installing r-abadata
==> Searching for binary cache of r-abadata
==> No binary for r-abadata found: installing from source
==> Fetching https://bioconductor.org/packages/release/data/experiment/src/contrib/ABAData_1.6.0.tar.gz
==> Fetching from https://bioconductor.org/packages/release/data/experiment/src/contrib/ABAData_1.6.0.tar.gz failed.
```

```
r-rjags:
  Process Error   Error while compiling   Check complete logfile
```

```
skilion-onedrive:
  Process Error   Error while compiling   Check complete logfile
```

```
mallocmc:
  Process Error   Error while compiling   Check complete logfile
```

```
sentieon-genomics:
  Fetch Error   Failed to fetch the following package:
==> Installing sentieon-genomics
==> Searching for binary cache of sentieon-genomics
==> No binary for sentieon-genomics found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/sentieon-genomics-201808.01.tar.gz
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/sentieon-genomics-201808.01.tar.gz failed.
```

```
simgrid:
  Process Error   Error while compiling   Check complete logfile
```

```
r-factominer:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info r-factominer to find suitable spec and reinstall manually
```

```
guile:
  Process Error   Error while compiling   Check complete logfile
```

```
casacore:
  Fetch Error   Failed to fetch the following package:
==> Installing wcslib
==> Searching for binary cache of wcslib
```

```
==> No binary for wcslib found: installing from source
==> Fetching ftp://ftp.atnf.csiro.au/pub/software/wcslib/wcslib-5.18.tar.bz2
==> Fetching from ftp://ftp.atnf.csiro.au/pub/software/wcslib/wcslib-5.18.tar.bz2 failed.
```

py-4suite-xml:
  Process Error   Error while compiling   Check complete logfile

ccfits:
  Process Error   Error while compiling   Check complete logfile

r-aneufinderdata:
  Conflict in spec, unsatisfiable variant
r-aneufinderdata requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-aneufinderdata to find suitable spec and reinstall manually

r-ptw:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info r-ptw to find suitable spec and reinstall manually

glibmm:
  Process Error   Error while compiling   Check complete logfile

discovar:
  Conflicts in concretized spec
1. "%gcc@6:" conflicts with "discovar"
 Try spack info discovar to find suitable spec and reinstall manually

liggghts:
  Conflict in spec, unsatisfiable variant
netcdf requires hdf5 variant +hl, but spec asked for ~hl
 Try spack info liggghts to find suitable spec and reinstall manually

z3:
  Key Error ----------------   --------------

isaac-server:
  Process Error   Error while compiling   Check complete logfile

py-htseq:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-htseq to find suitable spec and reinstall manually

skopeo:
  Process Error   Error while compiling   Check complete logfile

r-magick:
  Conflict in spec, unsatisfiable variant
r requires cairo variant ~X, but spec asked for +X
 Try spack info r-magick to find suitable spec and reinstall manually

r-kegggraph:
  Conflict in spec, unsatisfiable variant
r-kegggraph requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-kegggraph to find suitable spec and reinstall manually

kealib:
  Process Error   Error while compiling   Check complete logfile

py-brian2:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-brian2 to find suitable spec and reinstall manually

py-warlock:
  Fetch Error   Failed to fetch the following package:
==> python is already installed in /home/fock/informatik-cluster/Uni-Projekt-Spack/spack/opt/spack/linux-ubuntu18.04-x86_64/gcc-8.3.0/python
==> py-setuptools is already installed in /home/fock/informatik-cluster/Uni-Projekt-Spack/spack/opt/spack/linux-ubuntu18.04-x86_64/gcc-8.3.0
==> Installing py-jsonpointer
==> Searching for binary cache of py-jsonpointer
==> No binary for py-jsonpointer found: installing from source

bridger:
  Process Error   Error while compiling   Check complete logfile

py-gee-asset-manager:
  Conflict in spec, unsatisfiable variant

```
py-pytest requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-gee-asset-manager to find suitable spec and reinstall manually
```

```
discovardenovo:
  Conflicts in concretized spec
1. "%gcc@5:" conflicts with "discovardenovo"
 Try spack info discovardenovo to find suitable spec and reinstall manually
```

```
vesta:
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info vesta to find suitable spec and reinstall manually
```

```
diamond:
  Process Error   Error while compiling   Check complete logfile
```

```
mozjs:
  Process Error   Error while compiling   Check complete logfile
```

```
phantompeakqualtools:
  Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info phantompeakqualtools to find suitable spec and reinstall manually
```

```
py-opentuner:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-opentuner to find suitable spec and reinstall manually
```

```
r-annotationdbi:
  Conflict in spec, unsatisfiable variant
r-annotationdbi requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-annotationdbi to find suitable spec and reinstall manually
```

```
psi4:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info psi4 to find suitable spec and reinstall manually
```

```
parmgridgen:
  Fetch Error   Failed to fetch the following package:
==> Installing parmgridgen
==> Searching for binary cache of parmgridgen
==> No binary for parmgridgen found: installing from source
==> Fetching http://www-users.cs.umn.edu/~moulitsa/download/ParMGridGen-1.0.tar.gz
==> Fetching from http://www-users.cs.umn.edu/~moulitsa/download/ParMGridGen-1.0.tar.gz failed.
```

```
abinit:
  Fetch Error   Failed to fetch the following package:
==> Installing libxc
==> Searching for binary cache of libxc
==> No binary for libxc found: installing from source
==> Fetching http://www.tddft.org/programs/octopus/down.php?file=libxc/libxc-2.2.2.tar.gz
==> Fetching from http://www.tddft.org/programs/octopus/down.php?file=libxc/libxc-2.2.2.tar.gz failed.
```

```
py-basemap:
  Conflict in spec, unsatisfiable variant
py-basemap requires py-pyproj version :1.99, but spec asked for 2.2.0
 Try spack info py-basemap to find suitable spec and reinstall manually
```

```
cardioid:
  Attribute Error   ---------------   --------------
```

```
fimpute:
  Checksum Error   Wrong Checksum   Package might still run, please try manually
```

```
eztrace:
  Process Error   Error while compiling   Check complete logfile
```

```
r-phantompeakqualtools:
  Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-phantompeakqualtools to find suitable spec and reinstall manually
```

```
gaussian:
  Fetch Error   Failed to fetch the following package:
==> Installing gaussian
==> Searching for binary cache of gaussian
```

```
==> No binary for gaussian found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/g09.tgz
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/g09.tgz failed.

_____

py-spglib:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-spglib to find suitable spec and reinstall manually

_____

r-zlibbioc:
  Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-zlibbioc to find suitable spec and reinstall manually

_____

trnascan-se:
  Process Error   Error while compiling   Check complete logfile

_____

py-spectra:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-spectra to find suitable spec and reinstall manually

_____

py-breakseq2:
  Conflict in spec, unsatisfiable variant
samtools requires htslib version 1.9, but spec asked for 1.6
 Try spack info py-breakseq2 to find suitable spec and reinstall manually

_____

molcas:
  Fetch Error   Failed to fetch the following package:
==> Installing molcas
==> Searching for binary cache of molcas
==> No binary for molcas found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/molcas8.2.tar.gz
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/molcas8.2.tar.gz failed.

_____

r-a4:
  Conflict in spec, unsatisfiable variant
r-annotationdbi requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-a4 to find suitable spec and reinstall manually

_____

r-a4classif:
  Conflict in spec, unsatisfiable variant
r-annotationdbi requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-a4classif to find suitable spec and reinstall manually

_____

py-sfepy:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-sfepy to find suitable spec and reinstall manually

_____

grass:
  Conflict in spec, unsatisfiable variant
grass requires proj version :5, but spec asked for 6.1.0
 Try spack info grass to find suitable spec and reinstall manually

_____

py-cutadapt:
  Conflict in spec, unsatisfiable variant
py-cutadapt requires python version 3.4:, but spec asked for 2.7.16
 Try spack info py-cutadapt to find suitable spec and reinstall manually

_____

py-patsy:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-patsy to find suitable spec and reinstall manually

_____

channelflow:
  Conflict in spec, unsatisfiable variant
netcdf requires hdf5 variant +hl, but spec asked for ~hl
 Try spack info channelflow to find suitable spec and reinstall manually

_____

spindle:
  Process Error   Error while compiling   Check complete logfile

_____

r-ggpubr:
  URL Error 404   ---------------   --------------

_____

r-minfi:
  Conflict in spec, unsatisfiable variant
```

```
r-illuminaio requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-minfi to find suitable spec and reinstall manually
```
_____
```
cmor:
  Conflict in spec, unsatisfiable variant
netcdf requires hdf5 variant +hl, but spec asked for ~hl
 Try spack info cmor to find suitable spec and reinstall manually
```
_____
```
unifyfs:
  Process Error   Error while compiling   Check complete logfile
```
_____
```
py-pymatgen:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pymatgen to find suitable spec and reinstall manually
```
_____
```
verrou:
  Conflict in spec, unsatisfiable variant
verrou requires python version 3.0:, but spec asked for 2.7.16
 Try spack info verrou to find suitable spec and reinstall manually
```
_____
```
pflotran:
  Conflict in spec, unsatisfiable variant
petsc requires hdf5 variant +hl, but spec asked for ~hl
 Try spack info pflotran to find suitable spec and reinstall manually
```
_____
```
grnboost:
  Unknown Error  ---------------  Please check complete logfile
```
_____
```
ermod:
  Process Error   Error while compiling   Check complete logfile
```
_____
```
coinhsl:
  Fetch Error   Failed to fetch the following package:
==> Installing coinhsl
==> Searching for binary cache of coinhsl
==> No binary for coinhsl found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/coinhsl-archive-2014.01.10.tar.gz
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/coinhsl-archive-2014.01.10.tar.gz failed.
```
_____
```
aperture-photometry:
  Checksum Error  Wrong Checksum   Package might still run, please try manually
```
_____
```
autofact:
  Process Error   Error while compiling   Check complete logfile
```
_____
```
r-adsplit:
  Conflict in spec, unsatisfiable variant
r-annotationdbi requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-adsplit to find suitable spec and reinstall manually
```
_____
```
mpiblast:
  Fetch Error    Failed to fetch the following package:
==> Installing mpiblast
==> Searching for binary cache of mpiblast
==> No binary for mpiblast found: installing from source
==> Fetching http://www.mpiblast.org/downloads/files/mpiBLAST-1.6.0.tgz
==> Fetching from http://www.mpiblast.org/downloads/files/mpiBLAST-1.6.0.tgz failed.
```
_____
```
flang:
  Conflicts in concretized spec
1. "%gcc@8:" conflicts with "llvm@:5"
 Try spack info flang to find suitable spec and reinstall manually
```
_____
```
camellia:
  Process Error   Error while compiling   Check complete logfile
```
_____
```
rr:
  Process Error   Error while compiling   Check complete logfile
```
_____
```
r-oligoclasses:
  Conflict in spec, unsatisfiable variant
r-affyio requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-oligoclasses to find suitable spec and reinstall manually
```
_____
```
r-absseq:
  Conflict in spec, unsatisfiable variant
r-absseq requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
```
_____

```
 Try spack info r-absseq to find suitable spec and reinstall manually
```

```
sga:
  Process Error   Error while compiling   Check complete logfile
```

```
py-spykeutils:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-spykeutils to find suitable spec and reinstall manually
```

```
grackle:
  Process Error   Error while compiling   Check complete logfile
```

```
libbeato:
  Checksum Error  Wrong Checksum   Package might still run, please try manually
```

```
pmdk:
  Process Error   Error while compiling   Check complete logfile
```

```
r-nloptr:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info r-nloptr to find suitable spec and reinstall manually
```

```
r-biocparallel:
  Conflict in spec, unsatisfiable variant
r-biocparallel requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-biocparallel to find suitable spec and reinstall manually
```

```
libcircle:
  Process Error   Error while compiling   Check complete logfile
```

```
ncbi-magicblast:
  Process Error   Error while compiling   Check complete logfile
```

```
groff:
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info groff to find suitable spec and reinstall manually
```

```
neovim:
  Process Error   Error while compiling   Check complete logfile
```

```
abyss:
  Process Error   Error while compiling   Check complete logfile
```

```
r-altcdfenvs:
  Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-altcdfenvs to find suitable spec and reinstall manually
```

```
r-genomeinfodbdata:
  Conflict in spec, unsatisfiable variant
r-genomeinfodbdata requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-genomeinfodbdata to find suitable spec and reinstall manually
```

```
relax:
  max. recursion depth exceeded  ----------------   --------------
```

```
py-jupyter-notebook:
  Conflicts in concretized spec
1. "^python@2.7:2.8" conflicts with "py-ipython@7.0.0:"
 Try spack info py-jupyter-notebook to find suitable spec and reinstall manually
```

```
meshkit:
  Process Error   Error while compiling   Check complete logfile
```

```
py-rseqc:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-rseqc to find suitable spec and reinstall manually
```

```
xts:
  Process Error   Error while compiling   Check complete logfile
```

```
py-cftime:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
```

```
 Try spack info py-cftime to find suitable spec and reinstall manually
```

```
py-matplotlib:
  Conflict in spec, unsatisfiable variant
py-matplotlib requires python version 3.6:, but spec asked for 2.7.16
 Try spack info py-matplotlib to find suitable spec and reinstall manually
```

```
py-dxfile:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-dxfile to find suitable spec and reinstall manually
```

```
openimageio:
  Process Error   Error while compiling   Check complete logfile
```

```
amrvis:
  Process Error   Error while compiling   Check complete logfile
```

```
r-snprelate:
  Conflict in spec, unsatisfiable variant
r-gdsfmt requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-snprelate to find suitable spec and reinstall manually
```

```
snpeff:
  Fetch Error   Failed to fetch the following package:
==> Installing snpeff
==> Searching for binary cache of snpeff
==> No binary for snpeff found: installing from source
==> Fetching https://kent.dl.sourceforge.net/project/snpeff/snpEff_latest_core.zip
==> Fetching from https://kent.dl.sourceforge.net/project/snpeff/snpEff_latest_core.zip failed.
```

```
py-pytest-flake8:
  Conflict in spec, unsatisfiable variant
py-pytest requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pytest-flake8 to find suitable spec and reinstall manually
```

```
repeatscout:
  Fetch Error   Failed to fetch the following package:
==> Installing trf
==> Searching for binary cache of trf
==> No binary for trf found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/trf409.linux64
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/trf409.linux64 failed.
```

```
essl:
  No valid version   ----------------   --------------
```

```
py-ipykernel:
  Conflict in spec, unsatisfiable variant
py-backports-shutil-get-terminal-size requires py-setuptools version :30.999.999, but spec asked for 41.0.1
 Try spack info py-ipykernel to find suitable spec and reinstall manually
```

```
trimgalore:
  Conflict in spec, unsatisfiable variant
py-cutadapt requires python version 3.4:, but spec asked for 2.7.16
 Try spack info trimgalore to find suitable spec and reinstall manually
```

```
py-pispino:
  Process Error   Error while compiling   Check complete logfile
```

```
r-pfam-db:
  Conflict in spec, unsatisfiable variant
r-annotationdbi requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-pfam-db to find suitable spec and reinstall manually
```

```
gnu-prolog:
  Fetch Error   Failed to fetch the following package:
==> Installing gnu-prolog
==> Searching for binary cache of gnu-prolog
==> No binary for gnu-prolog found: installing from source
==> Fetching http://www.gprolog.org/gprolog-1.4.4.tar.gz
==> Fetching from http://www.gprolog.org/gprolog-1.4.4.tar.gz failed.
```

```
perl-cairo:
  Process Error   Error while compiling   Check complete logfile
```

```
py-theano:
  Conflict in spec, unsatisfiable variant
```

py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-theano to find suitable spec and reinstall manually

---

py-openslide-python:
  Process Error   Error while compiling   Check complete logfile

---

hub:
  Checksum Error Wrong Checksum   Package might still run, please try manually

---

r-agimicrorna:
  Conflict in spec, unsatisfiable variant
r-annotationdbi requires r version 3.5.0:3.5.9, but spec asked for 3.4.4
 Try spack info r-agimicrorna to find suitable spec and reinstall manually

---

openscenegraph:
  Process Error   Error while compiling   Check complete logfile

---

xf86dga:
  Process Error   Error while compiling   Check complete logfile

---

py-pymol:
  Process Error   Error while compiling   Check complete logfile

---

py-pluggy:
  Package not found ----------------   --------------

---

py-webkit-server:
  Process Error   Error while compiling   Check complete logfile

---

py-pygtk:
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info py-pygtk to find suitable spec and reinstall manually

---

caffe:
  Conflict in spec, unsatisfiable variant
netcdf requires hdf5 variant +hl, but spec asked for ~hl
 Try spack info caffe to find suitable spec and reinstall manually

---

mpifileutils:
  Process Error   Error while compiling   Check complete logfile

---

r-mitml:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info r-mitml to find suitable spec and reinstall manually

---

phyluce:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info phyluce to find suitable spec and reinstall manually

---

gtksourceview:
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info gtksourceview to find suitable spec and reinstall manually

---

spectrum-mpi:
  No valid version   ----------------   --------------

---

py-nc-time-axis:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-nc-time-axis to find suitable spec and reinstall manually

---

transabyss:
  Process Error   Error while compiling   Check complete logfile

---

bcl2fastq2:
  Process Error   Error while compiling   Check complete logfile

---

gdk-pixbuf:
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info gdk-pixbuf to find suitable spec and reinstall manually

---

py-xarray:
  Conflict in spec, unsatisfiable variant

```
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-xarray to find suitable spec and reinstall manually
```

_____

```
r-makecdfenv:
  Conflict in spec, unsatisfiable variant
r-biobase requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-makecdfenv to find suitable spec and reinstall manually
```

_____

```
hstr:
  Process Error   Error while compiling   Check complete logfile
```

_____

```
fstrack:
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info fstrack to find suitable spec and reinstall manually
```

_____

```
panda:
  Fetch Error   Failed to fetch the following package:
==> Installing panda
==> Searching for binary cache of panda
==> No binary for panda found: installing from source
==> Fetching http://comopt.ifi.uni-heidelberg.de/software/PANDA/downloads/panda-2016-03-07.tar
==> Fetching from http://comopt.ifi.uni-heidelberg.de/software/PANDA/downloads/panda-2016-03-07.tar failed.
```

_____

```
image-magick:
  Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info image-magick to find suitable spec and reinstall manually
```

_____

```
py-freezegun:
  Conflicting conditional dependencies for spec  ----------------   --------------
```

_____

```
r-car:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info r-car to find suitable spec and reinstall manually
```

_____

```
raft:
  Checksum Error  Wrong Checksum   Package might still run, please try manually
```

_____

```
perl-perlio-utf8-strict:
  Process Error   Error while compiling   Check complete logfile
```

_____

```
py-ytopt:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-ytopt to find suitable spec and reinstall manually
```

_____

```
r-acme:
  Conflict in spec, unsatisfiable variant
r-biobase requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-acme to find suitable spec and reinstall manually
```

_____

```
r-bookdown:
  URL Error 404   ----------------   --------------
```

_____

```
rockstar:
  Fetch Error   Failed to fetch the following package:
==> Installing rockstar
==> Searching for binary cache of rockstar
==> No binary for rockstar found: installing from source
==> Cloning mercurial repository:
  https://bitbucket.org/MatthewTurk/rockstar
```

_____

```
py-spefile:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-spefile to find suitable spec and reinstall manually
```

_____

```
root:
  max. recursion depth exceeded  ----------------   --------------
```

_____

```
automaded:
  Process Error   Error while compiling   Check complete logfile
```

_____

```
savanna:
  Invalid Values  ----------------   --------------
```

_____

```
r-acgh:
  Conflict in spec, unsatisfiable variant
r-biobase requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-acgh to find suitable spec and reinstall manually
```

```
py-projectq:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-projectq to find suitable spec and reinstall manually
```

```
r-interactivedisplaybase:
  Conflict in spec, unsatisfiable variant
r-interactivedisplaybase requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-interactivedisplaybase to find suitable spec and reinstall manually
```

```
pixz:
  Process Error   Error while compiling   Check complete logfile
```

```
r-gdsfmt:
  Conflict in spec, unsatisfiable variant
r-gdsfmt requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-gdsfmt to find suitable spec and reinstall manually
```

```
startup-notification:
  Process Error   Error while compiling   Check complete logfile
```

```
ldc-bootstrap:
  Process Error   Error while compiling   Check complete logfile
```

```
revbayes:
  Conflicts in concretized spec
1. "%gcc@7.1.0:" conflicts with "revbayes"
 Try spack info revbayes to find suitable spec and reinstall manually
```

```
py-illumina-utils:
  Process Error   Error while compiling   Check complete logfile
```

```
phred:
  Fetch Error   Failed to fetch the following package:
==> Installing phred
==> Searching for binary cache of phred
==> No binary for phred found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/phred.tar.gz
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/phred.tar.gz failed.
```

```
r-organismdbi:
  Conflict in spec, unsatisfiable variant
r-iranges requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-organismdbi to find suitable spec and reinstall manually
```

```
fslsfonts:
  Process Error   Error while compiling   Check complete logfile
```

```
r-genelendatabase:
  Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-genelendatabase to find suitable spec and reinstall manually
```

```
h5hut:
  Fetch Error   Failed to fetch the following package:
==> Installing h5hut
==> Searching for binary cache of h5hut
==> No binary for h5hut found: installing from source
==> Fetching https://amas.psi.ch/H5hut/raw-attachment/wiki/DownloadSources/H5hut-1.99.13.tar.gz
==> Fetching from https://amas.psi.ch/H5hut/raw-attachment/wiki/DownloadSources/H5hut-1.99.13.tar.gz failed.
```

```
r-ampliqueso:
  Package not found  ---------------   --------------
```

```
r-pcamethods:
  Conflict in spec, unsatisfiable variant
r-biobase requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-pcamethods to find suitable spec and reinstall manually
```

```
arm-forge:
  Process Error   Error while compiling   Check complete logfile
```

```
opam:
```

```
  Fetch Error    Failed to fetch the following package:
==> Installing ocaml
==> Searching for binary cache of ocaml
==> No binary for ocaml found: installing from source
==> Fetching http://caml.inria.fr/pub/distrib/ocaml-4.6/ocaml-4.06.0.tar.gz
==> Fetching from http://caml.inria.fr/pub/distrib/ocaml-4.6/ocaml-4.06.0.tar.gz failed.
```

```
r-adabag:
   URL Error 404   ----------------   --------------
```

```
r-wgcna:
   Conflict in spec, unsatisfiable variant
r-annotationdbi requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-wgcna to find suitable spec and reinstall manually
```

```
py-guidata:
   Conflict in spec, unsatisfiable variant
py-requests requires py-certifi version 2017.4.17, but spec asked for 2019.6.16
 Try spack info py-guidata to find suitable spec and reinstall manually
```

```
py-perf:
   Checksum Error  Wrong Checksum   Package might still run, please try manually
```

```
libfive:
   Process Error    Error while compiling    Check complete logfile
```

```
r-agdex:
   Conflict in spec, unsatisfiable variant
r-biobase requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-agdex to find suitable spec and reinstall manually
```

```
r-go-db:
   Conflict in spec, unsatisfiable variant
r-annotationdbi requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-go-db to find suitable spec and reinstall manually
```

```
r-spem:
   Conflict in spec, unsatisfiable variant
r-spem requires r version 3.4.3:3.4.9, but spec asked for 3.6.1
 Try spack info r-spem to find suitable spec and reinstall manually
```

```
librsvg:
   Conflict in spec, unsatisfiable variant
meson requires python version 3:, but spec asked for 2.7.16
 Try spack info librsvg to find suitable spec and reinstall manually
```

```
shoremap:
   Process Error    Error while compiling    Check complete logfile
```

```
py-cartopy:
   Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-cartopy to find suitable spec and reinstall manually
```

```
py-configobj:
   Checksum Error  Wrong Checksum   Package might still run, please try manually
```

```
blasr:
   Process Error    Error while compiling    Check complete logfile
```

```
r-annotate:
   Conflict in spec, unsatisfiable variant
r-annotationdbi requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-annotate to find suitable spec and reinstall manually
```

```
matlab:
   Fetch Error    Failed to fetch the following package:
==> Installing matlab
==> Searching for binary cache of matlab
==> No binary for matlab found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/matlab_R2018b_glnxa64.zip
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/matlab_R2018b_glnxa64.zip failed.
```

```
py-colormath:
   Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-colormath to find suitable spec and reinstall manually
```

```
claw:
  Process Error   Error while compiling   Check complete logfile
```

```
r-yarn:
  Conflict in spec, unsatisfiable variant
r-limma requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-yarn to find suitable spec and reinstall manually
```

```
py-symengine:
  Process Error   Error while compiling   Check complete logfile
```

```
libsecret:
  Process Error   Error while compiling   Check complete logfile
```

```
r-sva:
  Conflict in spec, unsatisfiable variant
r-biocparallel requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-sva to find suitable spec and reinstall manually
```

```
signalp:
  Fetch Error   Failed to fetch the following package:
==> Installing signalp
==> Searching for binary cache of signalp
==> No binary for signalp found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/signalp-4.1f.Linux.tar.gz
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/signalp-4.1f.Linux.tar.gz failed.
```

```
py-localcider:
  Conflict in spec, unsatisfiable variant
py-matplotlib requires python version 3.6:, but spec asked for 2.7.16
 Try spack info py-localcider to find suitable spec and reinstall manually
```

```
py-quast:
  Conflict in spec, unsatisfiable variant
py-matplotlib requires python version 3.6:, but spec asked for 2.7.16
 Try spack info py-quast to find suitable spec and reinstall manually
```

```
rust:
  Process Error   Error while compiling   Check complete logfile
```

```
mitos:
  Conflict in spec, unsatisfiable variant
openmpi requires hwloc version :1.999, but spec asked for 2.0.2
 Try spack info mitos to find suitable spec and reinstall manually
```

```
mpix-launch-swift:
  Process Error   Error while compiling   Check complete logfile
```

```
r-annaffy:
  Conflict in spec, unsatisfiable variant
r-biobase requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-annaffy to find suitable spec and reinstall manually
```

```
gmime:
  Process Error   Error while compiling   Check complete logfile
```

```
foam-extend:
  Fetch Error   Failed to fetch the following package:
==> Installing parmgridgen
==> Searching for binary cache of parmgridgen
==> No binary for parmgridgen found: installing from source
==> Fetching http://www-users.cs.umn.edu/~moulitsa/download/ParMGridGen-1.0.tar.gz
==> Fetching from http://www-users.cs.umn.edu/~moulitsa/download/ParMGridGen-1.0.tar.gz failed.
```

```
phrap-crossmatch-swat:
  Fetch Error   Failed to fetch the following package:
==> Installing phrap-crossmatch-swat
==> Searching for binary cache of phrap-crossmatch-swat
==> No binary for phrap-crossmatch-swat found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/phrap-crossmatch-swat-1.090518.tar.gz
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/phrap-crossmatch-swat-1.090518.tar.gz failed.
```

```
r-iranges:
  Conflict in spec, unsatisfiable variant
r-iranges requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-iranges to find suitable spec and reinstall manually
```

```
py-tetoolkit:
```

```
  Conflict in spec, unsatisfiable variant
r-biocparallel requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info py-tetoolkit to find suitable spec and reinstall manually
```

```
r-biovizbase:
  Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.4.4
 Try spack info r-biovizbase to find suitable spec and reinstall manually
```

```
r-dose:
  Conflict in spec, unsatisfiable variant
r-qvalue requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-dose to find suitable spec and reinstall manually
```

```
libusb:
  Process Error   Error while compiling   Check complete logfile
```

```
snphylo:
  Conflict in spec, unsatisfiable variant
r-gdsfmt requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info snphylo to find suitable spec and reinstall manually
```

```
genemark-et:
  Fetch Error   Failed to fetch the following package:
==> Installing genemark-et
==> Searching for binary cache of genemark-et
==> No binary for genemark-et found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/gm_et_linux_64.tar.gz
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/gm_et_linux_64.tar.gz failed.
```

```
r-deseq:
  Conflict in spec, unsatisfiable variant
r-geneplotter requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-deseq to find suitable spec and reinstall manually
```

```
star-ccm-plus:
  Fetch Error   Failed to fetch the following package:
==> Installing star-ccm-plus
==> Searching for binary cache of star-ccm-plus
==> No binary for star-ccm-plus found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/STAR-CCM+11.06.010_02_linux-x86_64.tar.gz
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/STAR-CCM+11.06.010_02_linux-x86_64.tar.gz failed.
```

```
rmats:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info rmats to find suitable spec and reinstall manually
```

```
py-systemd-python:
  Process Error   Error while compiling   Check complete logfile
```

```
allpaths-lg:
  Conflicts in concretized spec
1. "%gcc@:4.6.4,5.1.0:" conflicts with "allpaths-lg"
 Try spack info allpaths-lg to find suitable spec and reinstall manually
```

```
r-aims:
  Conflict in spec, unsatisfiable variant
r-biobase requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-aims to find suitable spec and reinstall manually
```

```
cotter:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info cotter to find suitable spec and reinstall manually
```

```
dysco:
  Fetch Error   Failed to fetch the following package:
==> Installing wcslib
==> Searching for binary cache of wcslib
==> No binary for wcslib found: installing from source
==> Fetching ftp://ftp.atnf.csiro.au/pub/software/wcslib/wcslib-5.18.tar.bz2
==> Fetching from ftp://ftp.atnf.csiro.au/pub/software/wcslib/wcslib-5.18.tar.bz2 failed.
```

```
py-keras:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-keras to find suitable spec and reinstall manually
```

```
lordec:
  Process Error   Error while compiling   Check complete logfile
```

```
py-mlxtend:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-mlxtend to find suitable spec and reinstall manually
```

```
veclibfort:
  Unknown Error  ---------------  Please check complete logfile
```

```
mofem-cephas:
  Conflict in spec, unsatisfiable variant
petsc requires hdf5 variant +fortran, but spec asked for ~fortran
 Try spack info mofem-cephas to find suitable spec and reinstall manually
```

```
rtax:
  Fetch Error   Failed to fetch the following package:
==> Installing usearch
==> Searching for binary cache of usearch
==> No binary for usearch found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/usearch10.0.240_i86linux32
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/usearch10.0.240_i86linux32 failed.
```

```
porta:
  Fetch Error   Failed to fetch the following package:
==> Installing porta
==> Searching for binary cache of porta
==> No binary for porta found: installing from source
==> Fetching http://porta.zib.de/porta-1.4.1.tgz
==> Fetching from http://porta.zib.de/porta-1.4.1.tgz failed.
```

```
r-pbapply:
  URL Error 404  ----------------   --------------
```

```
nrm:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info nrm to find suitable spec and reinstall manually
```

```
pbbam:
  Process Error   Error while compiling   Check complete logfile
```

```
py-pycuda:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pycuda to find suitable spec and reinstall manually
```

```
lbzip2:
  Checksum Error  Wrong Checksum   Package might still run, please try manually
```

```
ghost:
  Process Error   Error while compiling   Check complete logfile
```

```
prinseq-lite:
  Process Error   Error while compiling   Check complete logfile
```

```
perl-soap-lite:
  Process Error   Error while compiling   Check complete logfile
```

```
xhmm:
  Process Error   Error while compiling   Check complete logfile
```

```
cuda-memtest:
  Process Error   Error while compiling   Check complete logfile
```

```
clapack:
  Process Error   Error while compiling   Check complete logfile
```

```
astra:
  Checksum Error  Wrong Checksum   Package might still run, please try manually
```

```
xplor-nih:
  Fetch Error   Failed to fetch the following package:
==> Installing xplor-nih
==> Searching for binary cache of xplor-nih
==> No binary for xplor-nih found: installing from source
```

```
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/xplor-nih-2.45-Linux_x86_64.tar.gz
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/xplor-nih-2.45-Linux_x86_64.tar.gz failed.
```

```
py-lmfit:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-lmfit to find suitable spec and reinstall manually
```

```
geopm:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info geopm to find suitable spec and reinstall manually
```

```
freebayes:
  Process Error   Error while compiling   Check complete logfile
```

```
py-xopen:
  Conflict in spec, unsatisfiable variant
py-bz2file requires python version :, but spec asked for
 Try spack info py-xopen to find suitable spec and reinstall manually
```

```
orca:
  Fetch Error   Failed to fetch the following package:
==> Installing orca
==> Searching for binary cache of orca
==> No binary for orca found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/orca_4_0_1_2_linux_x86-64_openmpi202.tar.zst
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/orca_4_0_1_2_linux_x86-64_openmpi202.tar.zst failed.
```

```
r-abaenrichment:
  Conflict in spec, unsatisfiable variant
r-abaenrichment requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-abaenrichment to find suitable spec and reinstall manually
```

```
libceed:
  Process Error   Error while compiling   Check complete logfile
```

```
h5utils:
  Process Error   Error while compiling   Check complete logfile
```

```
py-performance:
  Checksum Error  Wrong Checksum   Package might still run, please try manually
```

```
r-bayesm:
  URL Error 404   ---------------   --------------
```

```
boxlib:
  Process Error   Error while compiling   Check complete logfile
```

```
tcl-itcl:
  Attribute Error  ---------------   --------------
```

```
redundans:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info redundans to find suitable spec and reinstall manually
```

```
cnmem:
  Process Error   Error while compiling   Check complete logfile
```

```
racon:
  IOError  ---------------   --------------
```

```
xsetpointer:
  Process Error   Error while compiling   Check complete logfile
```

```
libmatheval:
  Process Error   Error while compiling   Check complete logfile
```

```
r-openxlsx:
  URL Error 404   ---------------   --------------
```

```
r-xvector:
  Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-xvector to find suitable spec and reinstall manually
```

```
py-bottleneck:
```

```
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-bottleneck to find suitable spec and reinstall manually
```

```
highwayhash:
  Process Error   Error while compiling   Check complete logfile
```

```
xorg-server:
  Process Error   Error while compiling   Check complete logfile
```

```
hiop:
  Process Error   Error while compiling   Check complete logfile
```

```
pstreams:
  Fetch Error   Failed to fetch the following package:
==> Installing pstreams
==> Searching for binary cache of pstreams
==> No binary for pstreams found: installing from source
==> Fetching https://superb-sea2.dl.sourceforge.net/project/pstreams/pstreams/Release%201.0/pstreams-1.0.1.tar.gz
==> Fetching from https://superb-sea2.dl.sourceforge.net/project/pstreams/pstreams/Release%201.0/pstreams-1.0.1.tar.gz failed.
```

```
py-emcee:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-emcee to find suitable spec and reinstall manually
```

```
erne:
  Process Error   Error while compiling   Check complete logfile
```

```
r-irkernel:
  Process Error   Error while compiling   Check complete logfile
```

```
py-jsonpatch:
  Fetch Error   Failed to fetch the following package:
==> python is already installed in /home/fock/informatik-cluster/Uni-Projekt-Spack/spack/opt/spack/linux-ubuntu18.04-x86_64/gcc-8.3.0/python
==> py-setuptools is already installed in /home/fock/informatik-cluster/Uni-Projekt-Spack/spack/opt/spack/linux-ubuntu18.04-x86_64/gcc-8.3.0
==> Installing py-jsonpointer
==> Searching for binary cache of py-jsonpointer
==> No binary for py-jsonpointer found: installing from source
```

```
julia:
  Process Error   Error while compiling   Check complete logfile
```

```
r-annotationhub:
  Conflict in spec, unsatisfiable variant
r-interactivedisplaybase requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-annotationhub to find suitable spec and reinstall manually
```

```
r-agilp:
  Conflict in spec, unsatisfiable variant
r-agilp requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-agilp to find suitable spec and reinstall manually
```

```
r-siggenes:
  Conflict in spec, unsatisfiable variant
r-biobase requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-siggenes to find suitable spec and reinstall manually
```

```
compiz:
  Process Error   Error while compiling   Check complete logfile
```

```
r-affy:
  Conflict in spec, unsatisfiable variant
r-affyio requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-affy to find suitable spec and reinstall manually
```

```
soap2:
  Fetch Error   Failed to fetch the following package:
==> Installing soap2
==> Searching for binary cache of soap2
==> No binary for soap2 found: installing from source
==> Fetching http://soap.genomics.org.cn/down/soap2.21release.tar.gz
==> Fetching from http://soap.genomics.org.cn/down/soap2.21release.tar.gz failed.
```

```
ruby-narray:
  Process Error   Error while compiling   Check complete logfile
```

```
vtkh:
```

```
   Process Error    Error while compiling    Check complete logfile
_____
cudnn:
   Unknown Error   ---------------    Please check complete logfile
_____
sspace-standard:
   Process Error    Error while compiling    Check complete logfile
_____
czmq:
   Process Error    Error while compiling    Check complete logfile
_____
py-tomopy:
   Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-tomopy to find suitable spec and reinstall manually

_____
cantera:
   Process Error    Error while compiling    Check complete logfile
_____
pgi:
   Fetch Error    Failed to fetch the following package:
==> Installing pgi
==> Searching for binary cache of pgi
==> No binary for pgi found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/pgilinux-2019-194-x86-64.tar.gz
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/pgilinux-2019-194-x86-64.tar.gz failed.

_____
orthofinder:
   Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info orthofinder to find suitable spec and reinstall manually
_____
py-pytest-mock:
   Conflict in spec, unsatisfiable variant
py-pytest requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-pytest-mock to find suitable spec and reinstall manually
_____
nek5000:
   IOError   ----------------    --------------
_____
r-ggmap:
   URL Error 404    ----------------    --------------
_____
lbann:
   Conflict in spec, unsatisfiable variant
openmpi requires hwloc version :1.999, but spec asked for 2.0.2
 Try spack info lbann to find suitable spec and reinstall manually
_____
r-c50:
   URL Error 404    ----------------    --------------
_____
r-rtracklayer:
   Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-rtracklayer to find suitable spec and reinstall manually
_____
py-biopython:
   Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-biopython to find suitable spec and reinstall manually
_____
mysql:
   Process Error    Error while compiling    Check complete logfile
_____
r-tigris:
   Process Error    Error while compiling    Check complete logfile
_____
r-phylostratr:
   Conflict in spec, unsatisfiable variant
r-zlibbioc requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-phylostratr to find suitable spec and reinstall manually
_____
r-multtest:
   Conflict in spec, unsatisfiable variant
r-biobase requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-multtest to find suitable spec and reinstall manually
_____
elk:


_____
```

```
   Fetch Error   Failed to fetch the following package:
==> Installing libxc
==> Searching for binary cache of libxc
==> No binary for libxc found: installing from source
==> Fetching http://www.tddft.org/programs/octopus/down.php?file=libxc/4.3.2/libxc-4.3.2.tar.gz
==> Fetching from http://www.tddft.org/programs/octopus/down.php?file=libxc/4.3.2/libxc-4.3.2.tar.gz failed.
```

```
py-spyder:
  Conflict in spec, unsatisfiable variant
py-requests requires py-certifi version 2017.4.17, but spec asked for 2019.6.16
 Try spack info py-spyder to find suitable spec and reinstall manually
```

```
scorec-core:
  Process Error   Error while compiling   Check complete logfile
```

```
fseq:
  Fetch Error   Failed to fetch the following package:
==> Installing fseq
==> Searching for binary cache of fseq
==> No binary for fseq found: installing from source
==> Fetching http://fureylab.med.unc.edu/fseq/fseq_1.84.tgz
==> Fetching from http://fureylab.med.unc.edu/fseq/fseq_1.84.tgz failed.
```

```
fasta:
  Process Error   Error while compiling   Check complete logfile
```

```
libnbc:
  Process Error   Error while compiling   Check complete logfile
```

```
r-goseq:
  Conflict in spec, unsatisfiable variant
r-annotationdbi requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-goseq to find suitable spec and reinstall manually
```

```
xsetmode:
  Process Error   Error while compiling   Check complete logfile
```

```
regcm:
  Conflict in spec, unsatisfiable variant
netcdf requires hdf5 variant +hl, but spec asked for ~hl
 Try spack info regcm to find suitable spec and reinstall manually
```

```
pism:
  Process Error   Error while compiling   Check complete logfile
```

```
alquimia:
  Conflict in spec, unsatisfiable variant
pflotran requires hdf5 variant +fortran, but spec asked for ~fortran
 Try spack info alquimia to find suitable spec and reinstall manually
```

```
cdo:
  Conflict in spec, unsatisfiable variant
netcdf requires hdf5 variant +hl, but spec asked for ~hl
 Try spack info cdo to find suitable spec and reinstall manually
```

```
py-gpaw:
  Conflict in spec, unsatisfiable variant
py-scipy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-gpaw to find suitable spec and reinstall manually
```

```
elemental:
  Process Error   Error while compiling   Check complete logfile
```

```
trilinos-catalyst-ioss-adapter:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info trilinos-catalyst-ioss-adapter to find suitable spec and reinstall manually
```

```
py-tifffile:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-tifffile to find suitable spec and reinstall manually
```

```
py-geopandas:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-geopandas to find suitable spec and reinstall manually
```

```
py-wxpython:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info py-wxpython to find suitable spec and reinstall manually
```

```
perl-dbfile:
  Process Error   Error while compiling   Check complete logfile
```

```
nag:
  Checksum Error  Wrong Checksum   Package might still run, please try manually
```

```
hpx:
  Conflict in spec, unsatisfiable variant
hpx requires boost variant cxxstd=17, but spec asked for cxxstd=98
 Try spack info hpx to find suitable spec and reinstall manually
```

```
r-qvalue:
  Conflict in spec, unsatisfiable variant
r-qvalue requires r version 3.5.0:3.5.9, but spec asked for 3.6.1
 Try spack info r-qvalue to find suitable spec and reinstall manually
```

```
opengl:
  No valid version   ---------------   --------------
```

```
xtrap:
  Process Error   Error while compiling   Check complete logfile
```

```
r-affycompatible:
  Conflict in spec, unsatisfiable variant
r-affycompatible requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-affycompatible to find suitable spec and reinstall manually
```

```
geant4:
  Conflict in spec, unsatisfiable variant
geant4 requires xerces-c variant cxxstd=11, but spec asked for cxxstd=default
 Try spack info geant4 to find suitable spec and reinstall manually
```

```
brigand:
  IOError   ---------------   --------------
```

```
turbomole:
  Fetch Error   Failed to fetch the following package:
==> Installing turbomole
==> Searching for binary cache of turbomole
==> No binary for turbomole found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/turbolinux702.tar.gz
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/turbolinux702.tar.gz failed.
```

```
multiverso:
  Process Error   Error while compiling   Check complete logfile
```

```
flux-core:
  Process Error   Error while compiling   Check complete logfile
```

```
gapfiller:
  Fetch Error    Failed to fetch the following package:
==> Installing gapfiller
==> Searching for binary cache of gapfiller
==> No binary for gapfiller found: installing from source
==> Fetching file:///home/fock/informatik-cluster/Uni-Projekt-Spack/39GapFiller_v1-10_linux-x86_64.tar.gz
==> Fetching from file:///home/fock/informatik-cluster/Uni-Projekt-Spack/39GapFiller_v1-10_linux-x86_64.tar.gz failed.
```

```
r-affyrnadegradation:
  Conflict in spec, unsatisfiable variant
r-affyrnadegradation requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-affyrnadegradation to find suitable spec and reinstall manually
```

```
shortbred:
  Conflict in spec, unsatisfiable variant
py-numpy requires python version 3.5:, but spec asked for 2.7.16
 Try spack info shortbred to find suitable spec and reinstall manually
```

```
r-taxizedb:
  Process Error   Error while compiling   Check complete logfile
```

```
mc:
  Process Error   Error while compiling   Check complete logfile
```

```
funhpc:
  Conflict in spec, unsatisfiable variant
openmpi requires hwloc version :1.999, but spec asked for 2.0.2
 Try spack info funhpc to find suitable spec and reinstall manually
```

```
busco:
  Process Error   Error while compiling   Check complete logfile
```

```
py-pyrosar:
  Conflict in spec, unsatisfiable variant
py-matplotlib requires python version 3.6:, but spec asked for 2.7.16
 Try spack info py-pyrosar to find suitable spec and reinstall manually
```

```
blasr-libcpp:
  Process Error   Error while compiling   Check complete logfile
```

```
plumed:
  Process Error   Error while compiling   Check complete logfile
```

```
xsdktrilinos:
  Process Error   Error while compiling   Check complete logfile
```

```
nalu-wind:
  Process Error   Error while compiling   Check complete logfile
```

```
r-yaqcaffy:
  Conflict in spec, unsatisfiable variant
r-yaqcaffy requires r version 3.4.0:3.4.9, but spec asked for 3.6.1
 Try spack info r-yaqcaffy to find suitable spec and reinstall manually
```

```
tldd:
  Fetch Error   Failed to fetch the following package:
==> Installing pstreams
==> Searching for binary cache of pstreams
==> No binary for pstreams found: installing from source
==> Fetching https://superb-sea2.dl.sourceforge.net/project/pstreams/pstreams/Release%201.0/pstreams-1.0.1.tar.gz
==> Fetching from https://superb-sea2.dl.sourceforge.net/project/pstreams/pstreams/Release%201.0/pstreams-1.0.1.tar.gz failed.
```

```
Unsatisfiable Errors:   432
Process Errors:         313
Fetch errors:           102
Conflicts in spec:      33
Checksum Errors:        27
No valid Version:       6
URL Error (404):        29
IO Error [Errno 2]:     11
Conditional Error:      4
Package not found:      5
Max. recursion:         5
Attribute Error:        3
Key Error:              2
Invalid Values:         2
Unknown Error:          10
```