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3.2 Which CMSSW release to use

Complete: ▬▬▬▬
Detailed Review status

For the impatient user!

- For data and MC:

```
ssh lxplus.cern.ch
cmsrel CMSSW_9_4_0
cd CMSSW_9_4_0/src
cmsenv
```

Current Analysis Release

The currently recommended Analysis Release is 8.0.X, which was used to process all 2016 data. For 2017 data analysis, 9.4.X will be used to process all 2017 data.

For the latest and greatest, always update to the latest tags in the bug fix page.

You can also find more Frequently Asked Questions here. If you are having trouble, please look through these FAQ's first since many times your question is already answered.

Goals of this page

This page is intended to provide a reference point for users wanting to know which CMSSW release to use for analysing Monte Carlo data produced with different releases and for running CMSSW WorkBook exercises and tutorials. It contains information about the latest releases used, notifications of new releases upcoming, and important notes about intercompatibility of releases for data/MC and tutorial running.

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- CMSSW releases
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CMSSW releases

CMSSW code development proceeds in releases indicated by the series of numbers such as 7_4_15. The first number in series indicates a major cycle, the second number a major release with new features with respect to the preceeding release, and the third number a release with some updates and bug fixes to the preceeding release.

You can find out the up-to-date list of available releases in https://cmssdt.cern.ch/SDT/cgi-bin/ReleasesXML⧉ These are the releases which are deployed to the different sites where you can run analysis jobs over the grid (see chapter 5) and only these releases can be expected to work. As the general rule, you should always use the last release in the release cycle, i.e. with the highest available value for the third number.

You can find out the existing releases installed on the local user interface by typing

```
scram list -a
```

Each major release is preceeded by a series of prereleases, indicated by `pre` in the release name. The scope of these prereleases is to test the code which is going to be released and it is very likely that they contain some errors which are then fixed in the release itself. For this reason **you should not start developing your code on the prereleases** (unless you are doing agreed code development which you need to test and which will be included in the release). Furthermore, to save disk space, public prerelease areas including the libraries are removed fairly soon after the release and you will not be able to continue working in your local prerelease area.

The new releases and the (pre)releases to be removed are announced in the software release announcements hypernews forum⊠. Subscribing to this hypernews is a rather low traffic way of finding out that a (pre)release is being proposed for deletion, a prior warning is always sent to this forum.

The CMSSW release schedule is summarized in the Release Schedule page.

Available releases

MC data is not compatible between major release series - as such, you can't analyse Monte Carlo created for a much earlier release with code from a later release. This will improve with more backwards compatibility in the future as the analysis code stabilises more.

10_3_X is used for PbPb data collection, processing and MC Campaign

10_2_X is used for 2018 processing and MC Production

10_1_X is used for HLT during pp data-taking

10_0_X is used for 2018 development

9_4_X is used for V2 DIGI-RECO and reprocessing all 2017 data

9_3_X is used for HGCal phase 2 production samples and 2017 V2 GEN-SIM samples

9_2_X is used for trigger and prompt reconstruction for 2017 data taking

9_1_X is used for phase 2 production samples and 2017 development

9_0_X is used for phase 2 production samples and 2017 development

8_1_X is used for 2017 development

8_0_X is used for 2016 data taking and MC

7_6_X is in use for reprocessing the 2015 data and MC starting in November

7_5_X was used for heavy ion data in 2015

7_4_X is the currently recommended analysis release for 2015 data and MC

7_3_X is the currently recommended Analysis Release for Phys14 excercise on MC.

5_3_X is the currently recommended Analysis Release for 2012 Data/MC.

4_4_4 is the currently recommended analysis release for data and MC reconstructed with 4.4.x.

4_2_8_patch7 is the currently recommended analysis release for data and MC reconstructed with 4.2.x.

4_1_5 is the currently recommended analysis release for data and MC reconstructed with 4.1.x.

3_8_X was the "Moriond 2011" recommended analysis release. There is a break in compatibility in the PAT-tuples themselves in 387 to account for a (required) change in PAT jet energy corrections.

3_7_X series is the past release for special cases of ICHEP2011 analysis.

3_6_X series is the past release for ICHEP2011 analysis 7 TeV current collisions and Monte Carlo. It is the recommended analysis release for analyze 35x RECO and RE-RECO.

3_5_X series was meant for first data processing for 7 TeV collisions.

3_4_X Beginning from 3_4_X, releases are only available for the SLC5 (Scientific Linux 5 or slc5_ia32_gcc434) architecture. The 3_4_2 release is also available as an analysis release for use with MC produced with 3_1_X. The 3_4_2 release can read the MC samples produced with 3_1_X and yield identical results, so it is strongly recommended to use 3_4_2 or later in analysis of the December 2009 collision data.

3_3_X series was meant for December 2009 collisions data taking.

3_2_X series was used for data-taking in CRAFT 2009.

3_1_X series was used in a big MC data production from summer 2009.

3_0_X series is a technical release which should not be used.

2_2_X is compatible with the large amount of MC data samples generated in 2009. It is also used to read the real data from the cosmic runs in 2008 and 2009. The 2_2_X series will be used until a sufficient amount of MC or real data will be available with 3_1_X.

Some older releases may be still available for finishing ongoing studies.

Backward compatibility is always ensured for raw data. Inside a release cycle for all other official data as well.

Release Notes

The summary of the new features added in each cycle for every software area can be found in this page, linked under the Offline main page. A detailed list of differences in terms of package tags can be extracted from the CMS Tag Collector⧉.

Need a release which is being deprecated?

The CMSSW releases have a limited lifetime and they will be deprecated and removed. If a release is officially deprecated, it is strongly implied that CMS wants one to move to later, non-deprecated releases.

Under very rare and special circumstances (e.g. student finishing thesis etc.), we do allow sites to keep deprecated releases. If you need to use a CMSSW release that is being centrally deprecated and keep it at a particular site, the correct channel is to place your request to the convener of the PAG/POG/DPG group your analysis is attached to; this convener might then forward your request to sites associated to the PAG/POG/DPG group, and the local site admin might decide to locally keep a release (as well as he might store the corresponding data in a local site area).

Review status

Reviewer/Editor and Date (copy from screen)	Comments
HamedBakhshianSohi - 2015-02-22	release 7_3 information is added
KatiLassilaPerini - 15 May 2009	update the available release with Andreas Pfeiffer
CMSUserSupport - 27 Apr 2007	updated the version list to include 1_4_x and 1_5_x

Responsible: SudhirMalik
Last reviewed by: PetarMaksimovic - 03-Dec-2009

This topic: CMSPublic > WorkBookWhichRelease
Topic revision: r107 - 2018-12-03 - PhatSrimanobhas